CONSULTANT AGREEMENT

THIS AGREEMENT is made this **27** day of **April 2021**, by the CITY OF GARDEN GROVE, a municipal corporation, ("CITY"), and **T2 UES, Inc. dba T2 Utility Engineers**, a Delaware Corporation ("CONSULTANT").

RECITALS

The following recitals are a substantive part of this Agreement:

1. This Agreement is entered into pursuant to Garden Grove Council authorization dated **April 27, 2021.**

2. CITY desires to utilize the services of CONSULTANT to provide **ON-CALL SUBSURFACE UTILITY SERVICES.**

3. CONSULTANT is qualified by virtue of experience, training, education and expertise to accomplish services.

AGREEMENT

THE PARTIES MUTUALLY AGREE AS FOLLOWS:

1. **Term of Agreement:** This Agreement shall cover services rendered from date of this Agreement until compensation reaches the not to exceed amount or sooner terminated per Section 3.5

2. **Services to be Provided:** The services to be performed by CONSULTANT shall consist of the services as further specified in CONSULTANT'S proposal attached hereto as **Exhibit A** and incorporated herein by reference. CONSULTANT agrees that is provision of Services under this agreement shall be within accepted accordance with customary and usual practices in CONSULTANT'S profession. By executing this Agreement, CONSULTANT warrants that it has carefully considered how the work should be performed and fully understands the facilities, difficulties, and restrictions attending performance of the work under this agreement.

3. **Compensation.** CONSULTANT shall be compensated as follows:

   3.1 Amount. Compensation under this Agreement shall be per fee schedule included in the Proposal.

   3.2 Not to Exceed. Compensation under this Agreement shall not exceed **$250,000.**

   3.3 Payment. For work under this Agreement, payment shall be made per monthly invoice. For extra work not a part of this Agreement, a written authorization by CITY will be required.

3.4 Records of Expenses. CONSULTANT shall keep complete and accurate records of payroll costs, travel and incidental expenses. These records will be made available at reasonable times to CITY.

3.5 Termination. CITY and CONSULTANT shall each have the right to terminate this Agreement, without cause, by giving thirty-(30) days written notice of termination to the other party. If CITY terminates the project, then the provisions of paragraph 3 shall apply to that portion of the work completed.

4. **Insurance Requirements**

4.1 Commencement of Work CONSULTANT shall not commence work under this Agreement until all certificates and endorsements have been received and approved by the CITY. All insurance required by this Agreement shall contain a Statement of Obligation on the part of the carrier to notify the CITY of any material change, cancellation, or termination at least thirty (30) days in advance.

4.2 Workers Compensation Insurance For the duration of this Agreement, CONSULTANT and all subcontractors shall maintain Workers Compensation Insurance in the amount and type required by law, if applicable. The insurer shall waive its rights of subrogation against the CITY, its officers, officials, agents, employees, and volunteers.

4.3 Insurance Amounts CONSULTANT shall maintain the following insurance for the duration of this Agreement:

a) Commercial general liability in the amount of $1,000,000 per occurrence; (claims made and modified occurrence policies are not acceptable); Insurance companies must be admitted and licensed in California and have a Best's Guide Rating of A-, Class VII or better, as approved by the CITY;

b) Automobile liability in the amount of $1,000,000 per occurrence; (claims made and modified occurrence policies are not acceptable) Insurance companies must be admitted and licensed in California and have a Best's Guide Rating of A-, Class VII or better, as approved by the CITY.

c) Professional liability in the amount of $1,000,000 per occurrence; Insurance companies must be acceptable to CITY and have an AM Best's Guide Rating of A-, Class VII or better, as approved by the CITY. If the policy is written on a "claims made" basis, the policy shall be continued in full force and effect at all times during the term of the agreement, and for a period of three (3) years from the date of the completion of services provided. In the event of termination, cancellation, or material change in the policy,

professional/consultant shall obtain continuing insurance coverage for the prior acts or omissions of professional/consultant during the course of performing services under the term of the agreement. The coverage shall be evidenced by either a new policy evidencing no gap in coverage, or by obtaining separate extended "tail" coverage with the present or new carrier.

An Additional Insured Endorsement, **ongoing and completed operations,** for the policy under section 4.3 (a) shall designate CITY, its officers, officials, employees, agents, and volunteers as additional insureds for liability arising out of work or operations performed by or on behalf of the CONSULTANT. CONSULTANT shall provide to CITY proof of insurance and endorsement forms that conform to city's requirements, as approved by the CITY.

An Additional Insured Endorsement for the policy under section 4.3 (b) shall designate CITY, its officers, officials, employees, agents, and volunteers as additional insureds for automobiles owned, lease, hired, or borrowed by CONSULTANT. CONSULTANT shall provide to CITY proof of insurance and endorsement forms that conform to CITY's requirements, as approved by the CITY.

For any claims related to this Agreement, CONSULTANT's insurance coverage shall be primary insurance as respects to CITY, its officers, officials, employees, agents, and volunteers. Any insurance or self-insurance maintained by the CITY, its officers, officials, employees, agents, or volunteers shall be excess of the CONSULTANT's insurance and shall not contribute with it.

If CONSULTANT maintains higher insurance limits than the minimums shown above, CONSULTANT shall provide coverage for the higher insurance limits otherwise maintained by the CONSULTANT.

5. **Non-Liability of Officials and Employees of the CITY.** No official or employee of CITY shall be personally liable to CONSULTANT in the event of any default or breach by CITY, or for any amount, which may become due to CONSULTANT.

6. **Non-Discrimination.** CONSULTANT covenants there shall be no discrimination against any person or group due to race, color, creed, religion, sex, marital status, age, handicap, national origin or ancestry, in any activity pursuant to this Agreement.

7. **Independent Contractor.** It is understood and agreed that CONSULTANT, including CONSULTANT's employees, shall act and be independent contractor(s) and not agent(s) or employee(s) of CITY, and that no relationship of employer-employee exists between the parties. CONSULTANT's assigned personnel shall not obtain or be entitled to any rights or benefits that accrue to, or are payable to, CITY employees, and CONSULTANT shall so inform each

employee organization and each employee who is hired or retained under this Agreement. CITY is not required to make any deductions or withholdings from the compensation payable to CONSULTANT under the provisions of this Agreement, and is not required to issue W-2 Forms for income and employment tax purposes for any of CONSULTANT's assigned personnel. CONSULTANT hereby expressly assumes all responsibility and liability for the payment of wages and benefits to its assigned personnel, and all related reporting and withholding obligations. CONSULTANT hereby agrees to indemnify and hold CITY harmless from any and all claims or liabilities that CITY may incur arising from any contention by any third party, including, but not limited to, any employee of CONSULTANT or any federal or state agency or other entity, that an employer-employee relationship exists by reason of this Agreement, including, without limitation, claims that CITY is responsible for retirement or other benefits allegedly accruing to CONSULTANT's assigned personnel.

8. **Compliance With Law.** CONSULTANT shall comply with all applicable laws, ordinances, codes and regulations of the federal, state and local government. CONSULTANT shall comply with, and shall be responsible for causing all contractors and subcontractors performing any of the work pursuant to this Agreement, if any, to comply with, all applicable federal and state labor standards, including, to the extent applicable, the prevailing wage requirements promulgated by the Director of Industrial Relations of the State of California Department of Labor. The City makes no warranty or representation concerning whether any of the work performed pursuant to this Agreement constitutes public works subject to the prevailing wage requirements.

9. **Disclosure of Documents.** All documents or other information developed or received by CONSULTANT are confidential and shall not be disclosed without authorization by CITY, unless disclosure is required by law.

10. **Ownership of Work Product.** All documents or other information developed or received by CONSULTANT shall be the property of CITY. CONSULTANT shall provide CITY with copies of these items upon demand or upon termination of this Agreement. In the event any of CONSULTANT'S work product documents are subsequently modified in any respect without CONSULTAT'S involvement and oversight, CITY hereby agrees to release, indemnify and hold CONSULTANT, its officers, employees, consultants and agents harmless from and against any claims or damages arising from the modification of said documents.

11. **Conflict of Interest and Reporting.** CONSULTANT shall at all times avoid conflict of interest or appearance of conflict of interest in performance of this Agreement.

