

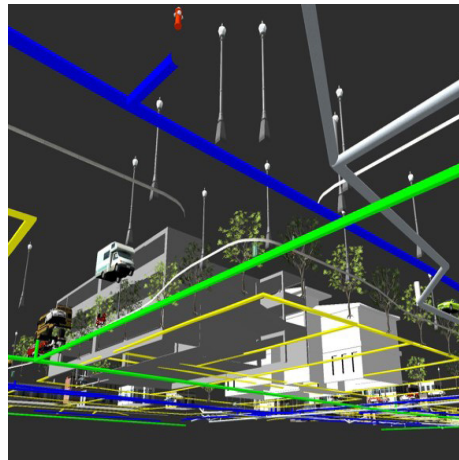
Cobb, Fendley & Associates, Inc.
505 E. Huntland Drive, Suite 100
Austin, Texas 78752

512.834.9798 p | 512.834.7727 f
www.cobbfendley.com

Representatives
Principal | Sandee Khoury, PE
Project Manager | Kevin Wolf, PE



STATEMENT OF QUALIFICATIONS



City of Pflugerville

Downtown Pflugerville Utility Analysis



July 2, 2020 | 4:00 PM

Statement of Interest



July 2, 2020

Ms. Emily Barron, AICP
Planning Director
City of Pflugerville
100 East Main Street, Suite 100
Pflugerville, Texas 78660

RE: Request for Qualifications | City of Pflugerville | Downtown Pflugerville Utility Analysis

Ms. Barron:

Cobb, Fendley & Associates, Inc. (CobbFendley) appreciates the opportunity to partner with the City to create your vision for Old Town Pflugerville to be a destination to “Eat, Drink & Be Pfestive” per the Downtown Action Plan. Relocating overhead utilities to underground facilities is one of the most noticeable improvements a neighborhood can make to the street scape. Undergrounding utilities in an urban environment presents challenges that necessitate engineering experts in many disciplines: detailed utility inventory, utility analysis, design, and recommendations, incorporating/phasing with other civic improvement projects, and effectively communicating with all stakeholders. CobbFendley has those experts. With an experienced, proactive Project Manager, a strategic and dedicated project team, and a deep commitment to the success of the City, we feel that we have prepared a response that will exceed the needs of the City of Pflugerville for the Downtown Pflugerville Utility Analysis project.

Local Project Team. Mr. Kevin Wolf, PE will serve as your Project Manager in our Austin office, and is your main point of contact for this project. Mr. Wolf has more than 13 years of experience successfully completing utility undergrounding projects of similar scope for Central Texas area clients. He leads utility analysis, design, and construction with a proficiency in overhead to underground conversion projects, achieved through 10 years of industry experience. Mr. Wolf will be supported by local, in-house staff, resources and equipment to provide Overhead Utility Location and Analysis, Subsurface Utility Engineering (SUE), Water and Wastewater Analysis, and Surveying and Easement Acquisition. CobbFendley’s experience with multiple disciplines provides a project team designed to provide cost-effective, value-engineered utility solutions.

Local Expertise. CobbFendley is a full-service engineering and surveying firm with more than 40 years of experience in utility analysis, design, relocation and SUE, and over 19 years in Central Texas. Our Statement of Qualifications details the capabilities of our entire firm, and more specifically, the project team that is immediately available and committed to the City of Pflugerville. As residents of Pflugerville and as a regional engineering firm, we have been involved in the successful development of the City’s infrastructure since 2013 and look forward to continuing our relationship with the City of Pflugerville through this most important project.

Project Commitment. Our firm is prepared to become a trusted partner in implementing the Downtown Action Plan. We understand where the City is today and where you want to be. Creating a livable center – walkable, multi-modal, mixed-use – demands attention to every detail. CobbFendley’s goal is to assist the City in creating a more sustainable and comfortable Downtown area with careful engineering of the built environment to create public spaces that are both visually appealing and highly functional.

In summary, CobbFendley has assembled a team that is ready, capable, and excited to work with the City of Pflugerville. Our utility analysis and undergrounding expertise, combined with our long-standing relationships with utilities and stakeholders, allows us to bring innovative solutions to the Downtown Pflugerville Utility Analysis. We appreciate the opportunity to serve as your consultant.

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC.


Sandee Khoury, PE
Project Principal | Vice President

1. Experience of Project Manager and Project Principal



KEVIN WOLF, PE
PROJECT MANAGER

POINT OF CONTACT

505 E. Huntland Drive, Suite 100
Austin, Texas 78752

Office: 512.646.4324

Mobile: 512.581.2696

Email: KWolf@cobbfendley.com

MOST QUALIFIED PM

- Professional Engineer licensed in the State of Texas
- Managed Downtown Utility Analysis for City of San Marcos
- Former industry experience (10 years with Austin Energy) and ability to identify major risks, innovative solutions, and utility construction costs and scheduling for project planning
- Expertise in the design and construction of electric distribution facilities, including overhead, underground, and network style systems
- Specialty working in congested urban/downtown environments where coordination and creative design solutions are paramount to a project's success

SIMILAR PROJECTS

Signature Project // Overhead to Underground Conversion Study, City of San Marcos, Texas. Mr. Wolf served as the *Project Manager* for the conceptual design of an overhead to underground conversion of the utilities located in the Downtown and Midtown West Districts of San Marcos. Utilities included electric distribution facilities and three separate communication companies. The project covered over a half quarter square mile of congested area. Services included conceptual design, phasing plans, soliciting lessons learned from similar projects, researching how the conceptual design fit into current code language, and producing a comprehensive report on the findings.

Bell Boulevard Realignment, Utility Relocation Design, City of Cedar Park, Texas. Mr. Wolf served as *Project Manager* and was responsible for coordinating and providing relocation design and conversion of all dry overhead utilities impacted by a \$20M TxDOT roadway project on US 183 in Downtown Cedar Park. The utility owners included Pedernales Electric Cooperative, AT&T, Spectrum, Grande Communications and Atmos Gas. Services include analysis and design of overhead to underground conversion of both electric and telecom distribution facilities throughout the project corridor, including a joint trench relocation with gas, to be included as part of the roadway PS&E. The utility relocation design is part of the first phase of Destination Bell Boulevard, the City of Cedar Park's Master Plan to redevelop Downtown Cedar Park into the Bell District, a walkable, multi-modal, mixed use development.

Kissing Alley Improvements, City of San Marcos, Texas. Mr. Wolf serves as the *Project Manager* for the redevelopment of Kissing Alley in downtown San Marcos. CobbFendley is tasked with upgrading its facilities to be more pedestrian friendly, including removal of all overhead utilities, replacement of storm, water, and sanitary infrastructure. Mr. Wolf is leading a team of utility engineers, landscape architects, and public relations officials to determine needs of the community and to design an inviting space for the community to use. Close coordination has occurred with the City of San Marcos, the local electric utility, telecommunication providers, and local elected officials. Preliminary layouts of all utilities were developed and included conflict analysis with team resolution meetings to verify constructability and intended usage.

Professional Engineering Services, Utilities Package for the Capitol Complex, Texas Facilities Commission, Austin, Texas. Mr. Wolf served as the *Project Manager* of engineering for over \$16M in utility relocation work in Downtown Austin to facilitate the excavation of over 5 acres of both public right of way and private land to a depth of 55'. Work included subcontracts, coordination meetings, weekly status updates, scheduling, bid support, and construction integration for the project. Mr. Wolf also served as the Project Engineer for the required underground electric utility relocation design.

Downtown Station, 4th Street from Red River to IH-35, Capital Metro, Austin, Texas. Mr. Wolf served as *Project Engineer* the relocation of over 400' of electrical duct in a congested Downtown Austin corridor. This project included an overhead to underground conversion of utilities, coordination with the local electric utility, utility conflict resolution, and construction costs estimation. Mr. Wolf also served as Project Engineer of over 200' of additional electric duct infrastructure for a future electric utility installation by the local electric utility.



Kevin Wolf, PE
Project Management Experience
Utility Analysis Projects

Project Name and Client	Services Provided								
	Project for Public Spaces Model / Revitalization	Overhead Utility Inventory	OH to UG Design Analysis and Recommendations	Underground Utility Analysis	Utility Data Management	Agency Coordination	Relocation Preliminary Engineering Design	Opinion of Probable Cost	
Red River Overhead to Underground Relocation, Austin Energy, City of Austin	•	•	•	•	•	•	•	•	
Goodnight Ranch Master Planned Community, Austin Energy, City of Austin		•		•	•	•			
21Rio Condominiums, Austin Energy, City of Austin	•	•	•	•		•	•	•	
Pointe on Rio Condominiums, Austin Energy, City of Austin	•	•	•	•		•	•	•	
Seaholm Redevelopment, Austin Energy, City of Austin	•	•	•	•	•	•	•	•	

1. Experience of Project Manager and Project Principal



SANDEE KHOURY, PE
PROJECT PRINCIPAL

LOCAL LEADERSHIP

505 E. Huntland Drive, Suite 100
Austin, Texas 78752

Office: 512.646.4342

Mobile: 512.970.5563

Email: SKhoury@cobb fendley.com

EXPERIENCE

- Professional Engineer licensed in the State of Texas
- *Ms. Khoury has successfully delivered utility projects for Pflugerville - served as Utility Coordinator for East Pecan Street Widening from SH 130 to Weiss Lane - 7 utility companies impacted including Oncor, Atmos Gas, AT&T and Pflugerville Water and Wastewater*
- *22 years of expertise* in utility analysis, mapping, data management, right-of-way policies and procedures, utility agreement assemblies, utility conflict analysis, utility corridor planning, coordinating with SUE on needed investigations, and value engineering
- *Statewide reputation as utility industry leader*

SIMILAR PROJECTS

Professional Engineering Services, Utilities Package for the Capitol Complex, Texas Facilities Commission, Austin, Texas. Ms. Khoury serves as *Project Principal* and is responsible for the **oversight of the project team providing design services to relocate utilities out of Congress Avenue and to provide new utility services for proposed office buildings** at 1601 and 1801 Congress Avenue as part of the \$20M utilities Capitol Complex expansion. Relocation design services include both public and private utilities, including Austin Energy (electric), Austin Water (water and wastewater), City of Austin (storm water), AT&T, GAATN and Spectrum (telecommunications) and Texas Gas Service (gas). State utilities include the Owner's existing chilled water piping and telecommunication lines. Ms. Khoury is involved at the project level to verify the design effort is on track, the design team is meeting all contract requirements and adhering to the project work plan, and following all quality assurance procedures.

Downtown Station, 4th Street from Red River to IH-35, Capital Metro, Austin, Texas. As *Project Principal* for Utility Analysis and Design, Ms. Khoury was responsible for **overseeing SUE, surveying, utility analysis and joint-bid utility relocation design services for the proposed expansion of the existing CapMetro Downtown Platform Station**. Her tasks included researching and analyzing existing utilities within the project corridor, recommending areas of additional SUE field investigation, identifying conflicts with proposed rail and platform station improvements, meeting with all utility owners impacted by the project, coordinating utility relocation corridor assignments, and preparing joint-bid relocation design and estimates for both dry and wet utility relocations. Utilities impacted by the project included City of Austin W/WW, Austin Energy (UG and OH), Austin Energy Chilled Water, and seven different telecommunication companies. Relocation design included underground electric duct bank, two joint trench telecom trenches, 2-12" chilled water lines servicing the Hilton Convention Center Hotel and numerous City of Austin W/WW lines impacted by the proposed improvements.

Overhead to Underground Conversion Study, City of San Marcos, Texas. Ms. Khoury served as *Project Principal* and was responsible for **oversight and QA/QC of an overhead to underground conversion study for San Marcos Electric Utility** to evaluate preliminary routes, segmenting, costs, and financing options for relocating all overhead electric and telecom distribution facilities into the underground in the **Downtown and Midtown West Districts of the City**. Services included preparing a comprehensive report and executive summary of findings to present to Council for this revitalization effort.

Bell Boulevard Realignment, Utility Relocation Design, City of Cedar Park, Texas. Ms. Khoury served as *Project Principal* for Utility Relocation Design. She was responsible for the **oversight and QA/QC of the overhead utility inventory, SUE, conflict analysis and conceptual relocation design of overhead to underground conversion of both electric and telecom distribution facilities** impacted by the proposed \$20M TxDOT roadway improvement project to realign existing US 183, including Pedernales Electric Cooperative, AT&T, Spectrum, Grande Communications, and Atmos Gas. Services included preparation of three relocation alternatives, cost estimates, identification of easement needs, and analysis with City Staff and utility owners for the first phase of **Destination Bell Blvd**.



Sandee Khoury, PE Project Experience Utility Analysis Projects

Project Name and Client	Services Provided								
	Project for Public Spaces Model / Revitalization	Overhead Utility Inventory	OH to UG Design Analysis and Recommendations	Underground Utility Analysis	Utility Data Management	Agency Coordination	Relocation Preliminary Engineering Design	Opinion of Probable Cost	
Market Street Realignment, City of San Antonio	•	•		•	•	•	•	•	
FM 969 - Decker Lane to Hunters Bend, Travis County		•		•	•	•	•	•	
IH-35 Northeast Expansion, TxDOT San Antonio District		•	•	•	•	•	•	•	
IH-35 Mobility Program, TxDOT Austin District				•		•	•	•	
FM 1626 North, Hays County		•		•	•	•	•	•	



2. Experience and Availability of Proposed Staff

About CobbFendley

FIRM QUALIFICATIONS

Cobb, Fendley & Associates, Inc. (CobbFendley) is an employee-owned civil engineering, land surveying, and **utility consulting services firm** (Texas Board of Professional Engineers and Land Surveyors Firm Registration No. 274), **founded in 1980**, with Texas offices in Austin, San Marcos, San Antonio, Houston, Pearland, Katy, Conroe, Frisco, Fort Worth, Lubbock, El Paso and McAllen, and a full-time staff of over 560 professionals. **CobbFendley has over 40 years of successful experience in locating, mapping, and analyzing overhead and underground utilities and will provide the full scope of services for the Downtown Pflugerville Utility Analysis project with in-house staff, resources and equipment.**

CobbFendley's work history was built on utility relocations. Our utility assessment, coordination and design capabilities are marked by **strong relationships with local utility owners, former private utility company staff, and a staff of more than 20 local utility specialists.** As our firm has grown, we have added services to complement our utility relocation work recognizing the added value to our clients.

