AGREEMENT FOR CIVIL ENGINEERING SERVICES
Water Works Engineers, LLC

THIS AGREEMENT FOR CIVIL ENGINEERING SERVICES ("Agreement") is made and entered into as of the _____ day of _____, 2023 by and between the City of Brentwood, a municipal corporation of the State of California ("City"), and Water Works Engineers, LLC, a limited liability company ("Consultant") (each a "Party" and collectively, the "Parties").

RECITALS

A. City does not have available personnel specifically trained and experienced to perform the civil engineering services required and requires the professional services of an individual or business entity with the necessary license, qualifications and experience to provide civil engineering services for the City's Biosolids Dryer Project, CIP Project No. 592-59140 (the "Project").

B. Consultant has the necessary license, professional skills and experience necessary to perform the civil engineering services described in this Agreement, and as further described in Exhibit A to this Agreement ("Exhibit A"), and in the City's Request for Proposals for Civil Engineering Services for the Project, dated September 14, 2023 ("RFP"), attached as Exhibit B, both of which exhibits are incorporated herein.

C. City desires to engage Consultant to provide these civil engineering services by reason of its qualifications and experience in performing such services.

D. Consultant has submitted a proposal to City, dated October 10, 2023 ("Proposal"), attached as Exhibit C and incorporated herein, in response to the City's RFP, and has affirmed its willingness and ability to provide such civil engineering services on the terms and manner set forth in this Agreement.

NOW, THEREFORE, in consideration of these recitals and the mutual covenants contained herein, the Parties agree as follows:

1. Definitions. The following definitions apply to the body of this Agreement and Exhibit A unless otherwise indicated. Defined terms are capitalized in the Agreement with the exception of the words "day" and "including."

1.1 Additional Services means civil engineering services in addition to the Basic Services, which are provided pursuant to the City's written request or prior written authorization.

1.2 Basic Services means those civil engineering services necessary for design and construction of the Project, as specified in Exhibit A and in the RFP and Proposal.

1.3 Change Order means a written document approved and signed by the City after execution of the Construction Contract, which changes the scope of Work, the Construction Contract Price, or the Construction Contract Time.

1.4 City Engineer means the current or acting City Engineer and Director of Public Works for the City of Brentwood or his or her authorized delegee.

1.5 Construction Contract means the signed agreement between the City and Contractor, which includes and incorporates the Construction Documents.

1.6 Construction Contract Price means the total compensation to be paid to the Contractor for performance of the Work, as set forth in the Construction Contract.

1.7 Construction Contract Time means the time within which the Contractor is required to perform the Work, as set forth in the Construction Contract and as may be amended by Change Order.

1.8 Construction Documents means all of the documents that are prepared following approval of the Design Development Documents for bidding and construction of the Project, as further detailed in Exhibit A.

1.9 Contractor means the individual, partnership, corporation, or other entity which has signed the Construction Contract with the City to perform the Work. "Contractor" includes the Contractor's subcontractors, unless the context indicates otherwise.

1.10 Day means a calendar day unless otherwise specified.

1.11 Design Development Documents means detailed documents which are prepared following approval of the Schematic Design Documents, as further detailed in Exhibit A.

1.12 Design Documents means, collectively, the plans, drawings and specifications prepared or provided by the Consultant for the Project at all design stages, including Schematic Design Documents, Design Development Documents and Construction Documents.

1.13 Including, whether or not capitalized, means "including; but not limited to" unless the context requires otherwise.

1.14 Project Manager means the City employee or representative with primary responsibility for overseeing design and construction of the Project and who will be Consultant's sole point of contact for the City unless otherwise stated. The Project Manager for this Project is Casey Wichert.

1.15 Project Schedule means the detailed schedule developed by the Consultant, and subject to the City's approval, for design and construction of the Project, based on the Proposed Project Schedule provided in Exhibit A.

1.16 Proposed Project Schedule means the proposed Project schedule provided by the City in Exhibit A to this Agreement.

1.17 Rate Schedule means the schedule listing the hourly rates for Consultant's staff and rates for costs associated with providing the Services. The Rate Schedule is included in the Proposal.

1.18 Schematic Design Documents means preliminary drawings and related documents showing the Project's basic components, scale and location, as further detailed in Exhibit A.

1.19 Services means all civil engineering and related services required under this Agreement, including all Basic Services and any authorized Additional Services.

1.20 Work means the Contractor's construction and services necessary or incidental to constructing the Project in conformance with the requirements of the Construction Documents.

2. Scope of Services. Consultant, acting in its capacity as a civil engineer licensed under California law, will provide the Basic Services necessary to design and construct the Project in accordance with the City's requirements, as set forth in Part One – Scope of Services in Exhibit A, and will provide those Additional Services, if any, as requested and authorized in writing by the City.