12. **Notices.** All notices shall be personally delivered or mailed to the below listed addresses, or to such other addresses as may be designated by written notice. These addresses shall be used for delivery of service of process.

(a) Address of CONSULTANT is as follows:

T2 Utility Engineers
Matt Tomanek, Manager/Coordinator
5622 Research Drive
Huntington Beach, CA 92649

(b) Address of CITY is as follows (with a copy to):

Engineering:	City Attorney
City of Garden Grove	City of Garden Grove
P.O. Box 3070	P.O. Box 3070
Garden Grove, CA 92840	Garden Grove, CA 92840

13. **CONSULTANT'S Proposal.** This Agreement shall include CONSULTANT'S proposal, Exhibit "A" hereto, which shall be incorporated herein. In the event of any inconsistency between the terms of the proposal and this Agreement, this Agreement shall govern.

14. **Licenses, Permits and Fees.** At its sole expense, CONSULTANT shall obtain a **Garden Grove Business License**, all permits and licenses as may be required by this Agreement.

15. **Familiarity With Work.** By executing this Agreement, CONSULTANT warrants that: (1) it has investigated the work to be performed; (2) it has investigated the site of the work and is aware of all conditions there; and (3) it understands the facilities, difficulties and restrictions of the work under this Agreement. Should CONSULTANT discover any latent or unknown conditions materially differing from those inherent in the work or as represented by CITY, it shall immediately inform CITY of this and shall not proceed, except at CONSULTANT'S risk, until written instructions are received from CITY.

16. **Time of Essence.** Time is of the essence in the performance of this Agreement.

17. **Limitations Upon Subcontracting and Assignment.** The experience, knowledge, capability and reputation of CONSULTANT, its principals and employees were a substantial inducement for CITY to enter into this Agreement. CONSULTANT shall not contract with any other entity to perform the services required without written approval of the CITY. This Agreement may not be assigned voluntarily or by operation of law, without the prior written approval of CITY. If CONSULTANT is permitted to subcontract any part of this Agreement, CONSULTANT shall be responsible to CITY for the acts and

omissions of its subcontractor as it is for persons directly employed. Nothing contained in this Agreement shall create any contractual relationship between any subcontractor and CITY. All persons engaged in the work will be considered employees of CONSULTANT. CITY will deal directly with and will make all payments to CONSULTANT.

18. **Authority to Execute.** The persons executing this Agreement on behalf of the parties warrant that they are duly authorized to execute this Agreement and that by executing this Agreement, the parties are formally bound.

19. **Indemnification.** To the fullest extent permitted by law, CONSULTANT agrees to protect, defend, and hold harmless CITY and its elective or appointive boards, officers, agents, and employees from any and all claims, liabilities, expenses, or damages of any nature, including attorneys' fees, for injury or death of any person, or damages of any nature, including interference with use of property ("Losses"), to the proportionate extend arising out of, or in any way connected with the negligence, recklessness and/or intentional wrongful conduct of CONSULTANT, CONSULTANT'S duly appointed agents, officers, employees, subcontractors, or independent contractors hired by CONSULTANT in the performance of the Agreement. In the event Losses were also caused in part by the acts or omissions of another party or any third party, the CONSULTANT shall only be liable to the proportionate extent Losses were caused by the acts or omissions of the CONSULTANT.

    NOTWITHSTANDING THE FOREGOING, NEITHER PARTY WILL BE LIABLE TO THE OTHER FOR INDIRECT, CONSEQUENTIAL OR SPECIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF PROFIT, LOSS OF PRODUCT OR LOSS OF USE, WHETHER THE LIABILITY IS BASED ON AGREEMENT, NEGLIGENCE, TORT OR OTHERWISE.

    This hold harmless agreement shall apply to all liability regardless of whether any insurance policies are applicable. The policy limits do not act as a limitation upon the amount of indemnification to be provided by CONSULTANT.

20. **Modification.** This Agreement constitutes the entire agreement between the parties and supersedes any previous agreements, oral or written. This Agreement may be modified only by subsequent mutual written agreement executed by CITY and CONSULTANT.

21. **Waiver.** All waivers of the provisions of this Agreement must be in writing by the appropriate authorities of the CITY and CONSULTANT.

22. **California Law.** This Agreement shall be construed in accordance with the laws of the State of California. Any action commenced about this Agreement shall be filed in the central branch of the Orange County Superior Court.

23. **Interpretation.** This Agreement shall be interpreted as though prepared by both parties

24. **Preservation of Agreement.** Should any provision of this Agreement be found invalid or unenforceable, the decision shall affect only the provision interpreted, and all remaining provisions shall remain enforceable.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS THEREOF, these parties hereto have caused this Agreement to be executed as of the date set forth opposite the respective signatures.

"CITY"
CITY OF GARDEN GROVE

Dated: _____ , 2021

By: _____
City Manager

ATTEST

_____
City Clerk

Dated: _____ , 2021

"CONSULTANT"
T2 Utility Engineers

By: _____
Title: Branch Manager

Dated: April 7 , 2021

APPROVED AS TO FORM:

_____
Garden Grove City Attorney

Dated: 4-13 , 2021

If CONSULTANT/CONTRACTOR is a corporation, a Corporate Resolution and/or Corporate Seal is required. If a partnership, Statement of Partnership must be submitted to CITY

RESOLUTION OF THE DIRECTORS OF
T2 UES, INC.
APPOINTMENT OF OFFICERS

The undersigned, being all of the members of the Board of Directors (the "Board") of **T2 UES, INC.**, a corporation dully incorporated in the State of Delaware, with the principal place of business at 7217 E. 87th Street, Indianapolis, IN 46256 (the "Corporation"), at the meeting of the Board of Directors conducted on March 2, 2021, have consented and agreed and by these presents do consent to, affirm, ratify and adopt the following actions and resolutions of the Company.

RESOLVED THAT:

1. The resignation of **John Harter** as Assistant Vice President of the Corporation is accepted.

2. The resignation of **James Hart** as Assistant Vice President of the Corporation is accepted.

3. Upon motion dully made and seconded, the following persons are elected and confirmed to be the Officers of the Corporation:

Craig Snyder	**President**
Dennis Mitchell	**Treasurer / CFO**
Victoria F. Nemeth	**General Counsel and Secretary**
Michael Woods	**Vice President**
Daryl Thie	**Vice President**
Robert Ramsey	**Vice President**
Suzanne McCain	**Assistant Vice President**
Keith Furukawa	**Assistant Vice President**
Michael Picha	**Assistant Vice President**
Glen Robison	**Assistant Vice President**
Anthony DiMarino	**Assistant Vice President**
Aiden Deegan	**Assistant Vice President**
Ken Slaninka	**Assistant Vice President**
Franklin Hudgins	**Assistant Vice President**
Travis Bix	**Assistant Vice President**
Matthew Tomanek	**Assistant Vice President**
Christopher Proulx	**Assistant Vice President**

The foregoing Resolutions are consented to by all of the Directors of the Corporation.

Effective March 2, 2021.

Craig Snyder

Michael Woods

Daryl Thie

Robert Ramsey

EXHIBIT A

T2 Utility Engineers
5622 Research Drive
Huntington Beach, CA 92649
www.T2ue.com

March 12, 2021

City of Garden Grove, Public Works Department
Attention: Ms. Rebecca Li
Senior Civil Engineer
13802 Newhope Street, PO Box 3070

RE: Proposal for On-Call Subsurface Utility Services

Dear Ms. Li and Members of the Selection Committee:

T2 UES, Inc. d/b/a T2 Utility Engineers (T2ue) appreciates the opportunity to submit our proposal and qualifications to the City of Garden Grove (City) for Subsurface Utility Services. T2ue understands the City is seeking consultants to provide Subsurface Utility Investigation services to prevent underground utility conflicts during water main installation construction on an on-call basis.

Our proposal highlights T2ue's Subsurface Utility Engineering (SUE) Investigation capabilities, project team organization, staffing resumes, relevant project experience, references and our team's understanding of the City's needs and approach to performing the required services.

T2 UES, Inc. d/b/a T2 Utility Engineers (T2ue) is a C Corporation incorporated in the state of Delaware on June 11, 2019.