CobbFendley's approach to executing the City of Pflugerville's vision has been thoughtfully crafted and honed in the field from years of experience on similar projects. The **major services offered by our team** to successfully deliver the Downtown Pflugerville Utility Analysis project includes:

- Inventory above- and below-ground utilities
- Map existing utilities (SUE)
- Analysis of placing overhead utilities underground
- Water and wastewater utility analysis
- Engage existing utility owners with Pflugerville staff
- Identification of potential easement locations and equipment
- Preliminary relocation design
- Cost estimating/forecasting
- Communication with stakeholders

Available and Dedicated

CobbFendley is immediately available to begin this project. We have a depth of resources (125+ engineers, design professionals, utility specialists, etc.) in the Central Texas Region from which to draw, should the project require.

Comprehensive Services

Undergrounding utility assessment and overhead to underground design requires a multidisciplinary approach. CobbFendley's

professional design and planning team provides solutions and improvements to utility clients' complex needs. As a full service engineering and surveying firm, we offer a variety of in-house resources, with Departments readily available to work together to provide turn-key services for telecommunications and electrical engineering projects.

Telecommunications. CobbFendley has worked closely with telecommunications providers since 1980. Many of our specialists joined the company after successful careers with these providers, bringing decades of experience of outside plant services. These relationships are invaluable when analyzing and evaluating overhead to underground relocations.

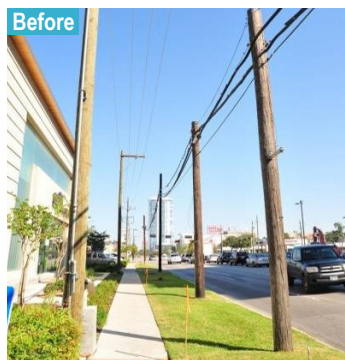
Power Delivery. CobbFendley's team of power delivery engineers has worked with electric utilities throughout the State performing overhead to underground, overhead, underground and network distribution design including overhead to underground conversions.

Utility Analysis and Design. CobbFendley has a broad range of experience assessing and relocating utility facilities with local utilities, municipalities, and highway authorities. CobbFendley has also designed relocation and new facilities for utilities across the State including Oncor Electric Delivery, Pedernales Electric Cooperative, AT&T-Texas, Atmos Energy, MCI/Verizon Business, Texas Gas Service, Time Warner Cable, and others.

Subsurface Utility Engineering. Since 1997, CobbFendley has provided complete SUE services for leading private and public sector clients including municipalities, DOTs, toll road authorities, and utility companies. Our team of engineers and locate technicians perform SUE in accordance with the ASCE Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data (CI/ASCE 38-02). CobbFendley has a specialized team and equipment for overhead to underground utility inventory.

Data Management. CobbFendley uses GIS technology for data integration, management, and analytics, and the mapping and modeling of various physical features. With an in-house GIS Department, our clients have improved access and understanding of the data crucial to daily decision making and long-range planning, offering a comprehensive operational insight.

The CobbFendley team understands the needs and requirements of the Downtown Pflugerville Utility Analysis and will be responsive, cost-effective, efficient, and exemplary in our implementation of these services.



Upper Kirby District selected CobbFendley to underground overhead utilities on Kirby Drive in a series of functional improvements to beautify the streetscape.

Experience with Utility Owners

CobbFendley has extensive analysis (✓) and design (✓) experience with the following Utilities, many of which will be encountered as part of the Downtown Pflugerville Utility Analysis:

- ✓✓ Oncor Electric Delivery
- ✓✓ Pedernales Electric Co-op
- ✓✓ LCRA
- ✓✓ AT&T
- ✓✓ Spectrum
- ✓✓ Frontier Communications
- ✓✓ Grande Communications
- ✓✓ CenturyLink (Level 3)
- ✓✓ MCI, Inc.
- ✓✓ FiberLight
- ✓ Suddenlink
- ✓✓ Windstream
- ✓✓ Atmos
- ✓✓ Enterprise Products
- ✓✓ Texas Gas Service
- ✓✓ Austin Energy
- ✓✓ Austin Water Utility
- ✓✓ Charter Spectrum
- ✓✓ Zayo

2. Experience and Availability of Proposed Staff



MEET YOUR TEAM

The following table summarizes the qualifications and experience of our Downtown Utility Analysis Team. Our team is committed to providing services to the City of Pflugerville and is available for the required work to complete this project. Among our skills and expertise that make us uniquely qualified are:


- Project Manager and Project Principal extensively experienced with Central Texas utility analysis and design projects
- Key staff with overhead to underground utility conversion experience
- Diverse team of in-house professionals comprised of utility specialists, engineers, designers, GIS specialists, technicians, surveyors and real estate acquisition specialists that are immediately available and committed to the City of Pflugerville
- Specialized tools and equipment for utility inventory and mapping
- Key expertise in development and beautification projects and cost estimating/forecasting

Downtown Utility Analysis Team		
Project Management	Experience Relevant to Scope of Work	% Avail.
 <p>KEVIN WOLF, PE Project Manager Registration: PE, Texas, No. 111796</p>	13 years of experience in public and private utility industries • Extensive downtown overhead to underground utility project experience • Expertise in the design and construction of electric distribution facilities, including overhead, underground, and network style systems • Specialty working in congested urban environments where coordination and creative design solutions are paramount to a project's success	40%
 <p>SANDEE KHOURY, PE Project Principal Registration: PE, Texas, No. 93777</p>	22 years of experience providing utility analysis with public, private and city-owned utility adjustments • Design experience in both dry and wet utilities provides a unique perspective and understanding of the utility analysis, undergrounding and utility owner analysis • Expertise in overhead to underground analysis • Demonstrated excellence providing senior leadership and guidance to project teams ensuring contract compliance, delivery on scope, budget, and schedule, and has allocated resources to keep projects on track	25%
 <p>MONICA SILVER, PE QA/QC Lead Registration: PE, Texas, No. 85589</p>	28 years of utility experience • Working relationships with public agencies, utility companies, and consultants for analysis of utility relocations for capital improvements projects • Contributed to the development of CobbFendley's QA/QC procedures manual • Successfully led many of the firm's signature overhead to underground conversion projects	25%
Utility Analysis Task Leaders	Experience Relevant to Scope of Work	% Avail.
 <p>MIGUEL MARTINEZ, EIT Overhead Utility Location and Analysis Task Lead Registration: EIT, Texas, No. 53147</p>	Over 4 years experience in dry utility design and utility analysis • Expertise in overhead to underground telecom/electrical design dry utility design, underground telecom/electrical duct bank design, various utility relocation designs, utility construction specifications and conflict evaluation/relocation analysis	35%
 <p>JOHN BEARDEN Overhead Utility Inventory Task Lead</p>	Over 9 years experience with CobbFendley • Diverse experience in providing of utility data collection services including overhead utility inventory, GIS, data collection for asset management programs, construction staking, subterranean utility location, pole loading analysis surveys, telecommunication manhole inspections, duct route locates and field notes	30%
 <p>RICHARD CLARKE Subsurface Utility Engineering Task Lead</p>	Over 21 years of experience in all aspects of SUE work, particularly management of projects and fieldwork • Expertise in project estimating, work plan preparation, fieldwork, utility conflict analysis, contractor oversight, and QA/QC • Experience in locating utilities in congested downtown area • Expertise in overhead to underground analysis	30%
 <p>KRISTEN VAN HOOSIER, PE Water and Wastewater Analysis Task Lead Registration: PE, Texas, No. 136882</p>	5 years of experience providing water and wastewater design, analysis, and cost estimating • Experience on multiple public-sector projects throughout the Central Texas area including experience in congested downtown areas • Expertise includes drainage analysis, preliminary utility relocation design, and cost estimation	25%
 <p>JOEY ROBERTS, PE, CFM Data Management Task Lead Registration: PE, Texas, No. 137860 CFM, Texas, No. 3180-16N</p>	6 years of civil engineering experience • Highly experienced in GIS, broadband design, utility analysis and subsurface utility engineering • Expertise in developing GIS databases and managing data sets	30%
Support Services	Experience Relevant to Scope of Work	% Avail.
 <p>BILL WARRICK, RPLS Surveying Lead Registration: RPLS, Texas, No. 4426</p>	Over 42 years experience • Extensive experience in large horizontal and vertical control projects, aerial mapping projects, route surveys, right-of-way surveys, large and small design/topographic surveys, construction projects and GPS Static control projects • In-house RPLS will expedite project and local field crews with capacity to perform work	25%

2. Experience and Availability of Proposed Staff



Downtown Utility Analysis Team		
Support Services	Experience Relevant to Scope of Work	% Avail.
 <p>LORI BIBLE, SR/WA Easement Acquisition Task Lead Registration: IRWA Senior Right of Way Professional No. 5527</p>	30 years of experience providing real estate and right-of-way services • Specializes in property acquisition for utilities • Experience working in congested downtown areas and with local business owners and residents for easement needs • Experience in overhead to underground analysis • Current Project Manager for City of Pflugerville On-Call ROW Acquisition Services contract	30%
 <p>BILL ODLE, PE Cost Estimating/Forecasting Task Lead Registration: PE, Texas, No. 92868</p>	Over 21 years of civil engineering, development, and public-private partnership consulting experience • Specializes in preparing cost estimates, forecasting, and phasing • Served as a Public-Private Consultant for over \$3 Billion of development and infrastructure projects throughout the U.S.	35%
 <p>NIMA EKHTARI, PH.D. LiDAR Task Lead Registration: Certified Mapping Scientist, LiDAR (ASPRS #L041)</p>	8 years experience as a Remote Sensing Specialist • Expertise in LiDAR technology, satellite imagery processing, and airborne image analysis for mapping the existing conditions of the earth's surface • Highly experienced with GIS systems from defining and updating geo-databases to ArcGIS tool development, and Web-GIS solutions	25%

	Services Provided								
	Project for Public Spaces Model / Revitalization	Overhead Utility Inventory	OH to UG Design Analysis and Recommendations	Underground Utility Locating / Analysis	Utility Data Management	Agency Coordination	Relocation Preliminary Engineering Design	Opinion of Probable Cost	
Boulevard 26, City of North Richland Hills	•	•	•	•	•	•	•	•	
Kirby Drive from Richmond Avenue to Westheimer Road and Westheimer Road to US 59, Upper Kirby District	•	•	•	•	•	•	•	•	
Bishop Street Improvements, City of San Marcos		•	•	•		•	•	•	
Regent Square Development, City of Houston	•	•	•	•		•	•	•	
Greenspoint Drive from Benmar Drive to Greens Road, North Houston District	•	•	•	•	•	•	•	•	
Capitol Complex, Texas Facilities Commission	•	•	•	•	•	•	•	•	
Downtown Station, 4th St. from Red River to IH-35, Capital Metro	•	•	•	•	•	•	•	•	
Market Street Realignment, City of San Antonio	•	•		•	•	•	•	•	
Bell Boulevard Realignment, City of Cedar Park	•	•	•	•		•	•	•	



Kirby Drive Utility Relocation, Upper Kirby District, Houston, Texas: CobbFendley's Utility Analysis experts worked with nine affected utility owners, verifying utility records and service locations and determining the number of ducts required to accommodate the utilities. CobbFendley then developed a master alignment for the two proposed ductbanks, including a joint trench for the telecommunications, cable TV, and the CenterPoint Energy electric distribution line. Upon approval of the alignment, CobbFendley prepared plan and profile construction plans and specifications that took into account the new landscaping and beautification features.

3. Prime Firm's Comparable Project Experience



OVERHEAD TO UNDERGROUND CONVERSION STUDY | CITY OF SAN MARCOS SAN MARCOS, TEXAS



PROJECT DETAILS	
Project Title	Overhead to Underground Conversion Study
Project Location	San Marcos, Texas
Year Completed	2018
OWNER REFERENCE CONTACT	
Mr. Tom Taggart Public Services Executive Director City of San Marcos 1040 N. Hwy 123 San Marcos, Texas 78666 512.393.8300	
SERVICES PROVIDED	
<ul style="list-style-type: none"> ■ Overhead to underground conversion study ■ Utility inventory and analysis ■ Downtown utility analysis ■ Phasing plan ■ Finance options ■ GIS database ■ Cost estimation ■ Application of electric utility construction standards and details 	
KEY STAFF INVOLVED	
	Kevin Wolf, PE Project Manager
	Sandee Khoury, PE Project Principal

PROJECT DESCRIPTION

The City of San Marcos has experienced significant population growth over the past 5 years (over 24 percent) and was ranked as one of the fastest growing cities for three consecutive years, from 2012 to 2014. With the expansive growth, the City has made significant investments in establishing a Downtown Master Plan and upgrading their development code (SmartCODE) to assist with managing the desired growth corridors and encourage smart development.

