California State University Master Enabling Agreement SUBSURFACE UTILITY MARTINE SUBSURFACE UTILITY MARTINE SUBSURFACE SU



May 3, 2018

The California State University Office of the Chancellor 401 Golden Shore, 2nd Floor Long Beach, California 90802-4210

Attn: Mr. Kevin Laut Construction Manager

Re: Request for Proposal for Subsurface Utility Mapping Services – Master Enabling Agreement

Dear Mr. Laut,

McCarthy Building Companies, Inc. (McCarthy) is pleased to submit this proposal for Subsurface Utility Mapping Services to the California State University. We understand the importance of this project, and how critical this work will be to each of your campuses. This project will demonstrate a continuing value to the you, improving safety, schedules, budgeting, campus operations, and proactive planning.

For the past seven (7) years our subsurface utility mapping team has been serving higher education clients nationwide. Our self-performing civil construction arm provided the impetus for our mapping group's origin. We found that existing documentation relevant to subsurface utilities was woefully lacking nationwide, specifically on our projects on urban campuses holding high-risk utility infrastructure. Historically, we found that the most consistent and costly negative impacts to our clients were attributable to unexpected subsurface conflicts that were ultimately avoidable.

In determining our best practices to address this trend, we found that private locating vendors nationwide could not produce deliverables to the standard our project teams required. As a result the Subsurface Utility Mapping branch of McCarthy services was launched. Our team has collaborated since the service's inception, striving to develop a higher grade of deliverables for our most complicated projects nationwide.

Our team is both excited and encouraged by the level of detail requested in the University's RFQ & P regarding both the site investigation as well as deliverables. Working within the American Society of Civil Engineers 38-02 Standard has long been the rubric for our mapping service. Requirements such as vault inventories incorporating site photos, borehole reporting, 3D modeling, condition assessments, and discrepancy reporting are already a standard of the service we provide for the most complicated McCarthy projects. Because we hold the risk and responsibility for the subsequent construction project, our mapping team has reached a higher level of quality for the data and deliverables we produce. We view this as a true differentiator that influences our project approach from beginning to end.

Per the review of the proposed project scopes, our team thoroughly understands the University's desire to improve the knowledge of their existing utilities to an ASCE 38-02 Standard of Care.

All work associated with this proposal will be performed by and/or under the direct supervision of a California Licensed Professional Land Surveyor.

All elements of the Request for Proposal have been read and understood, we agree to enter into a contract if selected, and all information in the proposal is accurate under penalty of perjury.

Thank you for your consideration, we are excited to continue our strong relationship with California State University on this very importance project.

Sincerely,

Ross Malik, Vice President, Operations McCarthy Building Companies, Inc. rmalik@mccarthy.com



WHAT'S INSIDE

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Appendix



Firm Information



Contact Information

McCarthy Building Companies, Inc. Ross Malik Vice President, Operations 20401 S.W. Birch Street Newport Beach, CA 92660 rmalik@mccarthy.com (949) 851-8383

16 Full Service Offices Across the United States

The project team and all work will be coordinated out of McCarthy's Newport Beach office to best serve California State University and to maintain a streamlined communication flow. We will co-locate in the McCarthy office when needed, but all of our team members provide a local presence. Our team will pull subject matter experts from our offices in St. Louis and Phoenix with team members committed to being on site for all necessary meetings and their critical work phases.

California Contractor's License



California Office Locations

Newport Beach 20401 S.W. Birch Street Newport Beach, CA 92660

San Diego

9275 Sky Park Court, Suite 200 San Diego, CA 92123

San Jose

2665 N 1st Street, Suite 102 San Jose, CA 95134

San Francisco 1265 Battery Street, 3rd Floor San Francisco, CA 94111

Sacramento 3721 Douglas Blvd, Suite 180 Roseville, CA 95661

Other Office Locations

Atlanta, GA Dallas, TX Denver, CO Houston, TX Collinsville, IL Overland Park, KS Las Vegas, NV Albuquerque, NM Omaha, NE Phoenix, AZ St. Louis, MO





Firm's Experience on Subsurface Utility Mapping Projects



Arizona State University

Tempe, Arizona



The Mirabella Project at ASU consists of a \$150 million, 20-story Intergenerational University Based Retirement Center located on the Tempe Campus of Arizona State University. The project includes a 1,500-1,800-car, 5-story garage with 150-200 units built above.