T2ue offers the following key benefits:

- **Key proposed staff have continually stood at the forefront of the SUE profession and the American Society of Civil Engineers (ASCE) Standards development, industry practice development, technology investment, project execution and contract delivery. Our staff looks forward to bringing the same level of commitment to the City.**
- **Professional personnel with extensive experience in providing as-needed consulting services for municipal on-call contracts for SUE-related projects. T2ue staff currently perform SUE services for 33 on-call contracts in the West for various state Departments of Transportation (DOTs), municipalities and public works departments. Key team members have successfully completed numerous SUE assignments while satisfying program and project goals.**
- **In-depth understanding of geophysics enables our team to develop solutions and choose the appropriate tool for the job to complete a site investigation using the ASCE 38-02 Standard.**

Thank you for taking the time to review our qualifications. Please contact me if you have any questions or need additional information.

Sincerely,

T2 UES, Inc. d/b/a T2 Utility Engineers

Matt Tomanek
Resource Manager/Coordinator
matt.tomanek@t2ue.com

Authorized Representative:

Matt Tomanek
Resource Manager/Coordinator
5622 Research Drive
Huntington Beach, CA 92649
714-487-5780 (phone)
matt.tomanek@t2ue.com

T2ue's team is ready to perform Subsurface Utility Services for as-needed tasks in accordance with the ASCE 38-02 Standard

T2ue's proposal is valid for a minimum of 90 days.

Firm Information

T2 UES, Inc. d/b/a T2 Utility Engineers has extensive experience with providing Subsurface Utility Engineering (SUE) expertise for local cities, counties, municipalities and state Departments of Transportation (DOTs) throughout the US and Canada. Our professional staff and project managers have successfully completed numerous subsurface utility investigations for projects of varying size and complexity while satisfying program and project goals.

Introduction

T2 Utility Engineers (T2ue) provides a full range of utility engineering services, including subsurface utility engineering (SUE), advanced geophysics, test holes/potholing, surveying, and utility coordination to support Infrastructure projects. T2ue staff offer experience and expertise with managing projects of all sizes, from single day investigations to large-scale billion dollar infrastructure projects for public and private clients. **T2ue professionals are recognized leaders in managing the risks associated with above-ground and sub-surface utilities.**

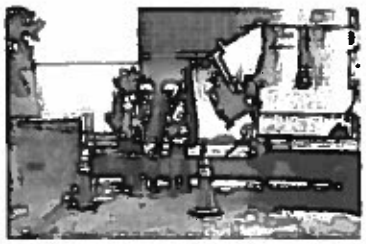
T2ue has 30+ offices across the US and Canada and can quickly mobilize resources for as-needed projects. T2ue retains a vast array of geophysical and designating equipment and one of the largest fleets of SUE vehicles (60 air-vacuum excavation trucks; 22 in the West) in the world. T2ue has 35 SUE crews with 44 field technicians in the West, and 135 SUE crews and 36 utility coordinators nationwide available to respond quickly to your project needs.

Areas of Expertise

- Non-destructive vacuum excavation
- Test Holes (potholing)
- Condition Assessment/Rehabilitation
- Geophysical Investigations
- Multi-Channel Ground Penetrating Radar (MCGPR)
- CCTV Sewer Assessments
- Surveying
- Terrestrial and Mobile LiDAR
- 3D underground imaging and mapping
- Utility Conflict Resolution
- Utility Coordination

T2ue professionals provide innovative and sustainable solutions that deliver lasting value. T2ue has worked with numerous municipalities and knows how to effectively execute project assignments utilizing proper staffing. Proposed staff have extensive experience working together on municipal projects and delivering SUE services in accordance with the American Society of Civil Engineers (ASCE) Standard 38 (ASCE 38-02).

No learning curve! T2ue staff have a proven record of successfully managing municipal on-call contracts and performing SUE consultation services to facilitate the needs of the public. This expertise ensures your confidence that T2ue is the qualified consultant to deliver as-needed tasks.



Locally, T2ue has 3 air-vacuum excavation trucks and 4 designating trucks, each equipped with a minimum of 5 instruments of electromagnetic detection and GPR equipment.

Why T2ue?

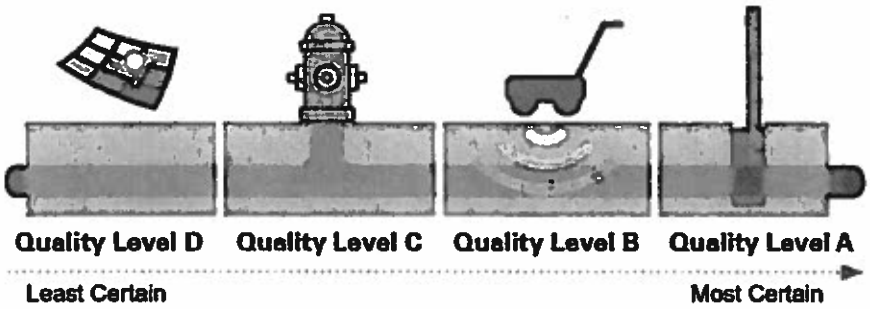
- **In-depth understanding of geophysics** enables T2ue's team to analyze problem areas quickly, develop solutions, choose the appropriate tool for the job and complete a thorough site investigation using the ASCE 38-02 Standard as the basis for our work and procedures.
- **Local knowledge and experience** in Southern California, Orange County, and Garden Grove. T2ue completes dozens of SUE projects, including hundreds of potholes, in Southern California each year. Each jurisdiction has their own requirements and expectations.
- **Experience with the collection of critical existing utility data** is essential for effective project planning, design and construction. If conflicts are identified up-front, appropriate mitigation and relocation measures can be instituted in advance of the construction phase, resulting in condensed schedules and reduced costs. A big issue associated with projects is poor utility base mapping derived from only record information. Existing records from legacy facility maps are not always sufficient and may include changed locational references, lost paper records, unrecorded utilities or lack of installation details. This is why T2ue utilizes the ASCE 38-02 Standard.
- **Unsurpassed knowledge of the ASCE 38-02 Standard.** T2ue staff utilize the CI/ASCE 38-02 Standard for collecting and depicting the existing utilities to build the highest quality utility map that includes an iterative field investigation. The ASCE 38-02 was developed to mitigate risk associated with the existing utilities by taking the uncertainty of the information and depiction of the existing utilities. It sets a standard on how to conduct field investigations and utilize records to properly map existing utilities. ASCE-38 sets forth an investigative procedure that results in utility depictions that clearly indicate the source and reliability of the utility information.

This investigation and mapping, as part of the ASCE 38-02, leads to our technicians typically finding 40% to 60% more utilities than documented on records and allows our team to build a complete/accurate utility base map to aid in the design process and reduce negative impacts during construction.

Knowledge of ASCE

The ASCE 38 Standard came out of the burgeoning practice of SUE and was spearheaded by T2ue's former Global Practice Leader Jim Anspach, and assisted by other industry professionals. The core of the ASCE 38 Standard is providing a way of qualifying the uncertainty of utility locations through Quality Levels. The four ASCE quality levels are:

Subsurface Utility Engineering Quality Levels



Leading with Technology

T2ue uses the most appropriate technology for each project to increase the accuracy of the utility data, including:

- **Stream EM**, a MCGPR solution dedicated to utility locating and mapping
- **Stream C**, a compact array solution for real-time 3D mapping of underground utilities and features
- **LiDAR Scanning** of roads, interchanges and bridges for precise 3D mapping to be merged with SUE data to support 3D engineering designs