As a part of the desired vision of the City's Downtown and Midtown corridors, San Marcos Electric Utility (SMEU) launched a planning study to investigate options and costs for converting those corridors from overhead (OH) electric service to underground (UG). **CobbFendley was the firm selected to provide the planning study for the City.**

The OH to UG conversion study included the following:

- Evaluation of existing electric distribution infrastructure
- Establishing design segments for more manageable phasing
- Preparing preliminary estimate costs for conversion
- Summarizing challenges and benefits
- Identifying possible funding options and resources
- Integrating conversion with the City's SmartCODE and Downtown Master Plan
- Identification of similar OH to UG conversion projects

To perform this study, CobbFendley imported the entire SMEU GIS asset management system into its own GIS system. The CobbFendley electric designers were able to perform an entire underground electric design in the GIS system, break the project into phases, and export those phases with exact quantity amounts to an estimating system. Using bid tabulations from existing CobbFendley projects, coupled with pricing given from SMEU, we provided cost estimates for the entire Downtown area, including the addition of telecommunication conduit in all areas electric distribution would be installed. This estimate also included potential easement costs for transformers and vaults that would have been required.

Using this information, CobbFendley researched potential funding methods for the City of San Marcos. Funding methods included bonds, rate increases, and the use of tax increment reinvestment zones. CobbFendley provided specific examples of past projects of similar nature that were performed and how those were funded.

The project was kept on budget and on schedule through weekly coordination phone calls and in person meetings with SMEU. In these meetings, all tasks were discussed and potential solutions to issues were resolved. This allowed our team to complete the project on schedule and under budget.

3. Prime Firm's Comparable Project Experience



DOWNTOWN STATION, 4TH STREET FROM RED RIVER TO IH-35 | CAPITAL METRO AUSTIN, TEXAS








PROJECT DESCRIPTION

CobbFendley was part of the Downtown Gateway Partner's Team, providing SUE, surveying, utility analysis and joint-bid utility design services for the expansion of the existing CapMetro Downtown Platform Station. The project area was located on 4th Street in Downtown Austin between Trinity Avenue and the IH-35 southbound access road. Services included researching and analyzing existing utilities within the project corridor, identifying conflicts with proposed rail and platform station improvements, meeting with all utility owners impacted by the project, coordinating utility relocation corridor assignments, preparing joint-bid relocation design for both dry and wet utility relocations, and providing accurate cost estimates for those required scopes of work.

CobbFendley prepared joint-bid design services for all utilities impacted by the project, including Austin Energy (AE) underground distribution, AE Chilled Water, City of Austin water and wastewater, and seven different telecommunication companies. Services included coordination with all other design disciplines, utility owners, project stakeholders, surrounding businesses, and CapMetro. Services also included assisting the project design team with clearing all AULCC comments for various design submittals and analysis of utility adjustments with adjoining projects in the area, including a proposed 72" storm drain along 4th Street, the Sabine Street Project, and the Waller Creek Tunnel Project.

SUE services included Level A test holes and Level B locates in critical locations identified by CapMetro. Field services required direct coordination with the City of Austin to secure right-of-way permits for field work, including preparation of engineered traffic control plans for work within existing bike lanes and travel lanes, coordination with the Austin Convention Center and Hilton Convention Center Hotel on field work schedule and coordination with CapMetro Operations Group for work in vicinity of existing rail line. Weekend and nighttime work hours were required to minimize impacts to the surrounding community.

The CobbFendley team worked with a diverse group of subconsultants on a multi-discipline quality control program to verify potential conflicts across the site. This coordination required strict adherence to the project schedule to ensure deliverables were made at predefined times and to allow the project stakeholders a review of the proposed plans and budgets. This was accomplished using a specific software tool that allowed real-time commenting, editing, and approving of changes across these multi-discipline deliverables.

PROJECT DETAILS	
Project Title	Downtown Station, 4th Street from Red River to IH-35
Project Location	Austin, Texas
Year Completed	2020
OWNER REFERENCE CONTACT	
Mr. Steve Roth, PE Project Manager Downtown Gateway Partners 11500 Metric Blvd., #150 Austin, Texas 78758 512.821.2081	
SERVICES PROVIDED	
<ul style="list-style-type: none"> ■ Inventory and mapping of existing utilities ■ Analysis of utility relocation needs ■ Underground electric design for AE ■ Utility analysis ■ Subsurface utility engineering ■ Joint-bid utility design ■ Surveying ■ Engineered traffic control plans ■ Analysis of new electric service ■ Water and wastewater analysis and design ■ Cost estimating 	
KEY STAFF INVOLVED	
	Kevin Wolf, PE Project Manager
	Sandee Khoury, PE Project Principal
	Miguel Martinez, EIT Overhead Utility and Analysis Task Lead
	Richard Clarke Subsurface Utility Engineering Task Lead
	Kristen Van Hoosier, PE Water and Wastewater Analysis Task Lead

3. Prime Firm's Comparable Project Experience



PROFESSIONAL ENGINEERING SERVICES, UTILITIES PACKAGE FOR THE CAPITOL COMPLEX | TEXAS FACILITIES COMMISSION AUSTIN, TEXAS

PROJECT DESCRIPTION

The Texas Facilities Commission (TFC) selected CobbFendley to provide professional engineering services for the design to address existing and required utilities to support anticipated growth, walk-ability accessibility, create both a public gathering and green space ("Texas Mall"), and maintain historic features and buildings, etc. within the TFC's downtown area called the Capitol Complex. The office buildings will be located at 1601 Congress Avenue and 1801 Congress Avenue, each with 5 levels of underground parking connected by 5 levels of underground parking beneath Congress Avenue. The Central Utility Plant is located one block west of the parking garage and will serve the entire Capitol Complex site with chilled water.

Utility design services include both public and private utilities, including Austin Energy (electric), Austin Water (water and wastewater), City of Austin Watershed Protection (storm water), AT&T, GAATN and Spectrum (telecommunications), and Texas Gas Service (gas). State utilities include the Owner's existing chilled water piping and telecommunication lines.

Utility design scope includes the delivery of utility analysis to the following areas:





- Congress Avenue from 16th Street to Martin Luther King Jr. Boulevard to clear the area for the construction of the proposed 55' deep underground parking garage and two new building sites
- Relocation of over 500' of overhead electric, telecommunication, and traffic signal cable underground to provide space for a new pedestrian friendly access to the Texas Mall
- Installation of underground telecommunications bore on the highly traveled Martin Luther King Jr. Boulevard to minimize impact to surface features, decrease construction time line, and provide joint use pathway for providers in the area
- Relocations associated with the future underground parking garage in Congress Avenue from 15th Street to 16th Street

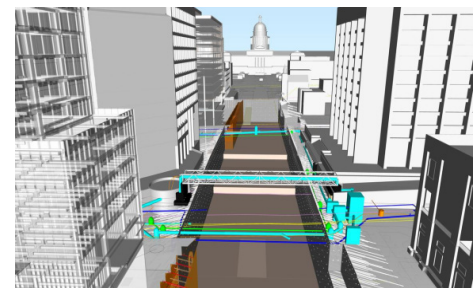
CobbFendley's scope included analysis and confirmation of the concept level proposed utility relocations, development of plan and profiles for each utility, traffic control plans, design of temporary utilities to maintain operation during construction, design of permanent utilities, specifications, construction phasing, and storm water pollution prevention plans (SWPPP). Services also include coordination with the Construction Manager at Risk (CMR) selected to perform all the utility construction.

CobbFendley's team also performed SUE Level B designation of over 90,000' of underground utilities and hydro excavated over 90 Level A test holes throughout the Capitol Complex to verify vertical clearances between existing and proposed utilities. This required constant communication with the City of Austin to coordinate backfill testing and to close sidewalks and roadways to perform the work. The team also developed an overall utility master plan showing the results of this SUE Investigation and created a 3D model of the findings for use by the BIM Coordination Manager.

Budgets were a major concern for the entire utility relocation project. Since the project area is located in one of the oldest portions of Downtown Austin, the CobbFendley team worked with the TFC to ensure an adequate contingency for unknown utilities that would be encountered during the installation of the new infrastructure. The CobbFendley team worked diligently with the TFC and the City of Austin when unknown conditions were found to determine the problem, devise a solution, and implement that solution to not delay the schedule.

CobbFendley also provided construction phase services for the project, including budget management, bid analysis, responses to RFI, submittal approval, and construction invoice review. Coordination with the CMR occurred weekly, with CobbFendley providing meeting minutes, agenda preparation, and change order processing.

PROJECT DETAILS	
Project Title	Professional Engineering Services, Utilities Package for the Capitol Complex
Project Location	Austin, Texas
Year Completed	2020
OWNER REFERENCE CONTACT	
Mr. F. Keith Hall, AIA, LEED AP, CTCM Senior Project Manager Texas Facilities Commission 1711 San Jacinto Blvd. Austin, Texas 78701 512.463.7690	
SERVICES PROVIDED	
<ul style="list-style-type: none"> ■ Inventory and mapping of existing utilities ■ Underground electric design for AE ■ Engineered Traffic Control Plans ■ Construction sequencing ■ Utility analysis ■ Subsurface utility engineering (Level D through A) ■ Joint-bid utility design ■ Surveying ■ Engineered traffic control plans ■ Analysis of new electric service ■ Water/Wastewater Analysis and Design ■ Cost Estimating 	
KEY STAFF INVOLVED	
	Kevin Wolf, PE Project Manager
	Sandee Khoury, PE Project Principal
	Richard Clarke Subsurface Utility Engineering Task Lead
	Bill Warrick, RPLS Survey Task Lead



3. Prime Firm's Comparable Project Experience



BELL BOULEVARD REALIGNMENT | CITY OF CEDAR PARK CEDAR PARK, TEXAS



PROJECT DESCRIPTION

CobbFendley was responsible for providing Utility Analysis, SUE services for all non-City owned utilities (dry utilities), easement acquisition, and dry utility design in support of the realignment of US 183 along Bell Boulevard in the City of Cedar Park's new downtown-style development.

CobbFendley's SUE staff located over 10,000' of both overhead and underground utilities along the project corridor. To successfully complete this task, our teams made contact with all utility providers in the area, recorded their as-builts, and then performed Level B locating along the proposed roadway. The results were finalized in a CAD based file for the project teams use.

Our Utility Analysis teams prepared a schematic level relocation of all in-conflict utilities and created a conflict matrix for this project showing all locations with proposed solutions. This conflict matrix was updated as more information was obtained, and the schematic design phase was completed.

The CobbFendley ROW team performed easement acquisition and condemnation services for the City of Cedar Park. The new roadway alignment conflicted with several existing buildings, and the new dry utilities were required to be in a dedicated easement next to the roadway. The ROW and design teams coordinated regularly to successfully deliver all required easements for the utility overhead to underground effort and for the roadway.

CobbFendley also served as the dry utility design engineer for the final relocations. Utilities included electric, gas, and telecommunication services. CobbFendley worked with the City of Cedar Park to verify all existing services would still be fed in the final alignment.

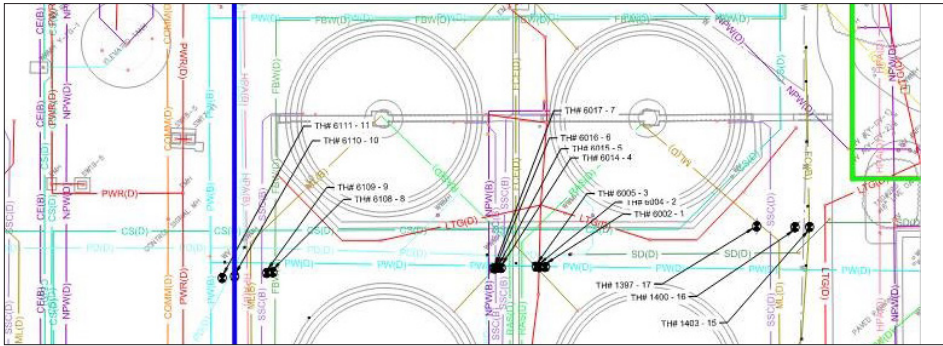
Challenges of the project included congested corridors, an aggressive construction timeline, and coordination with existing property services. These were mitigated with close coordination with City of Cedar Park staff and the local utility companies. Additional challenges included extensive conduit arrangements for the contractor to install, based on existing utilities in the area. This was solved by creating separate profiles for each arrangement and carefully labeling each in the plan set. For this project, MicroStation OpenRoads software was used to create the design in 3D. This allowed coordination between all utilities in real time. The project moved to an accelerated schedule due to being separated from the overall roadway project.