The scope of the project a varying standard of care for the 5 acre project ranging from QL-D to QL-A, including a significant project area within public right-of-way. The McCarthy utility mapping team collaborated with University stakeholders, as well as appropriate public entities, in order to effectively map the site. The McCarthy team identified multiple unknowns including a 12" water main and 30" irrigation line traversing the site as well as multiple previously unidentified telecommunications systems within the right-of-way. As a part of this project our team is currently developing a beta implementation of an Augmented Reality visualization of underground infrastructure that can be referenced and utilized on-site to-scale in real time.

The same scope of services was provided for the construction of ASU's BioDesign C project, a \$95 million, 3-acre, 188,000-sf, multi-functional research facility for chemistry, engineering and biological sciences currently under construction. We found multiple utilities that were not on any records provided despite a robust list of existing documentation.

The McCarthy team has also engaged in discussions with ASU Tempe Campus and Polytechnic Campus to develop a comprehensive utility assessment and infrastructure master plan that would encompass more than 1,000 acres in a single geodatabase.

Project Details

Size 1,000 Acres

Owner Arizona State University Darrin Blaisdell (480) 727-1086 Darrin.Blaisdell@asu.edu

Project Architect or GC

McCarthy Building Companies, Inc. Mr. Bryan Kuster 6225 North 24th Street, Suite 200 Phoenix, AZ 85016 (480) 449-4700 bkuster@mccarthy.com

Completion

BioDesign C: Ongoing Mirabella: 3/31/2017 Ongoing Work: Campus-Wide

Project Manager Matthew Fitzgerald

Project Highlights	
Utility Locating — Wet & Dry Utilities	~
Potholing / Visual Verification	✓
CCTV Pipe Inspection	✓
Water Jetting	 Image: A start of the start of
Surveying	✓
Higher Education Campus	✓
Master Plan	✓
Public Project	✓

Washington University Medical Center Campus Renewal

St. Louis, Missouri



The Washington University Medical Center Campus Renewal, Phase I called for a Master Planning evolution that allowed for the creation of a Subsurface Utility Mapping Atlas for the 250-acre campus. The 5-acre, new construction area of the campus consisted of two, 12-story buildings with multiple below ground parking levels, for a total of 780,000-sf, and a 3,000-space, 3-story parking garage, costing \$520 million.

To support the first phase of the Washington University Medical Campus – Campus Renewal Project, which is a fully operational medical school and medical center located in a dense, urban area, the team helped to prioritize \$280,000 of subsurface utility mapping (SUM) services to varying standards of care throughout the campus. This includes quality level A in high-risk areas implementing hydro-excavation of utilities as well as CCTV sewer services. We developed deliverables modeled in both 2D and 3D providing improved conflicted detection and QA/QC throughout the prospective design. Early in the project, our SUM service identified an unexpected oxygen line within the critical path of underground construction. This identification allowed for proactive disconnect and re-route of the utility and prevented a potential crisis situation that could literally mean a life or death situation for patients.

After the successful completion of this project, we were retained to complete an additional nine (9) subsurface utility mapping projects. The total price for these projects exceeds \$1 million. All projects call for the interpretation of more than 2,000 electric and paper documents and collaboration with all county, city, street and utility companies. All data for the Washington University Medical Campus has been collected with appropriate attribution for implementation into a GIS system. In addition, all surveying services are performed under the direct supervision of a Professional Surveyor or Professional Engineer.