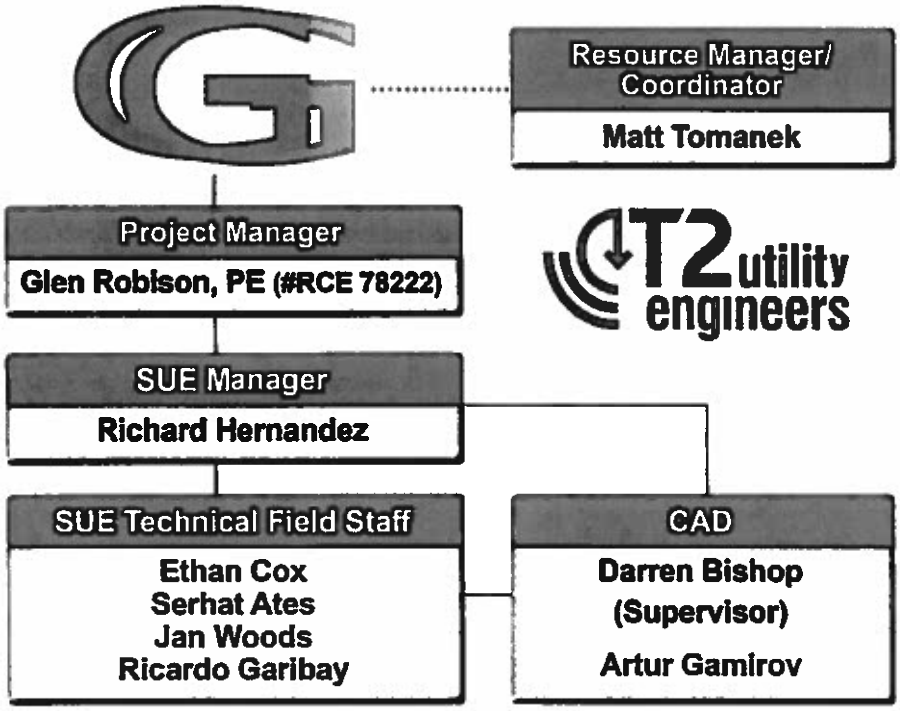
It is imperative that the investigation, from research to field and office work, will all be overseen and performed under the direction of a licensed PE. T2ue has the professional resources, expertise and qualified staff to accomplish that goal.

- **Quality Level D (QLD): Record information which may include details that indicate the presence of a utility. The least certain information for a location of a utility.**
- **Quality Level C (QLC): Surveyed surface features reconciled to record data OR (in the PE's judgement) the uncertainty of the location does not warrant a QLB designation.**
- **Quality Level B (QLB): Geophysical techniques reconciled to record information, surface features, knowledge of utility systems and professional judgement.**
- **Quality Level A (QLA): Physical exposure of utility and locating to project coordinate system. The most certain information regarding a subsurface utility.**

T2ue will utilize and follow the ASCE 38-02 Standard for collecting and depicting the existing utilities.

Organization, Staffing Resumes and Project Experience

Project Team Organization



In all cases, any Quality Level depicted is a judgement by a PE of the achieved level of certainty for the location and character of the utility, and carries with it the liability associated with any professional opinion.

Team Member	Project Role	Resides	With Firm	Professional Registration
Matt Tomanek	Resource Manager/Coordinator	Garden Grove	14 years	Class A Contractor #1062038
Glen Robison, PE	Project Manager	Fountain Valley	3 years	CA PE #C78222
Richard Hernandez	SUE Manager	Garden Grove	8 years	
Darren Bishop	CAD Supervisor	Long Beach	3 years	

Resumes with qualifications and experience for key staff are included on the following page.

Staffing Resumes

Matt Tomanek — Resource Manager/Coordinator

Years of Experience: 15 with firm; 15 total

Education:
MS/BS, Environmental Engineering

Matt will direct activities to ensure budget, schedule and quality control, allocate appropriate resources and regularly communicate project status. He has over 15 years of experience in project initiation and coordination, contract management, construction management, site assessments, subsurface utility investigations, water and vapor treatment system and distribution design and implementation, technical report preparation and review, permitting and permit compliance and remedial corrective actions.

Matt's relevant SUE experience includes:

- **LACCD, District-wide Energy Efficiency/Utility Infrastructure Project, CA**
- **OCSD Newhope-Placentia Sewer Trunk Replacement SUE, Lee & Ro**
- **OCSD Rehabilitation of Western Regional Sewers, SUE, AECOM**
- **Pier G Subsurface Utility Engineering, Port of Long Beach**
- **Pier B On-Dock Rail Support Facility Program SUE, Port of Long Beach**
- **I-10 Widening Utility Investigation, Caltrans District 7**
- **City of Burbank Force Main Utility Investigation, Lee & Ro**
- **SMUD, Downtown Riverfront Streetcar Project, Sacramento, CA**

Glen Robison, PE — Project Manager

Years of Experience: 4 with firm; 17 total

Education:
BS, Civil Engineering

Registrations:
PE: CA #RCE 78222

NASSCO P/L/MACP:
U-0120-70308258

Glen is experienced in all aspects of utility investigations including research, mapping, field investigations, survey, design and deliverable production. He has 17 years of civil engineering expertise including due diligence, design and project management. Glen specializes in SUE, land development, site design, water quality management plans, road widening/rehabilitation, storm drain/drainage, water/sewer facilities, signing/striping, retaining walls and traffic handling for private and municipal agencies. His relevant experience includes:

- **LACCD, District-wide Energy Efficiency/Utility Infrastructure Project, CA**
- **Metropolitan Water District, Iron Mountain Pumping Plant, Sablon, CA**
- **San Diego Gas & Electric, Granite Hills, CA**
- **Circle Way Storm Drain and Site Improvement, Laguna Beach, CA**
- **Nash Avenue Waterline Replacement, Downey, CA**

Richard Hernandez — SUE Manager

Years of Experience: 9 with firm; 20 total

Education:
BA

Richard oversees Field Operations for SUE and utility coordination projects for T2ue throughout California, including permit acquisitions. He has maintained contracts with the Los Angeles County Department of Public Works, Port of Long Beach, Orange County RMDM and Port of Los Angeles for utility investigations. Richard has over 20 years of experience providing project management and supervision on SUE and utility coordination projects throughout California. His expertise is in all aspects of utility investigation including using various electronic designating/sonding instruments (Radio-Detection, Seek-Tech, Metro-Tech and multiple GPRs).

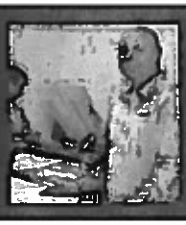
Technical Staff

Field Staff:

Ethan Cox
Serhat Ates
Jan Woods
Ricardo Garibay

CAD:

Darren Bishop
Artur Gamirov



Project Experience

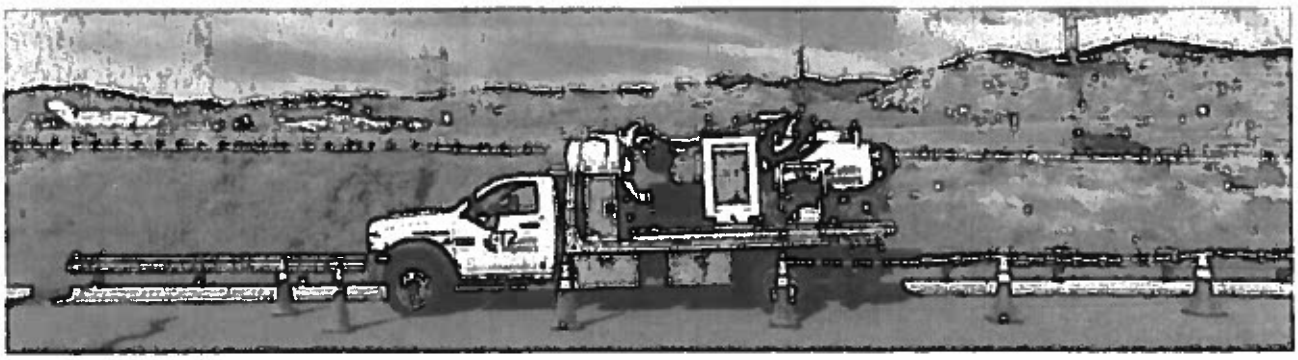
T2ue is a leader in the SUE industry and a trusted advisor for ASCE 38-02 Standard. With safety of the public in mind, T2ue project managers and team members work diligently to ensure the accuracy and completeness of sub-surface utility investigations. The projects presented below represent T2ue's relevant SUE experience utilizing the CI/ASCE 38-02 Standard.