PROJECT DETAILS	
Project Title	Bell Boulevard Realignment
Project Location	Cedar Park, Texas
Year Completed	2020
OWNER REFERENCE CONTACT	
Mr. Alan Green, PE Senior Project Manager City of Cedar Park 450 Cypress Creek Road Cedar Park, Texas 78613 512.401.5352	
SERVICES PROVIDED	
<ul style="list-style-type: none"> ■ Utility inventory and analysis ■ Coordination with utility providers ■ Recommendations for potential relocation ■ Overhead utility line/pole inventory/mapping ■ Overhead to underground design analysis and recommendations ■ Utility relocation preliminary engineering design/scenarios ■ Easement acquisition ■ Cost estimating ■ Joint-bid utility design ■ Subsurface Utility Engineering ■ Easement Acquisition 	
KEY STAFF INVOLVED	
	Kevin Wolf, PE Project Manager
	Sandee Khoury, PE Project Principal
	Miguel Martinez, EIT Overhead Utility and Analysis Task Lead
	Richard Clarke Subsurface Utility Engineering Task Lead
	Lori Bible, SR/WA Easement Acquisition Task Lead

3. Prime Firm's Comparable Project Experience



SOUTH AUSTIN REGIONAL WWTP TRAIN A AND B IMPROVEMENTS | CITY OF AUSTIN AUSTIN, TEXAS



PROJECT DESCRIPTION


CobbFendley provided SUE Level B and Level A test holes and GIS utility information for the wastewater treatment plant. The overall project scope was to provide utility info to assist in the proposed improvements of sewer treatment facilities at the South Austin Regional (SAR) WWTP. Specifically, it had two phases:

- Phase One - Utility inventory and analysis to gather and then draft all the plants utility records into AutoCAD and GIS
- Phase Two - Perform field work to identify the buried utilities and then vacuum excavate to obtain precise locations. The combined result produced the first electronic map and data base for the utilities at SAR

CobbFendley worked closely with plant managers and engineers to create a geospatial record of the utilities in the configuration and providing the utility information in exactly the format they needed, where it could be viewed in AutoCAD, dropped directly into the City of Austin's ArcGIS platform and filtered by utility type, with readable plan sets that could be created in pdf for plant work. This phase of the work also captured metadata in order that pipe or fitting characteristics, data sources, and dates could be referenced and queried within the SUE records.

Field work involved using electromagnetic pipe, cable locators, and ground penetrating radar (GPR) to identify buried utilities. Once the buried lines had been mapped horizontally, vacuum excavation was used to safely uncover lines and obtain elevation data. Overall 199,000' of utility was mapped and 86 test holes were performed to determine utility elevations.

The focus and priorities for this work changed over the course of the project as proposed plant improvement designs developed. With CobbFendley's phased approach, the team was able to accommodate this and complete the project within budget.

PROJECT DETAILS	
Project Title	South Austin Regional (SAR) WWTP Train A and B Improvements
Project Location	Austin, Texas
Year Completed	2019
OWNER REFERENCE CONTACT	
Mr. John Wepryk, PE Project Manager City of Austin, Public Works Department 625 E. 10th Street Austin, Texas 78701 512.974.7110	
SERVICES PROVIDED	
<ul style="list-style-type: none"> ■ Utility inventory and analysis ■ Coordination with utility providers ■ SUE Quality Level A and B ■ Utility location data management/ GIS 	
KEY STAFF INVOLVED	
	Richard Clarke Subsurface Utility Engineering Task Lead

COBBFENDLEY PROJECTS DELIVERED FOR PFLUGERVILLE

Since 2013, CobbFendley has established a history of successfully delivering projects to the City of Pflugerville.

Weiss Lane Transmission Main, City of Pflugerville.

CobbFendley met all milestone design deliverables, including an **expedited Phase 1 utility design in 2 months to meet water delivery requirements** for the new high school construction. Our team coordinated with multiple entities, including the City of Pflugerville, Manville WSC, the PISD developer engineer, and the Weiss Lane roadway design engineer to incorporate all design needs into one streamlined plan set. **The final construction costs was below the engineer's estimate.**

Sorento Wastewater Interceptor, City of Pflugerville.

CobbFendley met all milestone design deliverables; coordinated with property owners to accommodate Rights of Entry and easement acquisition; **value engineered** deep manholes to reduce costs of access shafts; allowed for an alternate bid of pipe and manhole materials to provide **cost-effective bids** and incorporated a forward-thinking solution for access during construction in the event of heavy rains. **The final construction cost was below the engineer's estimate.**

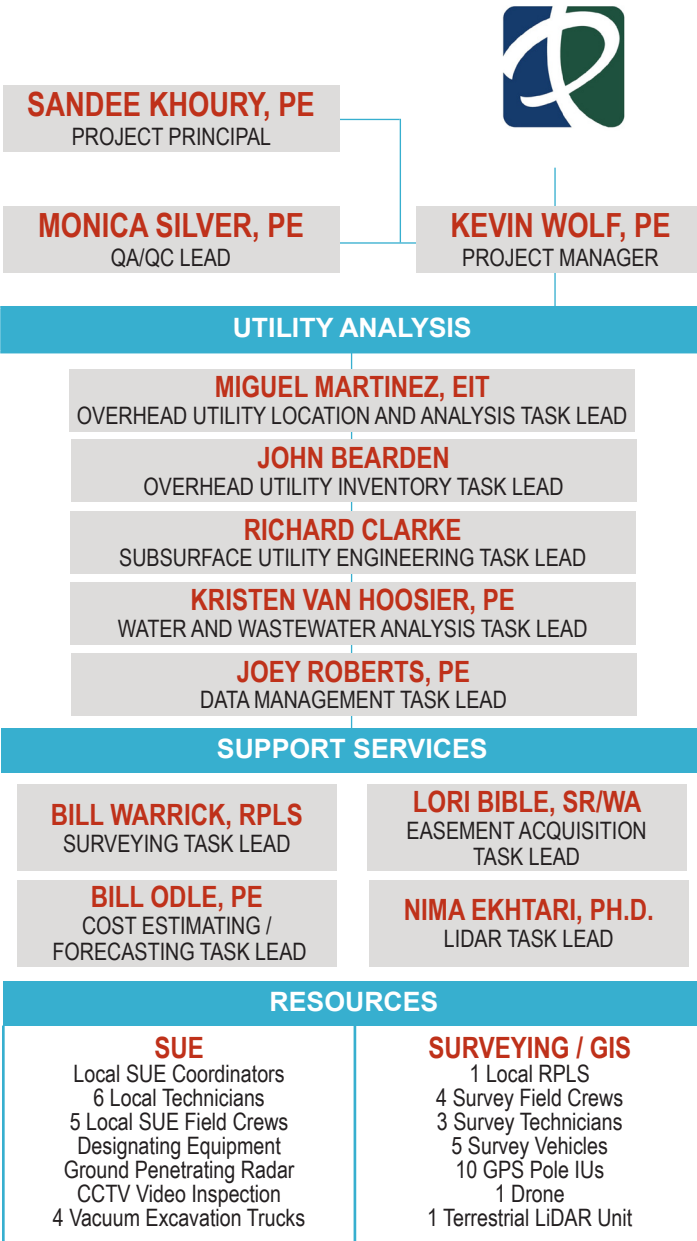
5. Team's Structure and Project Approach



ORGANIZATIONAL STRUCTURE

The CobbFendley team presents a strong group of CobbFendley employees with extensive knowledge and experience on Utility Analysis projects. We stand ready to serve and assist the City in the completion of your proposed project. The team will be led by Mr. Kevin Wolf, PE as Project Manager and Ms. Sandee Khoury, PE, as Project Principal.

The CobbFendley team will approach the City's Downtown Utility Analysis with the utmost professionalism and will maintain a diligent sense of urgency.



PROJECT LEADERSHIP

As outlined in the organizational chart, the team will be led by Mr. Kevin Wolf, PE. Mr. Wolf is a proven Project Manager with a lengthy track record of delivering both large and small overhead to underground conversion projects and studies within scope and on-schedule for both public and private entities

throughout Central Texas. As Project Principal, Ms. Khoury has demonstrated excellence in providing senior leadership and guidance to project teams overseeing contract compliance and allocating resources to keep projects on track. All services related to this submittal will be managed from CobbFendley's Austin office.



REPORTING RESPONSIBILITIES

CobbFendley's project leadership will be supported by an impressive team of engineers, design professionals, utility specialists, surveyors, and SUE specialists to bring a diverse array of technical expertise to the analysis team. The CobbFendley team will report to Mr. Wolf. As Project Manager, Mr. Wolf will have the ultimate responsibility of dedicating appropriate CobbFendley personnel to the project and coordinating their availability, as well as overseeing compliance with the schedule and budget and adherence to the quality program. The CobbFendley team Structure provides an outline of the reporting responsibilities.



INTERFACE WITH THE CITY PROJECT MANAGER AND SPONSORING DEPARTMENT

The City of Pflugerville will be an integral part of our team and will be included in all project assessments and key decisions. Mr. Wolf will be the primary point-of-contact for the City's Project Manager and will be dedicated to accomplishing the City's objectives. His past experiences performing overhead to underground relocations and analyses, managing large, complex projects with multiple stakeholders, and his ability to work hand-in-hand with the City of Pflugerville make him an ideal fit for this project. He considers the CobbFendley team to be an extension of the City's staff, working in concert with them and adopting their goals and commitments. Mr. Wolf's project management style is rooted in communication and transparency, which leads to greater efficiencies and trust. All members of the Project Team, including those from the City, will be engaged and involved in significant design and analysis decisions. We will present the City with options and solutions, not problems, for input and collaboration. Additionally, project communications will be provided bi-weekly outlining the analysis process, important decisions, needs from the City, upcoming deliverables, and schedule.



UNDERSTANDING OF SIGNIFICANT PROJECT ISSUES

To fully understand the challenges facing the Pflugerville Utilities Undergrounding project, our team reviewed past experiences with similar projects and identified the following critical challenges and potential solutions.

- 1. Response from Utility Owners.** Proper identification and relocation planning frequently involves input from the individual utility owners and their response can sometimes be sporadic. Our proven team of utility coordinators routinely work with each utility owner in the designated area and have great working relationships. These relationships generally leads to greater response rates from these utility owners.
- 2. Available Space/Congested Corridors.** Downtown

5. Team's Structure and Project Approach



areas typically contain the oldest existing infrastructure, incomplete record drawings, and least available space for new underground installations. This poses significant challenges for new utility design and placement. The CobbFendley SUE team can utilize many technologies to inventory and analyze the locations of utilities in the horizontal and vertical positions, including Level A test holes, sonding, and Shape Ground Penetrating Radar (GPR). The CobbFendley team will also research the use of joint trench designs to help conserve space in these congested corridors.

- 3. Required Easements.** When placing existing overhead facilities underground, an easement is typically required for the utility owner's equipment. These easements delineate the locations of the utility's infrastructure and can include transformers, switchgear, OSP plants, manholes, etc. They provide the utility owner with access to maintain their infrastructure. Our team has extensive experience determining sizes of these easements and can include potential easement costs into the estimates.
- 4. Overhead to Underground Electric Service Conversions.** Placing underground electric infrastructure underground can bring challenges in refeeding services to buildings. Whether it's voltage differences or odd meter configurations, a qualified electrician is often needed to finalize the conversion. The CobbFendley team has extensive experience in assisting our clients and the local electric utility in determining which services may require these upgrades. These upgrade costs can be significant and need to be captured for the City to fully understand the magnitude of a conversion.
- 5. Project Phasing.** Phasing the overhead to underground relocations can seem like a daunting task when considering the impact to surrounding homes, businesses, and busy thoroughfares. Public opinion of a project can sour quickly if these impacts are not proactively managed and/or efficiently phased. The CobbFendley team will assist the City in determining where these projects make sense and where they can be combined with water and wastewater improvement projects to minimize the impact to the surrounding community.



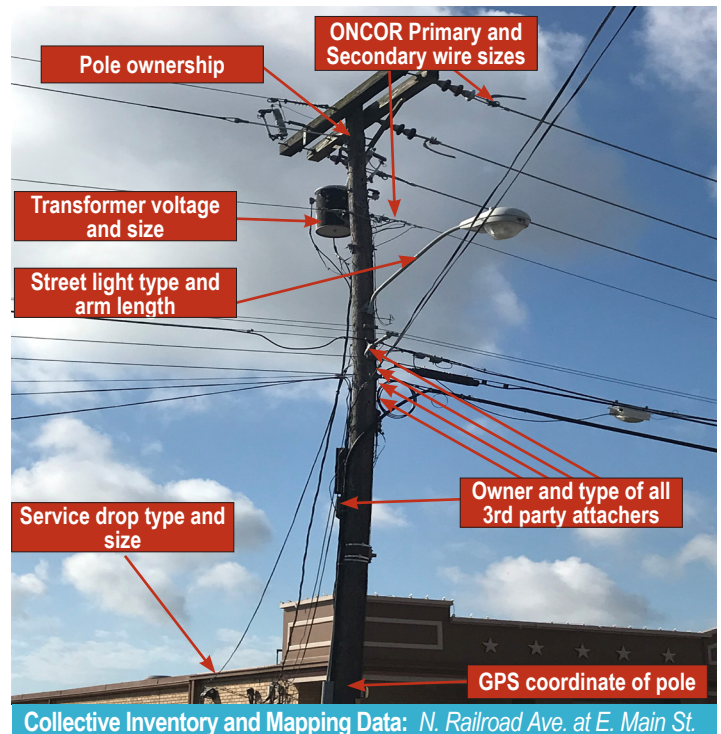
APPROACH TO OVERHEAD UTILITY LOCATION AND ANALYSIS

CobbFendley will leverage its proven system of efficiently developing an existing utility inventory, conducting analysis of required utilities to accommodate growth and the other project goals using our local professional engineering, SUE and field staff to determine ownership of all overhead facilities in the designated area. **Through our preliminary analysis, overhead utilities in the area include:** Oncor, Charter Spectrum, FiberLight, AT&T, SuddenLink, Grande Communications, CenturyLink, MCI/Verizon, and Zayo.