Project Details

Size 250 Acres

Owner

WUMC Project Management Office Mr. Cary Cantwell 425 South Euclid Avenue, 2nd Floor Saint Louis, Missouri 63110 (314) 713-7687 cary.cantwell@bjc.org

Project Architect or GC

HOK Mr. Angelo Arzano 10 South Broadway, Suite 200 Saint Louis, Missouri 63102 (314) 754-4068 angelo.arzano@hok.com

Completion

Original Completion: 12/2011 Ongoing Work: 2012 – Present

Project Manager Enrico Bertucci

Project HighlightsUtility Locating – Wet & Dry
Utilities✓Potholing / Visual Verification✓CCTV Pipe Inspection✓Water Jetting✓Surveying✓Higher Education Campus✓3D Modeling✓Public Project✓

Webster University Master Infrastructure Improvements Plan

St. Louis, Missouri



Webster University wanted to design and install more than 5,000 lineal feet of a new primary power ductbank as part of its Master Infrastructure Improvements Plan. The area is located in the middle of an operating campus, a congested area bordered by old town Webster Groves, residential neighborhoods, and I-64. The project area overlapped with 22,000-square-feet of a future Interdisciplinary Building footprint. Webster's design and construction team in conjunction with the design team expected multiple existing utilities within the new planned feeder corridors so a conceptual budget for the planned infrastructure was set at \$1.5 million during the design development phase.

During this phase, our team walked the site and identified multiple utility conflicts that were not accurately addressed in the project design and could potentially blow the budget or kill the project. In addition, new service had to be installed and activated to each building prior to decommissioning current electrical service, making complete understanding of utilities essential. Our team recommended subsurface utility mapping to Quality Level-B while building the foundation of a GIS database for the University. Field exploration included detailed field investigation, utilization of sewer camera with sonde head, and survey.

Data collection and analysis revealed significant utility conflicts for telecommunications, power, chilled water, and gas. The results of this effort allowed the design team to address constructability of the project and re-arrange the project site layout for the Interdisciplinary Building, which allowed the team to avoid all utility relocates as well as costly efforts such as hand-tunneling. The project incurred no change orders helping the University to stay on budget at \$1.1 million and ultimately saved over \$400,000 or 27% on a \$1.5 million project.

Project Details

Size 47 Acres

Owner Webster University Mr. Craig Miller Loretto Hall 470 East Lockwood Avenue Webster Groves, MO 63119 (314) 246-7773 craigmiller29@webster.edu

Project Architect or GC

Castle Contracting Mr. Mike Myers 345 Marshall Ave Webster Groves, MO 314.421.0042 Mike.Myers@digcastle.com

Completion 2012 – 2014

Project Manager Enrico Bertucci

Project Highlights	
Utility Locating — Wet & Dry Utilities	~
Potholing / Visual Verification	1
CCTV Pipe Inspection	1
Water Jetting	✓
Surveying	1
Higher Education Campus	✓
Master Plan	✓
Public Project	1

UC San Diego Voigt Parking Structure

La Jolla, California



The UCSD Voigt Parking Structure is a \$32.5 million, Lump Sum, Design-Build project. It provides 847 parking spaces in a site responsive parking structure of four parking levels completely covered with a roof dedicated to planting and public space designed to complete the public realm of this part of the UCSD campus. The project also includes a enhancement to a nearby surface lot providing a more efficient and pedestrian friendly space. Additionally, the parking structure is designed to enhance the user experience and to make parking as pleasant and stress free as possible.

The scope for this project utilized all the ASCE 38-02 standards of care for the $5\frac{1}{2}$ -acre site. The biggest area of risk initially on the project was coordinating the structural soil nail design with the existing utilities. There were also a number of utilities that needed to be re-routed within the parking structure footprint. The McCarthy mapping team worked closely with the University and project team to review the existing as-builts and walk through adjacent building to identify all known utilities. During the mapping phase, the most significant discovery was of an abandoned electrical duct back. That duct bank will now be utilized to bring the main power to the project site in lieu if installing a new pathway.

There was a significant amount of potholing/ slot trenching complete on the project to confirm utility elevations around the soil nail locations and connection points. All this information was input into the 3D model for the project, which has been a great collaboration tool with the design team, owner, and subcontractors.

The project team also was very interested in Augmented Reality visualization of the underground utilities. This was viewed by the team through a "Hololens", which is basically looking at the site utilities with x-ray visions in real time. The owner of this project was so impressed with the mapping work we completed for the Parking Structure, we are currently negotiating a new utility scope for future projects on the campus all using services.