Los Angeles County Dept. of Public Works (LACDPW), As-Needed Exploratory Subsurface Excavation Services, Los Angeles, CA (2017 to 2019)

T2ue provided utility designating and SUE (potholing) services (ASCE 38-02 Quality Levels B and A) for LACDPW on multiple public works projects. Tasks involved site assessments, coordination with client, stakeholders, utility companies/inspectors, permitting, traffic control, utility designating, potholing and deliverable production.

Reference

Project Owner/Client:	Los Angeles County Department of Public Works (LACDPW)
Contact, Phone, E-mail:	Gus Nakhoul, 626-458-3124, gnakhoul@dpw.lacounty.gov
Client Address:	900 South Freemont Avenue, Alhambra, CA 91803
Services:	SUE; As-Needed Exploratory Subsurface Excavation
Fee; Dates:	$5 million; 2017 to 2019
Key Staff:	Matt Tomanek, Richard Hernandez



Los Angeles Community College District (LACCD), District-wide Energy Efficiency and Utility Infrastructure Project, Los Angeles, CA (2018 to 2020)

To maximize taxpayers' dollars, LACCD implemented a District-wide "Utility Mapping and Conditions Assessments" program. T2ue provided complete Underground Utility Systems surveying and comprehensive mapping of existing wet and dry utilities to update and obtain accurate data for future site development, District archiving and access to accurate campus infrastructure records. The project covered 1 future and 9 current campuses with over 800 acres that were designated and 1,200 test holes (potholes) completed.

As the prime consultant, T2ue oversaw the condition assessment and Topo survey, and self-performed the utility locating and mapping. The project was completed with very tight time constraints and within budget.

Reference

Project Owner/Client:	Build-Los Angeles Community College District Program Management Office
Contact, Phone, E-mail:	Johnson Nee, Design Manager, 323-980-2625, Johnson.nee@build-laccd.org
Client Address:	1055 Corporate Center Drive, Monterey Park, CA 91754
Services:	SUE
Fee; Dates:	$12.6 million; 2018 to Present
Key Staff:	Matt Tomanek, Glen Robison

Orange County Sanitation District (OCSD)/AECOM, Project 3-64, Rehabilitation of Western Regional Sewers, Orange County, CA (2016 to Present)

This project includes the rehabilitation and reconstruction of the entire length of the Orange Western Sub-trunk, Los Alamitos Sub-trunk, Westside Relief Interceptor and Seal Beach Boulevard Interceptor. The sewer lines are located in the western most portion of the OCSD service area including the Cities of Anaheim, Cypress, Los Alamitos, Seal Beach and La Palma. The project is approximately 16 miles and includes 217 manholes. The project will extend the service life of the sewer system by an additional 50 years. T2ue is providing SUE in accordance with ASCE 38-02 to support the design of the sewer rehabilitation including records research and the creation of the utility base map (Quality Level D), geophysical utility investigation, survey (Quality Levels C and B) and test holes (Quality Level A).

The utility investigation includes 30,000 LF of designating and up to 1,000 test holes. Information obtained during the field investigations and surveys will be used to update the Utility Map and qualify the depicted alignments. Deliverables include Utility Plan Sets, AutoCAD Civil 3D files and Test Hole Data Reports.

Reference

Project Owner/Client:	Orange County Sanitation District (OCSD)/AECOM
Contact, Phone, E-mail:	Keith Campbell, PE (AECOM), 559-906-2464, keith.campbell@aecom.com
Client Address:	300 S. Grand Avenue, Suite 800, Los Angeles, CA 90071
Services:	SUE for Rehabilitation of Western Regional Sewers
Fee; Dates:	$2.6 million; 2017 to Present
Key Staff:	Matt Tomanek, Richard Hernandez

OCSD/Lee & Ro, Project 2-72 Newhope-Placentia Trunk Sewer Replacement, Orange County, CA (2015 to 2017)

This project increases the upper reaches of the existing Newhope-Placentia Trunk Sewer to provide additional capacity for future flows projected with new development and abandonment of the Yorba Linda Pumping Station including the wastewater disposal company sewer originally constructed in the early 1900s and is now owned by OCSD. The project includes 34,800 LF of pipe, 18" to 36" VCP and 49" to 42" RCP within State College Boulevard from Cal State Fullerton campus to Angel Stadium. T2ue provided full SUE to support design of the Newhope-Placentia Trunk Sewer Replacement including utility records research, mapping and potholing (ASCE 38-02 Quality Levels D, C, B and A). Crews designated/mapped utilities in 7 miles of State College Blvd. (Anaheim and Fullerton) and completed over 400 test holes. T2ue delivered Utility Base Maps identifying subsurface utility alignments, ASCE 38 Quality Levels of alignments, Test Hole Data Sheets and Photo Logs.

City of Fresno/Blair, Church & Flynn, Water and Sewer Design Projects, Fresno, CA (2015 to 2018)

T2ue staff provided SUE (potholing) services (ASCE 38-02 Quality Levels B and A) to map the horizontal and vertical position of underground utilities to support design of water, sewer and reclaimed water design projects. Utilities located include petroleum, data transmission, telephone, gas, electric, water and sewer pipelines. T2ue's team completed over 600 (Quality Level A) test holes.

SMUD, Downtown Riverfront Streetcar Project, Sacramento, CA (2015 to 2018)

T2ue staff led utility engineering services on this Sacramento Municipal Utility District (SMUD) project that involved 3.3 miles of transit lines from Civic Center to Midtown. Streetcar stations were spaced every few blocks and two maintenance facility sites are located along the alignment.

T2ue crews provided SUE services for approximately 150,000 LF of existing utilities including locating, surveying and mapping (Quality Levels D, C and B). Civil 3D was utilized to process field data, generate a Subsurface Utility 3D Model and incorporate 3D elements of existing pipes. This was completed after the pipes were exposed by vacuum excavation. The field data was compiled in the office with CADD, incorporating depth, size and invert data. T2ue staff also performed conflict analysis, utility coordination and non-destructive vacuum excavation (Quality Level A) of over 125 test holes within a highly congested area of downtown Sacramento.

Port of Long Beach, On-Call SUE Services & Utility Locating, Long Beach, CA (2013 to 2019)

T2ue staff provided electronic designating, ground penetrating radar (GPR), locating (potholing), and utility mapping services. Crews also provided soil sampling services due to contamination issues. T2ue's services were completed on time and within budget. Over 40 projects were completed.

Reference

Project Owner/Client:	Port of Long Beach Engineering Design Division
Contact, Phone, E-mail:	Miguel Hernandez, PE, Chief Harbor Engineer/GIS Supervisor, 562-972-8920, Miguel.Hernandez@polb.com
Client Address:	4801 Airport Plaza Drive, Long Beach, CA 90815-1263
Services:	SUE; Utility Locating
Fee; Dates:	$3 million; 2013 to 2019
Key Staff:	Matt Tomanek, Richard Hernandez

Port of Long Beach, Pier B On-Dock Rail Support Facility Program, Long Beach, CA (2015 to 2017)

The Port of Long Beach is reconfiguring, expanding and enhancing the existing Pier B rail facility located southwest of West Anaheim Street and the 710 Freeway. The improved facility will support more efficient use of "on-dock" rail at the Port's shipping terminals, which will ease roadway traffic congestion and improve air quality. 171 acres will be impacted during construction.
T2ue staff provided full SUE services to support design of this major new rail system for Pier B, including utility designating, survey, and test hole services (ASCE 38-02 Quality Levels D, B, C and A). The scope included investigation and mapping of over 400,000 LF of subsurface utilities, survey of the designated utilities and preparation of ASCE 38-02 compliant deliverables. Following review of the updated Utility Map, the decision was made to complete utility trenches in place of traditional test holes, due to extremely heavy utility congestion. T2ue crews completed 10 utility trenches, ranging from 80' to 120' in length, to obtain precise horizontal and vertical utility position information, across major cargo transportation roadways.

T2ue staff successfully overcame several project challenges including coordination and scheduling with the Port, traffic control, tenants and stakeholders to minimize disruption to operations; safe implementation of traffic control setups and field work in highly congested areas; and restricted work times requirements.

References

T2ue has extensive experience with managing SUE projects for municipalities with similar needs relevant to this SUE contract. References for T2ue's SUE contracts are included with our Project Experience above.