Auditing the overhead system in the designated areas can be performed in multiple ways. Our **Overhead Utility Inventory Task Lead, John Bearden**, leads our field team in performing individual,

pole-based designation. This is the most common form of pole auditing. CobbFendley has performed this same function on tens of thousands of poles across Texas for our private and public utility owners and clients.

The CobbFendley team will inventory each pole individually, noting the GPS coordinates, pole ownership, size, service taps, and any attached facilities (to include transformers, switches, lighting, telecommunication providers, etc). This information is kept in a searchable database that is exportable to a GIS system.



INNOVATION // If requested by the City, our **LiDAR Task Lead, Nima Ekhtari, Ph.D.**, will perform an overhead inventory using LiDAR. CobbFendley has the knowledge, applied experience, and workflow in place to collect Mobile LiDAR data and street view imagery in order to create a database of all existing poles, as well as overhead communication and power lines. This mobile mapping system consists of a state-of-the-art laser scanner and a 360-degree panoramic-view camera. The LiDAR data collected by this mobile mapping system is used to precisely locate and map poles, transformers, pole attachments, and overhead utility lines. Street level imagery is used for visual interpretation and high-level inventory creation. The inventory will be completed at a detailed level with occasional field visits after analyzing street view imagery and LiDAR data.

Once the information has been gathered and is in a usable form, CobbFendley will coordinate with the City to research projects in the existing CIP budget to determine where overlaps in project areas occur. These locations will be our starting point for developing project phases. By doing this, the overhead to underground relocation projects can occur with minimal additional impact to surrounding business, homeowners, and visitors. Project costs can also be reduced due to shared costs for surface repair, traffic control, and Contractors general conditions.



5. Team's Structure and Project Approach

Our work history performing similar overhead to underground projects in congested urban environments, from inventorying existing utilities, designing undergrounding plans and new utility service to completion, gives our team an immense amount of knowledge into probable costs and construction methods for this type of work. This knowledge, coupled with our Water and Wastewater Team, will allow us to best layout potential corridors for overhead to underground relocation.



WATER AND WASTEWATER ANALYSIS

Included in the Downtown Utility Analysis team, our **Water and Wastewater Analysis Task Lead, Kristen Van Hoosier, PE**, will assess the need for water and wastewater utility improvements. Initial steps will be to review the City's Water and Wastewater Master plans to understand if up-sizing or system improvements are recommended per the plans. If no urgent system improvements are recommended, the CobbFendley team will assess the age and condition of the lines. As-built research will help determine the age and pipe material which will give an indication of anticipated condition. If there is uncertainty, SUE Level A test holes could be executed to get a visual of the existing pipelines. In addition to system needs, age, and condition, the CobbFendley team would assess potential conflicts between the water and wastewater lines and planned future utilities such as underground dry utilities and future stormwater improvements. Compliance with TCEQ could also be considered to place waterlines and wastewater lines at required minimum separation of 9' horizontal or 2' vertical/4' horizontal where 9' is not feasible and either encase or use pressure pipe where separations are not acquired. Included in this analysis line-item construction cost estimates would be developed to help understand the fiscal implications of potential relocations. The CobbFendley team has designed and constructed thousands of linear feet of water and wastewater relocations in congested downtown areas in Central Texas, and has developed an extensive database of unit costs and a proven method for determining costs at preliminary phases of design.

As part of the water/wastewater evaluation, the CobbFendley team will assess the location of the water and wastewater lines, determine if existing easements are adequate or if the lines can be maintained within the ROW and make recommendations if new easements would be required.



OPINION OF PROBABLE COSTS

Using bid tabulations from recently completed projects in the Central Texas area, our **Cost Estimating/Forecasting Task Lead, Bill Odle, PE**, will be able to provide the City with an accurate estimate of potential costs for these relocations, and how these costs may change over the next 10 years. A comprehensive project opinion of probable costs (OPC) will be developed indicating the costs associated to the City as well as the Utility Owner's costs. CobbFendley will coordinate with the Utility Owners to obtain their costs for engineering, line pulling, splicing, and inspection associated with the most economical relocation. In addition, CobbFendley will prepare a relocation cost estimate for the City

that includes acquisition of proposed easements, construction of underground duct banks, manholes, handholes, pad mounted transformers, switchgear, light poles, signage, signals, construction oversight and any landscaping features as determined by the City and its consultants. Once an overall OPC is prepared, CobbFendley will work with the City to identify potential phasing of construction opportunities. It is anticipated that there will be a minimum of five different project phases with multiple combinations of phases. CobbFendley will assist the City with these determinations utilizing our experience and understanding of the following:

1. Current and expected future capital budgets
2. Required schedules or timing
3. Optimization of the most economical designs
4. Synergies presented due to the timing and location of the construction of planned underground utility projects utilizing economies of scale
5. Identification of highly visible commercial areas in order to have the most effective discernible impact
6. Optimization of economic development impact due to development or redevelopment potential including the potential use of property tax increment and its impact on future phases

Once the potential phases are determined, CobbFendley will assist the City in the prioritization of phases and prepare the final phase specific OPCs. CobbFendley utilizes a current database of actual bid cost information from similar projects constructed in the last two years to develop the OPCs. CobbFendley also keeps up with current and forecasted market conditions that assists in identifying potential economic impacts that could impact future pricing to allow us to build more precise contingencies into each OPC. The CobbFendley team understands the importance of accurate estimates for this type of work, and we will work together with the City to plan this future phasing accordingly.



SUBSURFACE UTILITY ENGINEERING

As potential overhead to underground segments are identified by the CobbFendley team and the City, our **SUE Task Lead, Richard Clarke**, and the CobbFendley SUE crews can begin the corridor underground investigation efforts to determine project feasibility. The confirmation of utility locations will follow the ASCE Standard C-1 38-02, "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data". Using inhouse expertise, CobbFendley will identify existing utilities in the downtown area using a phased approach that begins as described below:

Existing Underground Utilities (Levels A, B, C, and D)

- Notify utility and property owners.
- Research records by contacting local municipalities, counties, utilities, pipeline operators, Texas Railroad Commission, etc. to request available maps/records/as-builts and information - this step also includes visiting the site and meeting with utility representatives to resolve any records discrepancies or omissions. Prepare any necessary traffic control plans to conduct field work and obtain any required ROW and



5. Team's Structure and Project Approach

excavation permits.

- Sweep for and designate to mark horizontal locations of utilities using non-destructive geophysical techniques, including various pipe cable and pipe locators, magnetic detection, sonde and rodders for non-conductive pipe, and GPR, when site soil conditions are favorable. The markings will be based on the APWA color code and will be non-water-based paint and flagging in grassy areas.
- Survey the horizontal location of the markings and tie the marks to an established survey control to guarantee up to 1.5' accuracy.
- Correlate survey data and resolve discrepancies from Levels D and C findings.
- Note when unknown utilities (utilities with no records) are found in the field and take extra steps to find out who owns them.
- Prepare a color-coded utility plan in conformance with City of Pflugerville requirements.
- Conduct internal QA/QC review and approval of the utility plan.
- Submit utility map and utility contact list, potential conflict list and utility solution plan to the City and Project Team.

Upon review of the existing utility plan, CobbFendley will meet with the City of Pflugerville Project Manager to determine where, if any, Level A test hole services are required. CobbFendley strives to minimize Level A services to only critical locations to control project costs and schedule.

- Comply with City, State and Federal laws, regulations, and/or policies for the prevention of underground utility damage (i.e., one-call system).
- Coordinate with utility company inspectors as required by the contract and by law.
- Obtain traffic control plan approval if required.
- If test hole is in pavement, neatly cut and remove existing paving, limited to 12"x12" or smaller if required by the City.
- Expose utilities using non-destructive air vacuum excavation. Measure and record the depth of the utility (elevation of the top and bottom), utility size, utility material, utility condition and type of soil around the utility.
- Tie utility to survey control to a 0.05' vertical accuracy (NAD 83 State Plane Texas Central).
- Backfill the hole and compact in lifts in accordance with the City specifications. Repairing paving, if necessary.

CobbFendley's Survey and SUE Teams work closely to provide accuracy and maintenance of data. CobbFendley is experienced in working collaboratively on a project, when the schedule needs to be compressed our **SUE crew members have also cross-trained to survey their own marks to create efficiency while maintaining the same level of accuracy.**

On completion of the Utility Location effort, CobbFendley will:

- Compile information on a test hole data sheet in conformance with the City's requirements. The CobbFendley test hole data sheet includes the following details: the elevation of the natural ground, elevation of the top and bottom of the utility, depth of the utility, line size, line material, and condition of the line, type

of soil around the line, paving type and paving thickness are shown. Horizontal coordinates of the utility are also provided. Two benchmarks are provided.

- Finalize SUE utility plans and test hole data sheets in accordance with City's CAD/SUE standards. Utility plans and test hole data sheets are signed and sealed by a Texas Registered Professional Engineer.
- Provide electronic file to the City and Project Team.

Utility Plans will include:

Horizontal and vertical (if known) location of utilities, ownership information, type, and size of utility.

Location of easements within 15' of the right of way if the utility is not entirely situated within the public right of way.

Utility Contact List.

Manhole rim elevations and inverts in and out.

All sewer appurtenances such as drop manholes, vents, and force mains.

Water appurtenances such as gate valves, air vacuum and air release valves, PRV vaults, vents, and corporation stops.

Dry utility vaults, pull boxes, manholes, drop down transformers, and other providers attached to all overhead utility line poles.

Unknown utilities encountered during investigation.

Data Management

Data management begins before the field work starts. Record research info is drafted into the project basemap to provide the field crews with the overall utility picture to supplement the individual utility records they have. Data from the field is "electronically" sketched into tablets using the Collector for ArcGIS. Using this app enables the crew to record the utilities they have marked out and identify all the above ground appurtenances they find, photograph any notable features, make additional comments (and record test hole data when performing Level A work) and "tag" them to their location using the tablet's internal GPS. All of this is immediately viewable in CobbFendley's own SUE enterprise GIS database. It forms a comprehensive record of the fieldwork in real time. It can be easily exported into other formats to make it easily shareable with Project and QA/QC Managers and clients via a KMZ. It is also used by our surveyors as a guide when collecting the SUE Level B field markings.

Adhering to the ASCE, SUE standard means that SUE Quality Levels are represented differently. This is the fundamental guiding principal for SUE data management. CobbFendley does this with unique line styles to differentiate record information from field work. In addition embedded text in the line styles show utility owner, utility type, size information where applicable and SUE Quality Level. When overhead clearances and test hole (Quality Level A) elevation information is added, it's the possible to provide a 3D deliverable in MicroStation or AutoCAD Civil 3D. Combining the 3D component and the GIS also allows project "flyover" animations to be created for overview or planning purposes.

5. Team's Structure and Project Approach



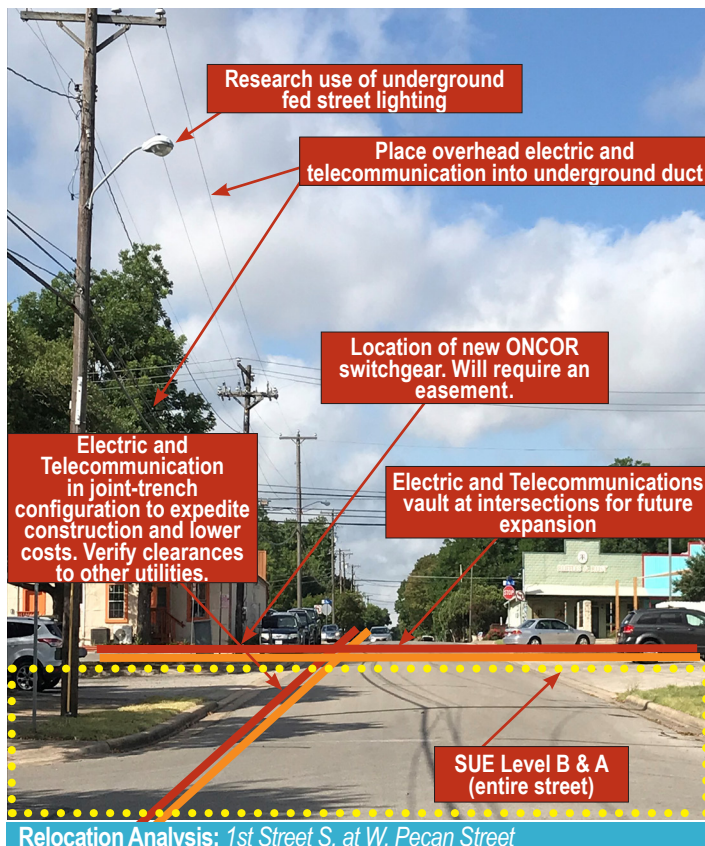
Design Analysis and Recommendations

Our Project Manager, Kevin Wolf, PE, and Overhead Utility Analysis and Design Task Lead, Miguel Martinez, EIT, will work with the City to proactively determine where additional design analysis needs to take place. We will analyze, at a minimum, five different project phases and five combinations of these phases. To do this, we would first coordinate on probable locations for overhead to underground conversion with the City. Once these locations have been identified, our expert team of underground electric and telecommunication utility specialists would create potential underground utility plans for the relocation. We would also coordinate with the CobbFendley Water and Wastewater Team to determine if any upgrades to their system would be needed as well. If so, these proposed lines would also be added for coordination purposes.