Project Details

Size 5½ Acres

Owner

University of California, San Diego Ms. Barbara Anderson 9500 Gilman Drive # 0916 La Jolla, California 92093 (858) 534-4907 baanderson@ucsd.edu

Project Architect or GC

International Parking Design, Inc. Mr. Donald Marks 2 Faraday, Ste 101 Irvine, California 92618 (949) 595-8004 dmarks@oc.ipd-global.com

Completion

Phase 1 Completion: 12/31/20171 Additional Phases Ongoing

Project Manager Seth Belitsky

Project Highlights	
Utility Locating — Wet & Dry Utilities	~
Potholing / Visual Verification	✓
CCTV Pipe Inspection	✓
Surveying	~
Higher Education Campus	~
3D Modeling	~
Public Project	✓

Veolia Energy Kansas City

Kansas City, Missouri



The Veolia Energy capital improvement project will add over eleven thousand lineal feet of twenty four inch diameter buried chilled water supply and return pipeline to Veolia's existing thirty inch diameter loop. This requires excavating approximately one mile of trench through the streets of Downtown Kansas City passing through the Financial District, Library District and ultimately ending at the new Loews Kansas City Convention Hotel currently being built in the Crossroads District of the city.

The biggest risk to the construction project schedule and budget was determining an efficient, safe, and cost-effective way to navigate through existing subsurface infrastructure despite no sealed design or topographic survey. In addition, one of the major concerns was locating and working around the subsurface fiber and communication corridors that feed the downtown Financial District.

The utility mapping scope for this project utilized Quality Levels D through B through the entire seventy-two hundred lineal of downtown right-of-way. Due to the high level of utility congestion within each major intersection, locating utilities in these areas became the most critical for determining the proposed alignments for each run of pipeline. The contractor used our data gathered from geophysical tools, closed-circuit television, and 360-degree cameras to accurately budget and coordinate utility potholing, ideal crew sizes, and necessary materials. Because of our investigation, the contractor was able to confidently plan ahead while pro-actively and efficiently addressing each utility conflict along the way.

The contractor for this project has been so pleased with our process and deliverables, and has been quoted saying, "they will never begin a construction project without using McCarthy Mapping first." We continue to work with this team on several prospective projects.

Project Details

Size 3,200 Linear Feet Public Right of Way

Owner Veolia Energy

Project Architect or GC **Foley Company**

Completion 4/5/2018

Project Manager Matthew Fitzgerald

Project Highlights	
Utility Locating — Wet & Dry Utilities	~
Potholing / Visual Verification	✓
CCTV Pipe Inspection	1
Surveying	✓
Public Project	✓



Project Personnel Experience and Qualifications



Provide an organization chart that defines the Project management and staffing plans. The team members within the organization that will be covering each Campus.

Project Organization





Briefly describe the methodology your firm will utilize to staff projects at multiple Campuses, manage the staff, and assure quality service that responds to the disparate needs of each project.

The project team and all work will be coordinated out of McCarthy's Newport/San Diego and Sacramento offices to best serve California State's Northern and Southern Campuses. The dividing line will be between San Luis Obispo and Monterey Bay. We will co-locate in the McCarthy office when needed, but all of our team members provide a local presence. Our team will pull management resources when necessary from our main Subsurface Utility Mapping office in St. Louis. The field locate technicians will be shared resources depending on work load between Northern and Southern California with the ability to flex up from both.

Our Quality Assurance Process consistently adheres to the highest standards. Each project is unique and our process is tailored to the needs of each distinctive set of circumstances. Quality Assurance is process driven and follows a stringent 'checklist' format, which has been established as part of our Quality Assurance Action Program. This process is managed by the project manager and overseen by the director of quality control. The Collection and interpretation of existing records is the first part of our quality assurance program. This step is performed by our field superintendent and head survey drafter, in conjunction with all the available stakeholders information and available facility management personnel. This information is compiled into one master file that provides contiguous coverage and serves as existing utility base map. The project manager reviews the existing utility base map, collaborates with the field superintendent to determine which geophysical tools will adequately cover the project site, and deploys the locate technicians accordingly. All geophysical tools, terrestrial and geodetic surveying equipment are calibrated and serviced prior to the commencement of any new project. All equipment is continuously monitored and evaluated throughout the duration of the project. If it is determined that any equipment is not performing properly, it is removed from rotation, serviced, and checked prior to being placed back into rotation. Once a predetermined amount of utilities have been physically located in the field, the locate technician teams up with the field surveyor who accurately collects horizontal and vertical information and additional attribute information for each utility. Quality assurance milestone requirements are maintained and reviewed daily in order to track schedules, progress, and hours worked. The project team meets weekly, or as needed, to discuss project needs, site conditions, requirements, and all matters related to the project schedule and deliverables.