Understanding of the City's Needs and Approach to Performing the Required Services

T2ue's general approach to SUE investigations begins with a thorough site reconnaissance and records research effort to provide the foundational information for our team to start the investigation. Using this information, our team will work with the City to fine-tune the scope, investigation limits and ASCE 38 Quality Levels to match the existing site conditions and proposed design.

After the record information is finalized, T2ue will:

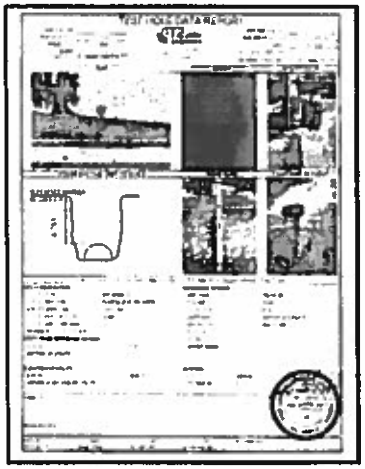
- Send a crew trained with a suite of geophysical tools to the site to collect information related to known and unknown utilities that may be present.
- Survey all of the paint markings and surface appurtenances using the survey control covering the site.

After the utility data has been collected and verified in the field, T2ue's team will review the completeness and quality of the data in the office using all of the field notes, electronic field sketches, surveying and engineering maps and utility atlases to ensure that an achieved Quality Level (QL) has been depicted for each utility segment, in accordance with ASCE 38.

In instances where QLB cannot be obtained on a particular utility or segment, appropriate notes and depiction of information will be added to the drawing. A similar approach is taken for QLA test holes. All of the information from the records research, geophysical investigation, and survey data is compiled into a CAD file in the preferred format to create one base file of utility information. This QLB deliverable serves as the basis for design decisions and conflict analysis moving forward.

QLA test hole locations are determined based upon this information after a review with the design team and City staff to identify areas where there is need to physically expose the utility, using air/vacuum excavation, for precise location and character.

Test holes are documented on a Test Hole Data Report (see example in the right column) that identifies the depth, size, and material of the utility and documents pavement thickness and any other subsurface abnormalities discovered in the excavation. Photos are included showing the test hole location on the surface and the exposed utility. Each test hole is assigned a unique identifier, shown graphically on the utility plan set in its actual surveyed location with corresponding identifier.



A typical scope work plan for a SUE project may follow the outline below.

Scope of Work: SUE Investigation Approach

Issues Resolution and Technical Innovations

The ASCE 38 Standard and the practice of SUE was created as a method for addressing utility related issues on projects and reducing the level of risk utilities pose to a successful project delivery. By adhering to the Standard and embracing innovations in the industry, utility risks can be managed effectively to keep schedules and budgets stay on track.

Municipal projects experience various issues that can have adverse effects on the outcome of the project. Unknown utilities present a major risk to projects in terms of schedule. When unknown utilities are discovered in the field during construction, all activities are generally halted to determine what the utility is and the extent of the impact to the project. If it is a major utility that will need to be relocated the project budget can increase considerably. To address this risk, T2ue's SUE investigation practice is to perform sweeps across the site using various geophysical tools specifically used to locate unknowns. T2ue crews find 40% to 60% more utilities using our team's approach than would be found using DigAlert and records alone.

Another issue posed by utilities is utility conflicts. T2ue's team encourages the SUE investigation to be performed as early as possible in the project development cycle, typically when the topographic survey is completed. This enables the design team to design around existing utilities or for the utility coordination team to get a head start on identifying conflicts and planning relocations early. Utility relocations can take years to finish. Starting early and basing decisions on a complete utility investigation will aid in lowering overall project costs. Many other risks, uncertainties, and additional costs may arise if these conflicts are not properly addressed.

To ensure risks are managed and mitigated, T2ue stays at the forefront of innovation in the industry, both in terms of technology and approach. Our goal is to collaborate with the City to offer new innovative ways of performing utility investigations including pavement restoration technologies, industry trends in condition assessment for existing utilities, asset management, and utility repository consultation.

Innovative Technologies and Techniques

In addition to T2ue's full suite of geophysical equipment, we offer a host of innovative technology, services, and approaches to utility investigations. Although not applicable for every project, our expertise will assist the City with deciding which techniques may be appropriate.

When you work with T2ue you get a single point of contact for all aspects of utility risk management and integrated infrastructure services.

Scope of Work Tasks:

General Requirements:

- Evaluate project site with respect to the scope of work.
- Begin permitting process and preparation of Traffic Control Plans, if needed.
- Complete the utility designating using appropriate geophysical equipment, if scoped.
- Evaluate the results and work with the City to confirm or update pothole locations.
- Delineate the work locations, notify DigAlert, and coordinate site meetings and standbys with facility owners, if needed.
- Complete the potholes and restoration activities in compliance with the Permit requirements.
- Survey designated utilities and potholes, if requested.
- Submit deliverables.

SUE Plan Sheets:

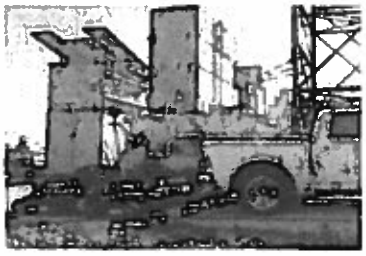
- AutoCAD Civil 3D files with plan set per City Design Standard.
- Plan set requirements outlined in the RFP.
- Plan sets will be stamped, signed and dated by a PE licensed in California.

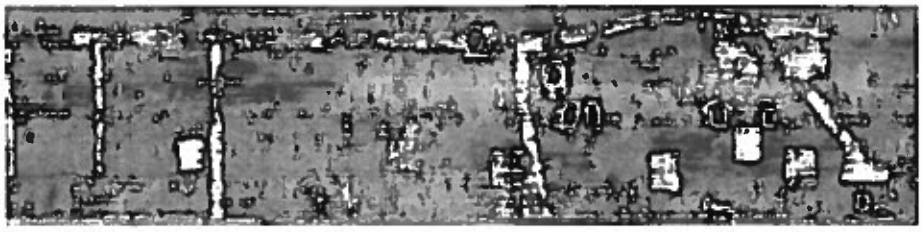
Quality Levels D, C, B and A Requirements:

- T2ue will perform and provide all of the Quality Level requirements outlined in the RFP Scope of Services and as required by individual projects and locations.

Perform Advanced Geophysics Investigation

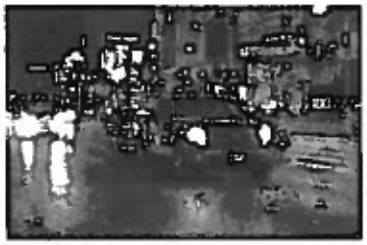
T2ue continues to invest in new and advanced geophysical technologies for utility investigations including Multi-Channel GPR (MCGPR) and with Time Domain Electromagnetic induction (TDEMI). Similar to what a CAT scan has done for the human body, the MCGPR technology has given our team the ability to create a 3D GPR data set and image of the subsurface utility environment georeferenced to the project coordinate system. This technology aids us in identifying unknown utilities early and with minimal effort.





T2ue uses the Stream EM and Stream C (MCGPR) solutions dedicated to utility locating and mapping

- Multi-Channel GPR (MCGPR) is a relatively new technology to the industry. T2ue uses Stream EM and Stream C, which are MCGPR solutions dedicated to utility locating and mapping. These units employ 40 separate channels with double polarized antennas enabling the system to simultaneously gather data both longitudinal and transversal. The high number of antennas increases the quality of the data and allows us to detect utilities at greater depth, even in sub-optimal soil conditions.
- Stream EM and Stream C are equipped with a GPS unit that enables the data set to easily be georeferenced to the project survey datum.
- The system is towed behind a vehicle which permits technicians to gather the GPR data using minimal traffic control – reducing impacts to local traffic and improving field team and general public safety.