CobbFendley will confirm the governing design criteria and horizontal and vertical clearance standards that will be used in evaluating potential conflicts with the City and Utility Owners. CobbFendley takes a four-phased approach when evaluating utility conflicts:

- Physical conflicts with proposed construction
- Conflicts where existing utilities will no longer meet governing design criteria
- Constructability conflicts
- Future maintenance and access conflicts

CobbFendley will generate a Utility Conflict Matrix and Exhibit Roll plot at each project phase for use in identifying utility ownership, type and size of utility, limits of conflict, type of conflict, and



proposed resolution. The Exhibit Roll plots would incorporate the existing utility base mapping generated during the SUE phase, right-of-way, proposed relocation alignments for the OH to UG conversion and proposed water and wastewater, where applicable. The CobbFendley Team will work collaboratively with the City and Utility Owners to review conflict locations, evaluate relocation alternatives, and leverage additional field verification (SUE QL-A), where needed, to confirm conflict status. CobbFendley understands the importance of looking for conflicts in all areas of a proposed design, utilizing internal QC checklists during conflict identification.

CobbFendley has provided design analysis and recommendations on over 200 civic improvement projects across the Central Texas Region over the past 20 years. This experience is invaluable when evaluating avoidance alternatives for utility conflicts and cost-effective solutions for the City of Pflugerville.

Relocation Preliminary Engineering Design

Based on the conflict analysis, CobbFendley will generate proposed relocation alignments for all utilities, along with estimated relocation cost estimates, by utility owner. A Proposed Utility Strip Map will be generated to show existing utilities (to be removed or to remain), proposed relocation alignments, existing right-of-way, and proposed easements. We will work with our in-house Easement Acquisition Task Lead, Lori Bible, SR/WA, to determine possible easement needs, availability, and costs.

CobbFendley conducted design analysis and recommendations as part of the Bell Boulevard Realignment project. A useful tool used during the preliminary relocation designs was preparing typical sections along the proposed alignments to identify horizontal and vertical clearances between all utilities within that section of ROW. This assisted with identifying potential easements needed for the overhead to underground conversion, as well as identify opportunities for joint trenching with the dry utilities. Identification of required underground vaults and above-ground equipment is another key element in the relocation preliminary engineering design phase.

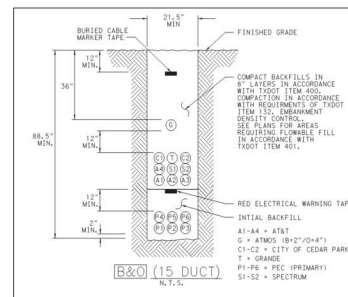


Figure 1 - Bell Boulevard Typical Section

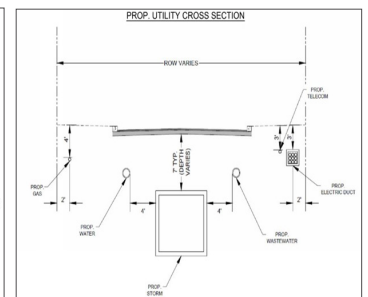


Figure 2 - Bishop Street Typical Section

CobbFendley has extensive experience in providing preliminary engineering design, cost estimating, and scheduling of utility relocations both for utility owners and for municipalities. This vast experience provides better collaboration, planning and analysis of required adjustments while meeting the needs of the City of Pflugerville and respective utility owners, and maintaining the overall vision of the Downtown Action Plan.

Key Personnel Resumes



MONICA SILVER, PE
QA/QC LEAD

YEARS OF EXPERIENCE

28 years

EDUCATION

B.S., Civil Engineering, Texas A&M University, 1992

PROFESSIONAL REGISTRATIONS

Professional Engineer, Texas, No. 85589

QUALIFICATIONS

Ms. Silver has over 28 years of utility experience providing project management and engineering design on a variety of projects for various clients, including government agencies, municipalities, management districts, TxDOT, Counties, Toll Road Authorities, pipeline distribution and transmission operators, telecommunication, wireless and broadband service providers, and developers. Ms. Silver contributed to the development of CobbFendley's QA/QC procedures manual and implements QA/QC on projects. She has extensive experience in utility analysis including route planning, contract negotiations, and utility agreement packages. She has great working relationships with public agencies, utility companies, and consultants for analysis of utility relocations for capital improvements projects, and has successfully led many of the firm's signature overhead to underground conversion projects.

Boulevard 26, City of North Richland Hills, Texas. Ms. Silver served as **Principal in Charge and QA/QC Lead** on this project to **relocate AT&T, Charter Communication and Oncor Electric above ground facilities to underground as a beautification project** for the City of North Richland Hills. CobbFendley provided the analysis with the utility companies for the alignment of the electric and communications conduit/handhole systems, determining Oncor easement locations, surveying, subsurface utility engineering, relocation plans, specifications, and cost estimates. The conduit/handhole infrastructure was bid and constructed by the City and CobbFendley provided construction phase services.

Kirby Drive from Richmond Avenue to Westheimer Road and Westheimer Road to US 59, Upper Kirby District, Houston, Texas. Ms. Silver was **Project Manager and QA/QC Lead** for **relocating existing overhead utilities to new underground locations**. Utilities involved on this project include CenterPoint Electric, AT&T-Texas, Comcast, Phonoscope, TVMax, AT&T, Legacy, TW Telecom, and Transtar. Ms. Silver met with each utility company to perform a field investigation to verify their record information and service locations and to determine their required number of ducts and future location of handholes. After obtaining this information, Ms. Silver's team developed a master alignment for the two proposed ductbanks, including a joint trench for the telecommunications, cable TV, and Transtar lines and the CenterPoint Energy electric distribution line. Upon approval of the alignment, Ms. Silver prepared plan and profile construction plans and specifications that were included in the roadway reconstruction plans and took into account the new landscaping and beautification features. During the construction phase, Ms. Silver reviewed and approved shop drawings, answered requests for information, reviewed change order requests, attended bi-weekly progress meetings, and performed field visits during the construction of the duct banks.

Greenspoint Drive from Benmar Drive to Greens Road, North Houston District, Houston, Texas. Ms. Silver served as **Project Manager and QA/QC Lead** for **relocating existing overhead utilities to new underground locations**. Ms. Silver met with and obtained information for each utility company's lines that needed to be relocated including CenterPoint Energy Houston Electric, AT&T, Phonoscope, and Transtar. Ms. Silver determined the required number of ducts, manholes/handholes, pad-mount electric switches and transformers for the communications and electric relocations through field meetings and records research. Once all information was acquired from each utility company, Ms. Silver prepared construction plans, specifications, and an estimate for both a joint trench communication and traffic signal cable and electric distribution ductbank/manhole system which was included in the roadway reconstruction set. In addition, CobbFendley also provided construction phase services.

Regent Square Development, City of Houston, Texas. CobbFendley provided **analysis and relocation of several utilities for a pedestrian-focused urban community**. Ms. Silver served as **QA/QC Lead**. The scope of work included **investigating ownership of overhead lines and coordinating the relocation of aerial lines to underground facilities with various utility companies including electric distribution, telecommunication and cable lines**. Ms. Silver reviewed plan and profile construction drawings and specification including coordinating the relocation of utilities to a joint-trench due to limited right-of-way. In addition, CobbFendley designed facilities to service retail, residential and office buildings.



MIGUEL MARTINEZ, EIT

OVERHEAD UTILITY
LOCATION AND ANALYSIS
TASK LEAD

YEARS OF EXPERIENCE

4 years

EDUCATION

B.S., Electrical Engineering, University of Texas at San Antonio, 2014

PROFESSIONAL REGISTRATIONS

Engineer-In-Training, Texas, No. 53147

QUALIFICATIONS

Mr. Martinez has over 4 years of experience as a project engineer involving dry utility design and utility analysis. His project experience includes various utility inventory and analysis designs, overhead to underground telecom/electrical design, underground telecom/electrical duct bank design, utility construction specifications, and conflict evaluation/relocation analysis for numerous projects across Central Texas. He has an extent knowledge in conflict analysis and utility corridor planning, developing a project PS&E, joint trench planning, and overhead to underground electrical conversion. Mr. Martinez has worked with various utility companies, Texas municipalities and the Texas Department of Transportation.

Facilities Relocation at Posey Road, Pedernales Electric Cooperative, San Marcos, Texas. Mr. Martinez served as **Overhead Utility Relocation Design Lead** responsible for **creating the plans, specifications, and estimates for the relocation of approximately 500' of overhead crossing to underground for an existing overhead highway crossing.** Proposed multi-duct underground crossing consisted of a combined construction method of open trench and directional bore with an installation of a proposed electrical vault.

Downtown Station, 4th Street from Red River to IH-35, Capital Metro, Austin, Texas. Mr. Martinez served as **Overhead Utility Relocation Design Lead** responsible for **creating the plans, specifications, and estimates for the relocation of Austin Energy facilities in conflict with the proposed railroad and other proposed utilities.** Plans included approximately 550' of multi-duct relocation from Neches Street to Red River Street, approximately 300' of overhead to underground conversion from Sabine Street to North IH-35 Frontage Road, as well as a placement of new multi-duct for future expansion along Red River Street. Utilities impacted by the project included Austin Water Utility, Austin Energy underground an overhead, Austin Energy Chilled Water, and seven different telecommunication companies. Services also require assisting the design team with clearing all AULCC comments for design submittals and analysis of utility adjustments with adjoining projects in the area.

Bell Boulevard Realignment, Utility Relocation Design, City of Cedar Park, Texas. As **Overhead Utility Relocation Design Lead**, Mr. Martinez was **responsible for creating joint trench telecom/electrical relocation plans, specifications, and estimates** for the existing overhead lines in conflict with proposed Bell Boulevard realignment. This project consisted of the relocation design and conversion of all dry overhead utilities impacted by a \$20M TxDOT roadway project on US 183 in Downtown Cedar Park, including Pedernales Electric Cooperative, AT&T, Spectrum, Grande Communications, and Atmos Gas. Joint trench design plans included approximately 4,500' of electric and telecom duct structure which relocated overhead facilities into the underground along the south realigned Bell Boulevard. Proposed multi-duct underground joint trench consisted of a combined construction method of open trench and directional bore with an installation of several proposed electrical vaults.

Bishop Street Improvements, City of San Marcos, Texas. Mr. Martinez served as **Overhead Utility Relocation Design Lead** responsible for the **schematic layout relocation of electrical and telecom utilities** for the Bishop Street Improvements project. Schematic layout consisted of placing overhead utilities into underground with service connections.

Key Personnel Resumes



JOHN BEARDEN
OVERHEAD UTILITY
INVENTORY TASK LEAD

YEARS OF EXPERIENCE

9 years

QUALIFICATIONS

Mr. Bearden serves as the Field Services Supervisor for Central Texas where he provides pole analysis surveys and telecommunication field services. As Field Services Supervisor, Mr. Bearden's responsibilities include operations management, project oversight, client relations, closely monitoring business plans, and tracking department financial performance data (revenue, and budgets). Mr. Bearden has a diverse background in the Telecommunications and Field Services industry having worked on projects throughout Texas for municipal infrastructure, telecommunications, public utilities (water, electric, telephone, natural gas). He is experienced in providing a wide range of data collection services that include topographic mapping, GIS, data collection for asset management programs, construction staking, subterranean utility location, pole loading analysis surveys, telecommunication manhole inspections, duct route locates, and field notes.

Joint-Use Pole Collection, AT&T Texas/EI Paso Electric, El Paso, Texas. Using ArcGIS Online and Collector for ArcGIS, CobbFendley built a mobile cloud pole collection application for the telecommunications field crew. Mr. Bearden was the **Overhead Utility Inventory Task Lead** for **scheduling and supervising on-site field activities, daily progress uploads, progress update meetings with AT&T, and final deliverables on this project.** As part of AT&T's joint use pole agreement with El Paso Electric (EPE), telecommunications crew members were deployed to collect pole information across 13 El Paso AT&T wire centers. An existing pole inventory from EPE was mapped and customized with new attribute fields to reflect the pole information necessary to satisfy the project scope. Some of the pole data that was collected included, but was not limited to: pole attachments, service drops, and cable transfers. Images and field notes were also captured by the tablet camera and attached to the associated pole. A real-time layer in the map updated with a unique symbol to denote the poles that were successfully collected. This not only assisted field crews with tracking their progress, but also ensured efficiency by guaranteeing the subject poles were collected completely before leaving the current location. Poles not part of the existing inventory were also collected using the tablet GPS and attributed completely. Tools within the application such as "Get Directions" helped personnel successfully navigate to hard-to-find poles in remote locations.

Pole Loading Analysis Program, AT&T, San Antonio, Texas. As **Overhead Utility Inventory Task Lead**, Mr. Bearden was responsible for **providing engineering and field services to assist AT&T in expanding its capacity to service customers by inspecting 3000 poles for installation of new aerial fiber optic cable in the San Antonio area.** The Field Services Team, supervised by Mr. Bearden, **performed pole-loading surveys to collect existing power pole information, inspect condition of the pole, measure aerial attachments on each pole, and measure heights of mid-span areas.** Engineering used the gathered field information to generate Pole Loading Analysis (PLA) reviews using OCALC/SpidaCALC software for permitting with CPS Energy for review and approval.

Fiber Optic Telecommunications Expansion Project, Zayo Group, Austin, Texas. As **Overhead Utility Inventory Task Lead**, Mr. Bearden was responsible for **providing engineering and field services to assist Zayo Group in expanding its capacity to service customers by installing over 100 miles of new fiber optic cable in the Austin area.** The Field Services Team used general route information, utility research, and analyzed existing facilities to validate constructability. Field Services utilized several methods in route determination that included **accessing existing AT&T telecommunication manholes to verify duct availability, pole loading surveys to analyze overhead attachments, and topographical surveys to location existing utilities for underground route designs.** Engineering used the gathered field information to prepare design plans and PLA for permitting with the City of Austin, AT&T, Austin Energy, and TxDOT for review and approval.