Personnel Experience

Each Proposer shall submit resumes demonstrating the following qualifications of the personnel to be used on each Campus or group of campuses. Include those who will be working directly with the University: Principals-in-Charge, Project Managers, Project Engineers, or other staffing.

Please see the following pages for McCarthy's resumes.

In order for the Trustees to evaluate the Service Provider's performance capability, please provide the following:

Service Provider's total annual revenue in 2017: \$3,574,674,000

Total number of full and part-time employees: Salaried Employees: 1,963 Union Employees: 1,151

Total number of full and part-time consultants and their roles: None

ENRICO BERTUCCI

Project Director

FERMIN GLASPER **QC** Manager



JARED MILLER Project Manager



ANDREW KARSTEN QA Manager



Career Summarv 10 years experience

Education Bachelor of Science, Civil Engineering University of Notre Dame

Licenses, Certificates & Registrations Registered Professional Engineer - MO

References

Darrin Blaisdell Arizona State University (480) 727-1086 darrin.blaisdell@asu.edu

Dana Jensen, MEP Manager WUMC Campus Renewal Project (314) 286-0789 dxj3988@bjc.org

Project Experience

- Arizona State University 0
- 0 Washington University School of Medicine Campus Renewal
- Webster University Electrical 0 Feeder
- 0 Loma Linda University Medical Center

Career Summary 20 years experience

Education Bachelor of Science, Management and **Business Administration** National Louis University (Europe)

Licenses, Certificates & Registrations Professional Surveyor - IL, MO References Angelo Arzano HOK (314) 754-4068 angelo.arzano@hok.com

Craig Miller Webster University (314) 246-7773 craigmiller29@webster.edu

Project Experience

- Washington University Medical 0 Center / Barnes-Jewish Hospital Infrastructure Master Plan
- Webster University Comprehensive Infrastructure Master Plan, Webster Groves
- 0 Saint Louis Zoo GIS Program
- 0 Arizona State University, Tempe

Career Summary 11 years experience

Education Bachelor of Science, Civil Engineering Southern Illinois University Carbondale

Licenses, Certificates & Registrations Professional Surveyor - IL

Career Summary

Training

OSHA 30

17 years experience

Confined Space Entry

References

Cary Cantwell, Program Manager WUMC Campus Renewal Project Program Management Office (314) 713-7687 cary.cantwell@bjc.org

Glen Donjon, Facility Manager St. Louis Zoo (314) 646-4818 donjon@stlzoo.org

Project Experience

- Walnut Creek BART Station 0
- 0 Kaiser Dublin Hospital
- 0 Veolia Energy Kansas City
- 0 Washington University Medical Center / Barnes-Jewish Hospital Infrastructure Master Plan
- 0 Webster University Comprehensive Infrastructure Master Plan, Webster Groves
- 0 Saint Louis Zoo GIS Program

Project Experience

- 0 Washington University School of Medicine Campus Renewal
- Webster University Electrical Feeder 0
- 0 Water's Edge 3 Parking Structure and Office Building
- 0 Veolia Energy Kansas City
- 0 St. Louis Community College at Forest Park Allied Health Building



SETH BELITSKY Senior Project Manager

MATTHEW FITZGERALD Project Manager

LANCE CURTIS Field Superintendent



Career Summary 11 years experience

Education

Bachelor of Science, Construction Management Michigan State University

References

Eric Brown, Director of Corporate Construction Scripps Health (858) 678-7030 Brown.Eric@scrippshealth.org

Elizabeth Barrie, Principal The Barrie Company (619) 838-1064 elizabeth@thebarriecompany.com

Project Experience

- Kaiser Woodland Hills Medical Center
- **C** Ridgecrest Memorial Hospital
- UCSD Voigt Parking Structure
- Water's Edge 3 Parking Structure and Office Building
- Malibu Middle High School