Fee Schedule

T2 Utility Engineers Rate Schedule - 2021			
Subsurface Utility Engineering Services			
Services	**Prevailing Wage**	**Prevailing Wage OT**	**Unit**
Pothole Under Natural Ground	$685.00	$1,025.00	per hole
Pothole Under Paving / Concrete	$855.00	$1,365.00	per hole
Pothole Exceeding 8.99 feet in Depth	$130.00	$165.00	per foot
Vacuum Excavation Truck, Crew and Equipment	$425.00	$510.00	per hour
Utility Designating & Investigation Underground	$1.15	$1.48	per foot
Utility Designating & Investigation Overhead	$0.58	$0.74	per foot
Utility Designating 2 Man Crew and Equipment	$335.00	$440.00	per hour
Utility Designating 1 Man Crew and Equipment	$210.00	$260.00	per hour
Concrete / Asphalt Coring	$205.00	$225.00	per hour
Survey - 2 Man Crew and Equipment	$260.00	$350.00	per hour
Survey - 1 Man Crew and Equipment	$185.00	$230.00	per hour
Senior Project Manager	$205.00	$205.00	per hour
Project Engineer	$185.00	$185.00	per hour
Project Surveyor	$185.00	$185.00	per hour
Project Manager	$145.00	$145.00	per hour
SUE Manager	$125.00	$125.00	per hour
CADD Supervisor	$120.00	$120.00	per hour
SUE Supervisor	$120.00	$160.00	per hour
SUE Technician	$120.00	$160.00	per hour
CADD Technician	$85.00	$127.50	per hour
Administrative Support	$75.00	$112.50	per hour
Expenses			
Encroachment and Traffic Permits		actual cost	
Subcontractors		cost plus 10%	
Miscellaneous Expenses		cost plus 10%	

APPENDIX A: Test Hole Summary Sheet (Sample)

TEST HOLE DATA SUMMARY (SAMPLE)

T2 utility engineers

PROJECT NO	CA [illegible]
CLIENT	JRG CONSULTANTS
PROJECT	OC SANITARY DISTRICT SEWER REHAB
SUE CREW/TRUCK NO	[illegible]
CITY/COUNTY	GARDEN GROVE, OC, CA
LOCATION/INTERSECTION	

TH NO	TH DATE	UTILITY TYPE	UTILITY MATERIAL	UTILITY DIRECTION	UTILITY WIDTH (FIELD)	APPARENT UTILITY OWNER	RM NORTHING	RM EASTING	RM ELEVATION	DEPTH RM TO TOP OF UTILITY	DEPTH RM TO BTTM OF UTILITY	ELEV TOP OF UTILITY	ELEV BOTTOM OF UTILITY	SURFACE TYPE	REMARKS
TH01	[illegible]	EXP	-	-	-	-			-	9.00	-	-		A	OPENED TESTHOLE ON PREMARK FOR AT&T CLEARED DOWN TO 8 0FT UNABLE TO FIND TELEPHONE DUE TO DEBRIS AND SEWER PIPE COUPLING OBSTRUCTION SEE TH11 FOR SEWER COUPLING ASPHALT SECTION - 5IN AC 7IN AB

TEST HOLE DATA REPORT

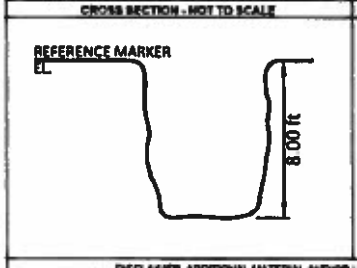
T2 utility engineers

TEST HOLE NO	TH01	CLIENT TEST HOLE NO	TH01
TEST HOLE DATE	[illegible]	SUE CREW/TRUCK NO	[illegible]
PROJECT NO	CA[illegible]	CITY, COUNTY	GARDEN GROVE, OC, CA
CLIENT	JRG CONSULTANTS	LOCATION/INTERSECTION	
PROJECT	OC SANITARY DISTRICT SEWER REHAB		GARDEN GROVE GALWAY

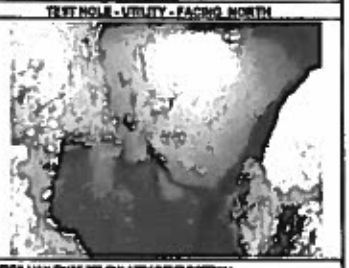
MAP

SITE PHOTO - FACING NORTH

CROSS SECTION - NOT TO SCALE



TEST HOLE - UTILITY - FACING NORTH



DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM

UTILITY DESCRIPTION		REFERENCE MARKER		
UTILITY TYPE	EXPLORATORY	LOCATION		CENTER OF TH
UTILITY MATERIAL		MARKED BY		NAIL & DISK
UTILITY DIRECTION		STATION		
UTILITY WIDTH (FIELD)	-	OFFSET		-
UTILITY WIDTH (RECORD)		OFFSET FROM		
APPARENT UTILITY OWNER		SWING TIES FROM STRUCTURE		APPROX DISTANCE
DEPTH FROM REFERENCE MARKER		A	SEWER MH	4.15'
TOP OF UTILITY	9.00'	B	FIRE HYDRANT	53.00'
BOTTOM OF UTILITY	9.00'	C	TV PULL BOX	40.70'
ELEVATION OF UTILITY				
TOP OF UTILITY				
APPARENT BOTTOM OF UTILITY	-			
SURFACE				
TYPE	ASPHALT			
THICKNESS	5.00"			

REMARKS
OPENED TESTHOLE ON PREMARK FOR AT&T CLEARED DOWN TO 8 0FT UNABLE TO FIND TELEPHONE DUE TO DEBRIS AND SEWER PIPE COUPLING OBSTRUCTION SEE TH11 FOR SEWER COUPLING