RICHARD CLARKE

SUBSURFACE UTILITY
ENGINEERING
TASK LEAD

YEARS OF EXPERIENCE

21 years

EDUCATION

B.S., Political Studies, University of
Plymouth, England, 1991

QUALIFICATIONS

Mr. Clarke has been involved in hundreds of SUE and utility analysis projects over the past 20 years. He has experience in all aspects of SUE work, particularly management of projects and fieldwork. He has expertise in project estimating, work plan preparation, fieldwork, utility conflict analysis, contractor oversight, and QA/QC. Mr. Clarke has also used his extensive experience for training crews. He has provided presentations and hands-on-training on SUE methodology, explaining the best practices and cost effective use of FHWA Quality Levels and the correct use of locating equipment to adapt to varying site conditions. Mr. Clarke's SUE experience has involved work on Superfund sites, military bases, municipalities, TxDOT, universities, public works facilities, and oil fields.

2013 Road Bond Program, Williamson County, Texas. Mr. Clarke served as **SUE Task Lead** providing utility field locating services for over 20 roadway and/or drainage projects in Williamson County. His duties included **reviewing conflict locations with the Utility Analysis team and making recommendations on means and methods for verifying utility conflicts, coordinating and scheduling field services (both Quality Level QL B locates and QL A test holes)**, performing site visits, securing any required traffic control or permits for field investigation, overseeing CAD activities, and performing QA/QC review for final deliverables.

New Hope Drive Extension (Cottonwood to Ronald Reagan Boulevard), City of Cedar Park, Texas. Mr. Clarke served as **SUE Task Lead**, providing SUE and utility analysis services for the extension of New Hope Drive from Cottonwood Trail to Ronald Reagan Boulevard. Services provided included identifying utilities along the project corridor, securing utility as-builts, creating a utility contact list, creating an existing utility base map, performing on-site utility investigation (10,000' of QL B services), and identifying utility conflicts at design milestones, including a **conflict matrix and strip maps**. The project included six different utility owners, including gas distribution/transmission, electric distribution, water and wastewater, water transmission, telecommunications (telecom), and cable.

IH-35 Northeast Expansion (AT&T Parkway to FM 1103), TxDOT San Antonio District, Comal, Guadalupe and Bexar County, Texas. As **SUE Task Lead**, Mr. Clarke is provided **SUE services for this 19-mile schematic and environmental project with over 1,000,000' of QL C/D and 350,000' of QL B**. Thirty different utilities impacted by the project improvements, including overhead electric distribution and transmission, gas distribution and transmission, water distribution and transmission, wastewater, and telecommunications (aerial and buried).

Professional Engineering Services, Utilities Package for the Capitol Complex, Texas Facilities Commission, Austin, Texas. Mr. Clarke is **SUE Task Lead** for the SUE portion of CobbFendley's TFC work. He is provided record research and documentation of existing utilities in preparation for renovation and expansion of TFC's buildings in the Capitol Complex. This was the first phase of work which included **utility designating field work (QL B SUE) and vacuum excavation (QL A SUE)**.

Market Street Realignment, City of San Antonio, Texas. As **SUE Task Lead**, Mr. Clarke provided **SUE services for all Quality Levels of SUE** for this high-profile City of San Antonio Capital Improvement Management Services (CIMS) project. **Tasks included over 33,000' of Level C and D Services (records research), with additional services for Level B (designation) and Level A (test holes)**. The project involved design of roadway, drainage, traffic signal, street light, and complete street improvements consisting of bike lanes, pedestrian facilities, landscaping, and LID facilities. It also includes design of relocated utilities including SAWS domestic water and chilled water lines, as well as AT&T, and CPS electric duct banks.

Key Personnel Resumes



KRISTEN VAN HOOSIER, PE

WATER AND WASTEWATER ANALYSIS TASK LEAD

YEARS OF EXPERIENCE

5 years

EDUCATION

B.S., Civil Engineering, University of Texas at Austin, 2015

PROFESSIONAL REGISTRATIONS

Professional Engineer, Texas, No. 136882

QUALIFICATIONS

Ms. Van Hoosier has 5 years of civil engineering experience and has focused her career on several public-sector projects throughout the Central Texas area. Ms. Van Hoosier has worked with Cities of Austin, Pflugerville, Georgetown, Round Rock, Lago Vista, San Marcos, Buda, Travis County, Hays County, Williamson County, Brazos River Authority, and Guadalupe-Blanco River Authority to develop an expertise in the field of municipal infrastructure design for water and wastewater utilities, roadways, and drainage. She is skilled in assessing project needs, understanding local requirements, coordinating with other projects and utilities in the area, and providing design plans that meet the client's needs.

Forest North Phase 1 Utility Relocations, City of Austin, Williamson County, Texas. Ms. Van Hoosier served as **Water and Wastewater Analysis Task Lead** for the **design and construction of water line relocations due to storm sewer improvements** in an area with Austin Water Utility Infrastructure that is just outside of the City Limits of Austin, Texas. The project site is within the existing Forest North Subdivision. The project includes the **installation of approximately 4,000' of residential service lines, 4", 6", 8", and 12" water line, approximately 40 residential services, and appurtenances.** The existing state of the subdivision water lines contains all asbestos concrete water pipe.

Forest North Phase 3 Utility Relocations, City of Austin, Williamson County, Texas. Ms. Van Hoosier served as **Water and Wastewater Analysis Task Lead** for the **design and construction of water line relocations due to storm sewer improvements in an area with Austin Water Utility Infrastructure** that is just outside of the City Limits of Austin, Texas. The project site is within the existing Forest North Subdivision, in residential areas adjacent to Phase 1 for the continuation of the drainage improvements. The project consists of **relocating approximately 3,800' of 4", 6", and 8" water line and appurtenances.** This project is currently in the design phase and will be permitted through the Austin Water Utility and Williamson County.

Utility Relocation Projects, City of Austin, Williamson County, Texas. Ms. Van Hoosier serves as **Water and Wastewater Analysis Task Lead** for various City of Austin Water Utility relocation projects in the north Austin Region, within Williamson County. The projects include coordinating with the Roadway design engineers to **identify the utilities that need to be relocated or adjusted due to the proposed roadway grade, expansion, and/or storm water improvements.** Also, coordinating with Williamson County and City of Austin for the proposed design and permitting through the City of Austin Water Utility. The projects include design, bidding, and construction phase services.

Kissing Alley Improvements, City of San Marcos, Texas. Ms. Van Hoosier serves as **Water and Wastewater Analysis Task Lead** for this CIP for the City of San Marcos. This project involves the **improvement of an existing alley in downtown San Marcos, including approximately 900' of water, wastewater, and gas relocation, the conversion of overhead electric and telecom to underground, the use of permeable pavers with drainage, and the integration of a Green hardscape/landscape to improve the aesthetics of the alley to create a downtown centerpiece.** The aesthetics also include art/mural installations along the existing business owner walls. Ms. Van Hoosier will participate in the drainage analysis, in the design of water and wastewater relocations and adjustments, cost estimation, specifications and project manual preparation, and ongoing services during the bid and construction phases.

Downtown Station Rail Expansion, Capital Metro, City of Austin, Texas. Ms. Van Hoosier served as **Water and Wastewater Analysis Task Lead** for the **water, wastewater, and chilled water relocations associated with the CapMetro Downtown Station project.** The project included the relocation of approximately 3,150' of water line, wastewater line, and chilled water line. The sizes range from 6"-21" and include all associated appurtenances: valves, fire hydrants, manholes, encasements, borings, service connections, and encased water line attached to the bridge at Waller Creek. In addition, the project included coordination with multiple entities including CMTA, Austin Water Utility (AWU), design consultants, architects, Austin Energy (AE), and local businesses.



**JOEY ROBERTS, PE,
CFM**
DATA MANAGEMENT TASK
LEAD

YEARS OF EXPERIENCE

6 years

EDUCATION

M.P.A., Texas A&M University, 2014

B.S., Civil Engineering, Texas A&M University, 2012

PROFESSIONAL REGISTRATIONS

Professional Engineer, Texas, No. 137860

Certified Floodplain Manager, No. 3180-16N

QUALIFICATIONS

Mr. Roberts has six years of diverse civil engineering experience working as a consultant for public works, GIS, broadband design, utility analysis, and SUE. Mr. Roberts' Master's degree in Public Administration provides the tools necessary to communicate technical information and to think critically in problem-solving, report rendering and programmatic evaluations for public and private sector contexts.

Utility Analysis Geographic Information Solution, Harris County Flood Control District, Houston, Texas. Mr. Roberts served as **Data Management Task Lead** for the **development and deployment of the Utility Coordination Geographic Information Solution (UCGIS)**, an ESRI ArcGIS Online-compatible tool **purposed for utility analysis updates for Harris County Flood Control District (HCFCD) project managers**. For every HCFCD project that has utilities within the vicinity of proposed improvements, the UCGIS tool combines geospatial CAD data with weekly status update information to quickly communicate utility conflict specifics to the client. Mr. Roberts conducted a series of interviews with client management as well as CobbFendley engineers to develop a schema that compartmentalized project-specific information into more agile, easier-to-understand "tidbits" of information. Mr. Roberts found additional opportunities to improve the data management environment by creating a four-letter acronym dictionary for utility owners and domain dropdowns for actions resulting from conflict assessments. The final deliverable to the client consisted of a 30-minute presentation that explained how to access the tool, use the tool and how to provide inquiries to the CobbFendley engineers. This presentation was supplemented by a 40-page Viewer User Guide that Mr. Roberts was the primary author on to not only cover content from the presentation, but to assist in defining key concepts, acronyms and agencies that are integral to the understanding of the UCGIS. The UCGIS currently manages information for over 60 HCFCD projects including nearly 400 utilities.

GIS Management, Harris County MUD No. 50, Barrett Station, Texas. Mr. Roberts served as **Data Management Task Lead to build the District's ArcGIS database**. The project consisted of identifying 309 manholes, 97,500' of sanitary sewer, and 110,000' of water line. The infrastructure was associated with attributes defined by anchoring survey data in Excel and cross-referencing it with AutoCAD layers, this translated survey data into GIS. Also, HCAD parcel data, TXRRC pipeline data, NWI potential wetlands locations, FEMA flood hazard zones, and HCFCD contour data were exported into GIS. HCAD parcel data was used to identify active user connections, inactive users, and vacant parcels, however, its addresses had to be verified by anchoring user address data provided by the District and various mapping services. For all GIS attributes, the intent was to have a robust tool to build exhibits to easily communicate project narratives surrounding the necessary planning, engineering and management information that municipalities typically use.

Verizon 5G Project, Verizon, Houston, Texas. Mr. Roberts served as **Data Management Task Lead** for the Verizon 5G project where he **managed GIS data development, GIS data deliverables and project scheduling**. The GIS deliverables associated with this project were time-intensive and so Mr. Roberts utilized his data management skills to create automation logic in Microsoft Excel for the project. This logic registered GIS geospatial tabular data and related it to schedule data. Mr. Roberts coordinated a series of If-Then statements, Index-Match functions and other matrix management analyses to automatically populate data based on conditions. These conditions, in turn, would help users either populate GIS data or amend schedule data to more accurately reflect the status of the deliverable. This automation increased the project's workflow productivity and lessened user error by eliminating at least 80% of time and effort spent on the project in absence of automation. Subsequently, this Microsoft Excel logic would be mimicked using python coding to build the base for CobbFendley's automation tools that increased efficiency even further.

Key Personnel Resumes



BILL WARRICK, RPLS
SURVEYING TASK LEAD

YEARS OF EXPERIENCE

42 years

EDUCATION

B.S., School of Forestry, Stephen F. Austin State University, 1978 Degree

PROFESSIONAL REGISTRATIONS

Registered Professional Land Surveyor, Texas, No. 4426

QUALIFICATIONS

Mr. Warrick is an action oriented and results-focused professional offering over 42 years of surveying experience, ranging from small title surveys, to large horizontal and vertical control projects for aerial photography. Mr. Warrick offers additional outstanding talents in team building, budget arrangement, developing of project scope (budgets, timelines and delivery dates), customer relationships, cost avoidance, and positive customer review. He has worked extensively with public and private clients on a large variety of survey projects. These projects were as varied as the clients he served, ranging from lot survey, to large horizontal and vertical control projects, aerial mapping projects, subdivision surveys, acreage surveys, route surveys, ROW surveys, large and small design/topographic surveys, construction projects, and GPS static control projects.

Capitol Complex and North Austin Complex, Texas Facilities Commission, Austin, Texas. Mr. Warrick Served as **Survey Task Lead** for this project which consisted of a **complete ALTA/ACSM Boundary Survey, which included recovering centerline monumentation for existing streets within the limits of the project.** Survey services for this project include **topographic and tree surveys, SUE marks of underground utilities, ROW location, and metes and bounds document preparation** for three parcels in the Capitol Complex.

ROW Staking, AT&T, Austin and San Antonio, Texas. As **Survey Task Lead**, Mr. Warrick was responsible for **staking over 30 locations in Austin and San Antonio at various sites.** Staking includes **marking ROW lines, marking boundary line, easement location, and site locations for improvements anticipated by AT&T.** These surveys included locating physical features and boundary/ROW information within the limits of each work authorization.