Career Summary 6 years experience

Education Bachelor of Science, Civil Engineering University of Missouri

Licenses, Certificates & Registrations Professional Engineer – MO

Career Summary

Registrations OSHA 10 Certified

18 years experience

Licenses, Certificates &

Confined Space Entry Certified

References John O'Brien SSM Health (314) 768-8949 john.obrien@ssmhealth.com

Ryan Fordyce Foley Company (816) 448-5980 ryanf@foleycompany.com

Project Experience

- Veolia Energy Kansas City
- Saint Louis Zoo GIS Program
- Walnut Creek BART Station
- Omaha VA Medical Center
- SSM Health St, Mary's ED Expansion

Project Experience

- Washington University School of Medicine Campus Renewal, St. Louis, MO
- Webster University Electrical Feeder, St. Louis, MO
- Malibu Middle High School
- Ridgecrest Memorial Hospital
- UCSD Voigt Parking Structure
- Veolia Energy Kansas City
- Arizona State University Mirabella





Cost Proposal

3



Exhibit C

Cost Proposal

FEE SCHEDULE		
Personnel	Unit	Unit Rate
Project Executive	Hours	\$195.00
Project Director	Hours	\$175.00
Quality Control Manager	Hours	\$170.00
Project Manager	Hours	\$155.00
Quality Assessment Manager	Hours	\$145.00
Field Superintendent	Hours	\$145.00
Senior Locate Technician	Hours	\$140.00
Locate Technician	Hours	\$110.00
Equipment	Unit	Unit Rate
Ground Penetrating Radar	Days	\$2,400.00
Track Sewer Camera	Days	\$3,250.00
Sewer Camera with Sonde Head	Hours	\$135.00
Hand Held Locating Tools	Hours	\$25.00
Data Collection and Processing	Unit	Unit Rate
Professional Engineer	Hours	\$155.00
Project Engineer	Hours	\$145.00
Field Data Collection / Robotic 2 Man	Hours	\$300.00

Miscellaneous Material and/or Equipment required will be invoiced at the Cost Plus 20% OH&P. Any additional subcontractor services will be invoiced at a Cost Plus 10% OH&P Hydro-Excavation Crew, Camera Crew, and Locate Technician have a 4-hour minimum charge. Any per diem required will be in accordance with GSA standard rates. Rates will increase by 3% per year starting 7/1/2019 and each subsequent year(s).



Quality of Deliverables

4



Provide Deliverable examples for 2D and 3D utility mapping exhibits for each quality level with short narratives as required. Additional samples, large format documents, and any additional exhibits may be included in the Appendix as desired.

Quality of Deliverables

Please Click HERE for Examples of 2D and 3D Utility Mapping

QL-D Stakeholder Interview & Collection of Historical Narrative

As our field work for Phase I Utility Designating begins, the project team led by the Project Manager and the Field Superintendent will conduct field walks and interviews with all available Campus and District personnel with historical knowledge of the site. The focus of these site walks and interviews being the collection and addition to the Utility Atlas of any historical narrative regarding utility installations that have not yet been catalogued through our Quality Level–D record research. In addition to the collection of historical narratives early in Phase I our team will complete a review of any paper documentation stored on-site within Campus plan rooms to ensure that no Quality Level–D information has been overlooked. These work tasks have the additional benefit of introducing our team's key field personnel to appropriate Campus and University employees in a collaborative manner, creating the foundation for a meaningful partnership that is critical to the success of the project.

QL-B&C Utility Investigation/Survey Utility Mapping

As the Quality Level–D research components draw to a close, our field utility designating team will transition to a detailed Quality Level – B field investigation leveraging appropriate geophysical utility prospecting techniques, a menu of subsurface utility locating technologies, and greater than 50 years of combined subsurface utility designating experience. The Quality Level–B work scope is the most robust and challenging aspect of the project as a whole and will be executed by Senior Utility Locate Technicians in conjunction with Utility Locate Technicians working under the full-time direction of the Field Superintendent and in tandem with Field Data Acquisition Team.