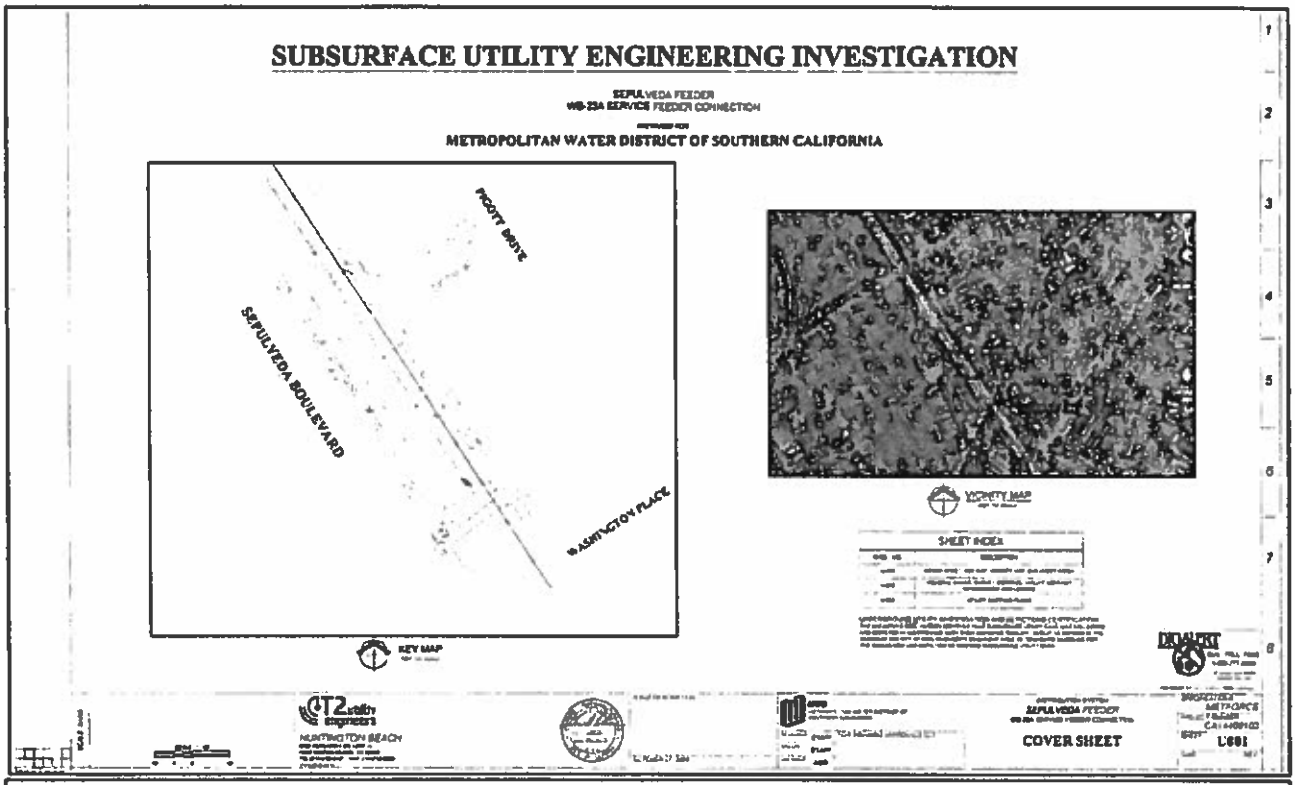
REVISION NOTES

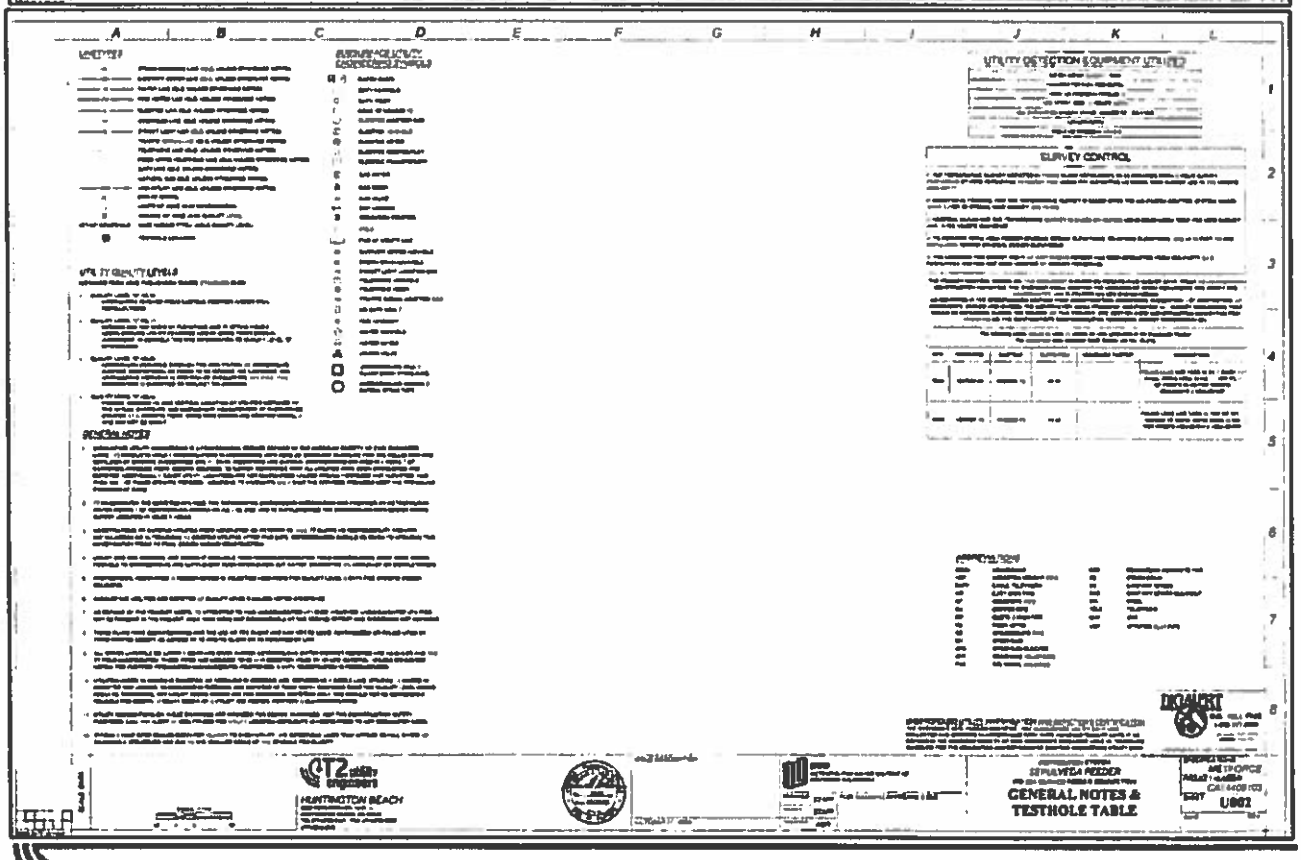
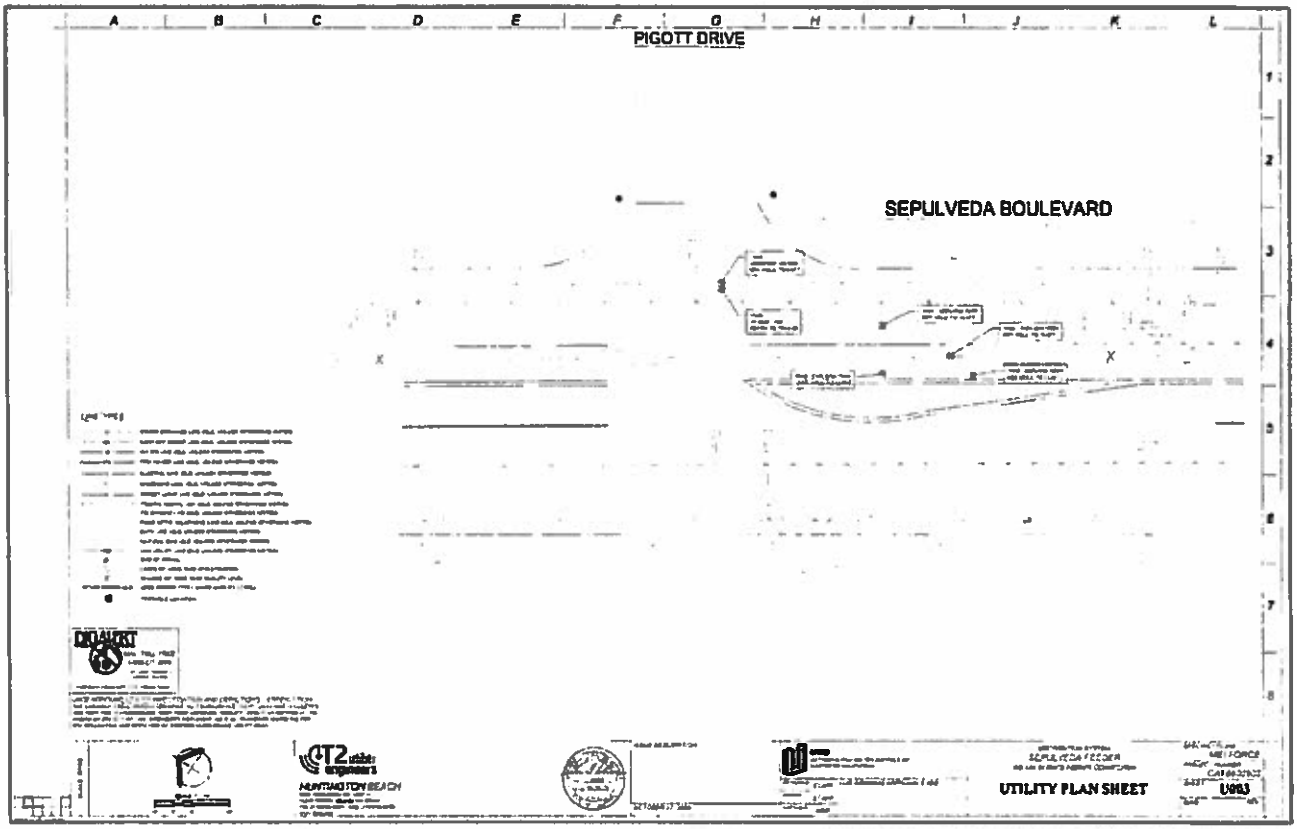
PROFESSIONAL ENGINEER — No. 78222 — Exp. 09/30/21 — CIVIL — STATE OF CALIFORNIA

REVIEWED DATE	12/1/2020	CHECKED DATE	12/8/2020	REVISION DATE
REVIEWED BY	[illegible]	CHECKED BY	[illegible]	

Test Hole Data Report (Sample)

APPENDIX B: SUE Plan (Sample)





APPENDIX B: SUE Plan (Sample) continued