On-Call Surveying Services, City of San Marcos, Texas. Mr. Warrick served as **Survey Task Lead** for the City of San Marcos Surveying On-Call Services. CobbFendley was selected to **provide surveying services** on various projects across Hays, Caldwell, Comal, and Guadalupe Counties. Surveying services for this on-call list included **boundary surveys, land title surveys, ROW surveys, route surveys, GPS surveying services, topographic and tree surveys, channel cross-sections and profiles, construction staking, as-built surveys, design surveys, easement descriptions, project and primary control surveys, and permitting surveys.** Mr. Warrick supervises all survey related tasks for assigned projects.

San Gabriel Parkway, Williamson County, Leander, Texas. Mr. Warrick served as **Survey Task Lead** for the San Gabriel Parkway Project. This project was approximately 7-miles in length of new ROW for Williamson County. Mr. Warrick and his survey team **established primary horizontal and vertical GPS control for project, researched ownership along proposed route, created all ROW maps, parcel sketches and metes and bounds descriptions.** The CobbFendley survey team was also responsible for **planning and coordination with utility companies for the location of all existing utilities.**

On-Call Surveying Services, CPS Energy, City of San Antonio and Bexar County, Texas. As **Survey Task Lead**, Mr. Warrick was **responsible for the boundary, topographic, tree, ROW location, and easement preparation** for several groups within CPS Energy, including the ROW Group, the Gas Delivery Design Group, the Underground Engineering Group, Overhead Distribution Group, the Downtown Network Engineering Group and the Transmission Engineering Group.



LORI BIBLE, SR/WA
EASEMENT ACQUISITION
TASK LEAD

YEARS OF EXPERIENCE

30 years

CERTIFICATIONS

Real Estate Broker License, Texas, No. 454854

IRWA Senior Right of Way Professional (SR/WA) No. 5527

QUALIFICATIONS

Ms. Bible has more than 30 years of experience in providing real estate and ROW services, including project management, relocation, acquisition, title clearing, and condemnation support. Over the course of her career, she has personally acquired more than 1,000 parcels. Additionally, she has managed the ROW acquisition process for large projects and multiple projects done simultaneously. Ms. Bible has experience working with a wide range of projects, including roadways, drainage facilities, water, wastewater, and electric utility projects. Ms. Bible brings a strong background in finding creative solutions to overcome design issues and reduce impacts to adjacent properties. Her ability to work with civil engineers on design and alignment issues is unsurpassed. Ms. Bible's broad knowledge and skills make her an adept negotiator able to build consensus yet focus on the overall project goals to facilitate successful completions.

Bell Boulevard Realignment, Right-of-Way Services, City of Cedar Park, Texas.

In conjunction with the overhead utility inventory, SUE, conflict analysis, and conceptual relocation design of **overhead to underground conversion** of both electric and telecom distribution facilities impacted by the proposed \$20M TxDOT roadway improvement project to realign existing US 183, CobbFendley also led all right-of-way services for the City of Cedar Park. Ms. Bible served as **Easement Acquisition Manager**, responsible for overseeing the acquisition of **8 parcels (ROW/drainage easements), negotiations, 3 driveway licenses (no permanent ROW needed), and relocation assistance** for 5 non-residential displacees. The easement acquisition is part of the first phase of Destination Bell Boulevard, the City of Cedar Park's Master Plan to **redevelop Downtown Cedar Park into the Bell District**, a walkable, multi-modal, mixed use development.

Round Rock Treated Transmission Main #3, City of Round Rock, Texas.

Ms. Bible served as **Easement Acquisition Task Lead**. The final segment of water transmission lines needed to deliver the BCRUA treated water to Round Rock's distribution system required the acquisition of easements for 12,000' of 48" diameter treated waterline. This segment of waterline was located within the limits of the City of Cedar Park and in the area of a future roadway extension. As part of the engineering team, Ms. Bible **provided easement acquisition services and worked with the staff of Cedar Park and Round Rock to identify a location for the waterline easements that would not conflict with the extension of New Hope Road.**

Lakeline Park, City of Cedar Park, Texas.

As **Easement Acquisition Task Lead**, Ms. Bible was **responsible for land acquisition and ROW services supporting the park's development in accordance with the 2018 Lakeline Park Master Plan**. The 189-acre site is located on land within the 100-year floodplain and inundation area of the Upper Brushy Creek Water Control and Improvement District Dam No. 6 in the Buttercup Creek Watershed, adjacent to existing residential land uses, and is bound by US Highway 183 and Bell Boulevard, Lakeline Boulevard, and Cypress Creek Road. Ms. Bible was able to leverage relations developed over her career, as well as her understanding of the local community and culture to successfully negotiate acquisition terms acceptable to all parties.

Meadows at Buda Wastewater Pipeline Project, South Buda WCID #1, Buda, Texas.

As **Easement Acquisition Task Lead**, Ms. Bible was **responsible for the project management and acquisition of 9 easements for a 14" force main wastewater line serving the Meadows at Buda community**. The project allowed for the tie into the City of Buda's wastewater system for treatment of the wastewater from the Meadows subdivision. CobbFendley services included appraisals, acquisition, and condemnation support.

Regional Water Treatment Plant Site, Pump Station Site, Maintenance Building Site and Raw Water Line Project, Cities of Leander, Cedar Park and Round Rock for the Brushy Creek Regional Utility Authority, Texas.

As **Easement Acquisition Task Lead**, Ms. Bible **provided land acquisition and ROW services for several phases of the BCRUA project**. She collaborated with the design team on the alignment studies and acquired rights-of-entry from private and public land owners for preliminary studies for both Phase 1 and Phase 2. She also actively participated in the public involvement efforts and coordination with other agencies. Ms. Bible was responsible for the management of the appraisal efforts, negotiations with landowners and homeowner associations, closings and support of the condemnation legal counsel. Ms. Bible and her team acquired the initial 61 permanent and temporary easements needed to complete the first phase of the raw water intake lines from Lake Travis to the water treatment plant site. A critical component of Phase 2 was securing the sites for the deep-water intake maintenance facility and the pump station. Ms. Bible was able to leverage her relationships and knowledge of state law provisions that protect park land to the BCRUA's benefit. In 2013, Travis County and the LCRA approved an agreement to sell a portion of the Sandy Creek Park to the BCRUA for the pump station site.

Key Personnel Resumes



BILL ODLE, PE
COST ESTIMATING /
FORECASTING
TASK LEAD

YEARS OF EXPERIENCE

20 years

EDUCATION

M.B.A., Finance Concentration, University of Houston, 2006

B.S., Civil Engineering, Rose-Hulman Institute of Technology, 1999

CERTIFICATIONS

Professional Engineer, Texas, No. 92868

QUALIFICATIONS

Mr. Odle has over 20 years of civil engineering, development, and public-private partnership consulting experience. He has worked closely with municipalities in proposing and negotiating public-private partnerships in order to fund infrastructure projects. Mr. Odle focused his work as a consultant for the creation of public-private partnerships in order to finance economic development, community development, and infrastructure solutions. Mr. Odle has experience with residential, industrial, and commercial development, mixed-use developments, downtown revitalization, and new town centers, as well as the funding of the infrastructure required for these developments. His responsibilities include the creation of public-private finance plans, project financial pro formas, development and infrastructure budgets, development and infrastructure phasing plans, market feasibility analysis, development agreements, and developer solicitations.

Boulevard 26, City of North Richland Hills, Texas. Mr. Odle served as the **Commercial Property Liaison** on this project to relocate AT&T, Charter Communication and Oncor Electric above ground facilities to underground as a beautification project for the City of North Richland Hills. CobbFendley provided the coordination with the utility companies for the alignment of the electric and communications conduit/handhole systems, determining Oncor easement locations, surveying, subsurface utility engineering, relocation plans, specifications, and cost estimates. The conduit/handhole infrastructure was bid and constructed by the City and CobbFendley provided Construction Phase Services. Mr. Odle worked with the City's economic development office to **review cost estimates and optimize the phasing of the project to meet budgets by identifying parts of the project that will give the most benefit from development potential at the least cost.** Mr. Odle also coordinated activities with the various property owners.

Downtown Funding Strategies and Tax Increment Financing Feasibility, City of Forney Economic Development Corporation, Forney, Texas. Mr. Odle served as **Public-Private Finance and Development Advisor** for the Forney EDC and was **responsible for determining downtown funding strategies to implement recommendations** from a May 2009 Downtown Redevelopment Report prepared by the School of Urban and Public Affairs of UTA. Mr. Odle **structured a public-private financing strategy for the funding of \$38M of public improvement projects with the expectation that it will be used to leverage private investment in their urban core.** CobbFendley quantified the development potential of projects and optimized a proposed TIRZ boundaries based upon this potential to increase the efficiency of the public funds.

Our Region Sustainability Case Study, Houston-Galveston Area Council, Houston, Texas. Mr. Odle served as **Project Manager** for this CobbFendley project contracted with the City of Houston through a subconsultant agreement to **provide cost estimation, economic analysis, development community outreach, and public-private incentive policy structuring services.** Mr. Odle **provided market feasibility analyses of housing, office, retail and hotel uses within specific sub-markets** within Houston. He performed three pilot project cost estimation and pro formas to determine how current land development standards impede development and how effective the potential incentives will be to provide walkable, bike-able areas with a balance of housing and jobs within activity centers of Houston. Mr. Odle also **engaged local developers to provide input to potential incentive packages and future development ordinances.**

Hempstead Livable Centers Initiative, Houston-Galveston Area Council Hempstead, Texas. Mr. Odle served as **Project Manager** for this CobbFendley project contracted with H-GAC and the City of Hempstead through a subconsultant agreement with Design Workshop as the team's cost estimation, economic development, and implementation specialist for this project. CobbFendley's scope included the **engagement of business leader stakeholders, a financial tools analysis including mechanisms available to the public sector and through public-private partnerships (PPP), basic market demand analysis for housing, retail, office and medical, affordable housing analysis, project developer proformas for catalyst projects, identification of project shortfalls, implementation plan including financial priority planning, preparation of an economic development implementation plan, and public presentation.** Several funding mechanisms were recommended in order to gap fund affordable and student housing including low income housing tax credits, new markets tax credits, CDBG, and TIRZ.

Key Personnel Resumes



NIMA EKHTARI, PH.D
LIDAR TASK LEAD

YEARS OF EXPERIENCE

8 years

EDUCATION

Ph.D., Civil Engineering - Geo-sensing Systems Engineering, University of Houston, 2018

M.S., Civil Engineering- Geomatics, Purdue University, 2013

M.S., Civil Engineering-Remote Sensing, KNT University of Tech (Tehran, Iran), 2009

B.S., Civil Engineering-Surveying, Azad University (Tehran, Iran), 2005

CERTIFICATIONS

Certified Mapping Scientist, LiDAR (AS-PRS #L041)

QUALIFICATIONS

Mr. Ekhtari is a Remote Sensing Specialist with more than 8 years of professional experience in LiDAR technology, satellite imagery processing, and airborne image analysis for mapping the existing conditions of the earth's surface and its changes over time. Mr. Ekhtari is also experienced with GIS systems from defining and updating geo-databases to ArcGIS tool development, and Web-GIS solutions. Mr. Ekhtari's career has been involved with numerous TxDOT and HCFCD jobs. He serves as a GIS Analyst, LiDAR Analyst, and Project Engineer.

IH-45/IH-69 Design Survey, North Houston Highway Improvement Project, TxDOT Houston District, Houston, Texas. Mr. Ekhtari served as the **LiDAR Task Lead** for this project where he **assisted with quality control of the LiDAR data**. Mr. Ekhtari utilized modern software solutions to classify LiDAR point clouds and created a digital terrain model for all areas under the overpasses for this major project (about 3 miles in length).

White Oaks Bayou, Harris County Flood Control District, Harris County, Texas. Mr. Ekhtari served as the **LiDAR Task Lead** for this project and **assisted with quality control of the LiDAR data**. He utilized modern software solutions to classify LiDAR point clouds and created a digital terrain model for all the areas within the project limits, over 12.5 miles in length and about 500-foot wide along the bayou.

Texas Highspeed Rail, WSP Global, Houston, Texas. Mr. Ekhtari served as the **LiDAR Task Lead** for this project where he **assisted with quality control of the LiDAR data**. He utilized modern software solutions to classify LiDAR point clouds and created a digital terrain model for all areas under the overpasses for this major project. Mr. Ekhtari also created a workflow for measuring the low-sag values of all telecom cables crossing roadways at major intersections within the project limits.

On-Call Engineering for Utility Analysis and SUE, Harris County Flood Control District, Harris County, Texas. Mr. Ekhtari served as a **GIS Analyst** and **assisted with the conceptual design of the Web-GIS solution for this project named as the Utility Coordination Geographic Information System (UCGIS)**. He also developed web services that allow CobbFendley engineers create weekly progress reports in spreadsheet format from the UCGIS project contents.

Small Cell Poles, T-Mobile, Zayo Group, Houston, Texas. Mr. Ekhtari served as a **Project Engineer** to **design nodes as well as to perform route analysis based on permitting needs** for each jurisdiction, especially City of Houston. He also served as a **GIS Analyst** and developer on this project to **develop a web-based GIS system** named BAMS (Broadband Asset Management System) which is used by CobbFendley engineers to design small cell nodes and analyze fiber routes, assist with CAD production, assist with permit tracking tasks, store permitted low-level design, permit sets, and construction drawing sets. Access to the Web-GIS content was provided to the client to help them visualize project progress online. The project involves designing over 645 small cell sites with all required fiber and power runs.