The field team will begin the Quality Level–B Investigation implementing Electromagnetic (EM) utility locating equipment through direct connection, indirect induction, and passive sweeps as the initial utility prospecting techniques utilized for the project. At this stage of the project it is our standard practice to inventory maintenance holes, hand holes, pull-boxes, vaults, and junction boxes for use in subsequent survey and drafting components of the project. As a result all appropriate data requested for the Maintenance Hole Investigation Report will be collected as a part of our standard practice. Throughout this entire process, field data will be collected on an iterative basis, especially in areas where chalk based paint is in jeopardy from irrigation systems or the rare weather anomaly.

Additional Investigation Concurrent with Special Services

As EM prospecting methods are exhausted within each sector of the campus, the field designating teams will transition utility prospecting techniques to those capable of identifying non-metallic infrastructure. In this stage of the utility investigation, ground penetrating radar (GPR) will be the initial utility locating technology implemented. Because a number of site specific factors such as surrounding interference generating artifacts, conductive soils such as clays, or in-situ moisture contents can have a negative impact on the reliability of GPR data, the field utility designating team will appropriately utilize additional supplementary technologies such as ram rods, push cameras, sonic technologies, and infrared energy pattern analysis in order to exhaust appropriate geophysical prospecting techniques capable of identifying subsurface infrastructure. Only subsurface utilities detectable through the utility prospecting techniques implemented will be shown on the final deliverables with a Standard of Care of Quality Level – B. Again, throughout this stage of the project field data will be collected on an iterative basis in conjunction with the utility designating field investigation.

For all prospecting techniques implemented on-site, the field utility designating teams will identify approximate utility elevations (as measured through the geophysical prospecting technique utilized), if measurable, at horizontal and vertical bends and said depths will be painted on site for data collection. Elevations gathered through surface utility prospecting techniques without confirmation through Quality Level – A exposure should be considered approximate and are subject to the broad range of inaccuracies inherent in the spectrum of available surface utility locating technologies.

QL-A Test Boreholes (Backfill & Inspection)

As the Quality Level—B utility designating and investigation comes to a close, the Subsurface Utility Mapping team will furnish a recommended Test Hole plan to identify specific utilities (identified through record research, historical narrative, or surface identification of structures) that have not been located through any surface geophysical method. All non-destructive exposure of existing subsurface infrastructure will be surveyed for the exact location (vertical and horizontal) and document the type, size, depth, and other significant characteristics of the exposed subsurface utility on the final mapping deliverables. After field data has been collected backfilling and site restoration will be completed.



Conciseness and Quality of Proposal





Exceptions/Clarifications



Any exceptions or clarifications to the RFP must be listed on an item-by-item basis and cross-referenced with the RFP document. If there are no exceptions or clarifications, the Proposer must expressly state that no exceptions or clarifications are taken.

Exceptions/Clarifications

Qualifications

Rider A – Agreement General Provision Modifications:

The following sections are clarifications, modifications and additions to the Agreement as requested by McCarthy:

- 1. In line item **8. Indemnification** We request after the 4th line "...but not limited to, attorneys' fees and costs" to add "but only to the extent".
- In line item 9. Insurance policies except for Workers Compensation and Professional Liability a. – We request to strike "representatives" and "agents" as these parties are undefined when entering into this agreement.
- In line item 18. Audit We request to add at the end "The composition of any agreedupon billing rates or agreed-upon lump sum amounts are not subject to audit." This is due to the proposed fees are unit rates or lump sums which will be agreed upon in the specific agreements.

4. We would also like to include:

- Indemnification from the owner for claims arising due to the presence of any hazardous materials onsite as that is out of our control.
- A right of Service Provider to terminate the agreement for cause.
- **O** Agreement to mediate any disputes arising out of the agreement.



Appendix



Additional Information

Mapping Deliverables

Our team has provided the following excerpts of our Subsurface Utility Mapping Deliverables as well as the below link to live electronic documents for the District's review. When compared to our competitors we have found that our deep level of investigation sets us apart based on the amount of data that is communicable in our deliverables. Please take note that our standard process yields:

- True horizontal dimensioning for subsurface ductbanks
- True dimensioning of subsurface vaults or structures
- Geographically linked field notes including site investigation photos, vault inventories, and CCTV video
- Red Flag Report' accounting for specific discrepancies our team finds when compared to existing record data
- Index of all QL-D data utilized for the project

Experience with 3D Modeling

Our team is well versed with comprehensive knowledge and background of modeling in Autodesk's AutoCAD Civil 3D and Revit. We provide civil engineering services and high-definition surveying, in conjunction with our utility mapping, and all design deliverables are produced in 3D.

Three dimensional subsurface utility models are the culmination of extensive efforts of subsurface utility mapping exploration, and is most accurately depicted when reflective of Quality Level-A service as defined by the American Society of Civil Engineers, ASCE 38-02 standards. However, it is also possible to produce a 3D model based on utility depth information provided when using various geophysical tools.

This information is usually collected and shown when Quality Level-B is achieved. It is our standard practice to update models created based on Quality Level-B information when Quality Level-A service is provided. We will provide the same service and process for your project and feel it is the most responsible way to proceed when producing quality deliverables that can be utilized by both Design and Construction teams.

McCarthy's Utility Mapping, team produced a 3D subsurface utility map for the Washington University Medical Center Phase 1, \$520 million project that was utilize for coordination and Building information modeling (BIM) meetings on a weekly basis. This model was updated and shared throughout the design process and was turned over to the construction management team to utilize for the duration of construction. The team received high praise from the MEP manager for the project, Dana Jensen.



Providence Tarzana Medical Center







Testimonials

"Their surveying and subsurface mapping team has consistently exceeded our expectations and project needs. We find them to be knowledgeable, responsive and easy to work with. Our project has benefited from their ability to incorporate existing conditions features, topography, and subsurface utilities to a common geospatial reference datum. As a result of their performance, we have procured their services on additional projects over the past several years. I am wholly pleased with their ability and performance, and welcome the opportunity to work with them in the future." "...Subsurface mapping team consistently exceeded Webster University's expectations..As a result of their performance as noted above we have procured (subsurface mapping) services on many high profile projects over the past several years."

-Craig A. Miller, Senior Director, Webster University

-Angelo Arzano, Senior Vice President, HOK

McCarthy Utility Mapping is exceptionally customer focused and responds to customer needs as they arise. Their deliverables integrate seamlessly to ASU's geodatabase. The quality of their deliverables a differentiator in our experience. We find them to be knowledgeable, responsive and easy to work with. Based on their high standard of care and attention to detail we have requested their utility mapping service on multiple projects over the past 24 months. I am wholly pleased with their ability and performance, and welcome the opportunity to work with them in the future.

> Darrin Blaisdell Director of Asset Management., ASU Project

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> Ken Martin Director of Utilities and Engineering

> > McCarthy Building Companies, Inc. CSU Subsurface Utility Mapping Master Enabling Agreement

Insurance Certificates

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RODUC	ER	1	-31	4-721-5100	CONTA	CT Susan	Schwartz			
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THIS CERTIFICATE IS ISSUED AS A CERTIFICATE DOES NOT AFFIRMAT BELOW. THIS CERTIFICATE OF IN REPRESENTATIVE OR PRODUCER, A	MATTER IVELY C SURANC	R OF INFORMATION ONL OR NEGATIVELY AMEND E DOES NOT CONSTITU CERTIFICATE HOLDER.	Y AND CONFER , EXTEND OR A TE A CONTRAC	S NO RIGHTS LTER THE CO T BETWEEN 1	UPON THE CERTIFICA VERAGE AFFORDED THE ISSUING INSUREF	TE HO BY TH R(S), A	lder. This e policies uthorized
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rthur J. Gallagher Risk Management 1311 McCormick Road, Ste 450 unt Valley MD 21031-8622	Services	s, Inc.	PHONE (A/C, No, Ext): 443 E-MAIL ADDRESS, BW2.E	-798-7499 3SD.Certs@ai	FAX (A/C, No) g.com	. 443-7	98-7290
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ERTIFICATE HOLDER			CANCELLATIO	N 30 days/10	days for non-paymen	t	
The California State Universi 401 Golden Shore, 2nd Flooi Long Beach CA 90802-4210	ty	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORI THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.					
		AUTHORIZED REPRESENTATIVE Aunio Oward					
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