3. Personnel and Subconsultants. Consultant will be responsible for employing or engaging all persons necessary to perform the Services. Consultant will control the manner and means of the services to be performed by its employees and subconsultants. All of Consultant's staff will be qualified by training and experience to perform their assigned tasks. Consultant will give its personal attention to the fulfillment of the provisions of this Agreement by all of its employees and consultant, if any, and will keep the Services under its control. On demand of City, if any employee or Consultant fails or refuses to carry out the

provisions of this Agreement or appears to be incompetent or to act in a disorderly or improper manner, he or she will be discharged immediately from the Services.

3.1 Consultant's Key Personnel. The Consultant's key personnel assigned to this Project, as specified in Consultant's Proposal, may not be changed without the prior written approval of the City. Consultant must promptly notify the City in writing of any changes or proposed changes to the key personnel identified in the Proposal (or subsequently approved by the City), and of any changes to the contact information (telephone and email) for any key personnel.

3.2 Consultant's Principal Representative. Consultant's principal representative assigned to this Project is Joe Ziemann, Project Manager, who will have full authority from Consultant to receive and act on instructions from the City.

3.3 Subconsultants. Consultant may not engage the services of any subconsultant for this Project, including, but not limited to, firms or individuals providing specialized architectural or engineering services, without obtaining the City's prior written approval. The City's approval must not be deemed to create any contractual relationship between the City and any such subconsultant, except that the City must be considered a third party beneficiary of such services for the Project. Consultant must bind its subconsultants in the same manner as Consultant is bound to the City under this Agreement, including, but not limited to, the insurance and indemnity requirements.

3.4 Warranty of Qualifications. Consultant warrants and represents that Consultant, its personnel, and its subconsultants are each duly qualified, licensed, and authorized by law to perform the civil engineering and related services required under this Agreement.

4. Standard of Performance. Consultant acknowledges that in entering into this Agreement the City is relying on Consultant's special civil engineering skills and experience to do and perform the Services. The Services provided by Consultant pursuant to this Agreement must, at all times, meet or exceed the standard of care applicable to experienced, licensed civil engineers performing similar work in the area in which the Project is located. Similarly, the Services provided by any subconsultant must meet or exceed the standard of care applicable to others practicing in the subconsultant's field and performing similar work in the area in which the Project is located. The acceptance of the Services by City does not release Consultant from these obligations.

5. Term. Unless earlier terminated, the term of this Agreement will commence upon the date first above written and will expire upon completion of the Services by Consultant.

6. Schedule.

6.1 Time is of the essence for providing the Services. Consultant will generally adhere to the approved Project Schedule provided, that City will grant reasonable extensions of time for the performance of the Services occasioned by unusually lengthy governmental reviews of Consultant's work product or other unavoidable delays occasioned by unforeseen circumstances; provided, further, that such unavoidable delay will not include strikes, lockouts, work stoppages, or other labor disturbances conducted by, or on behalf of, Consultant's officers or employees.

6.2 Consultant acknowledges the importance to City of City's Project Schedule and agrees to put forth its best professional efforts to perform the Services in a manner consistent with that schedule. City understands, however, that Consultant's performance must be governed by sound practices. Consultant will work such overtime or engage such personnel and equipment as necessary to maintain the schedule, without additional compensation.

7. Compensation.

7.1 The total fee payable for the Basic Services to be performed during the term of this Agreement will be based on the Rate Schedule, for a not to exceed amount of nine hundred eighty six

thousand nine hundred sixty dollars ($986,960), including authorized expense reimbursements, or as otherwise specified in Exhibit A. Any authorized Additional Services will be paid for based on the Rate Schedule. No other compensation for the Services will be allowed except for items covered by subsequent amendments to this Agreement. The City reserves the right to withhold a ten percent (10%) retention until City has accepted the Services.

7.2 Payment will occur only after receipt by City of invoices sufficiently detailed to include hours performed, hourly rates, and related activities and costs for approval by City.

7.3 Within thirty (30) days after receipt of any applicable progress payment request, City will verify the accuracy of the request, correct the charges where appropriate, and make payment to Consultant in an amount equal to the amount of such application, as verified or corrected by City. No payment made prior to completion and acceptance of the Services will constitute acceptance of any part of the Services. City reserves the right to withhold payment from Consultant on account of Services not performed satisfactorily, delays in Consultant's performance of Services, or other defaults hereunder.

8. Status of Consultant.

8.1 Consultant will perform the Services in Consultant's own way, by controlling the manner and means of the work City needs completed, and pursuant to this Agreement as an independent contractor and in pursuit of Consultant's independent calling, and not as an employee of City. The persons used by Consultant to provide the Services under this Agreement will not be considered employees of City for any purposes whatsoever.

8.2 The payment made to Consultant pursuant to the Agreement will be the full and complete compensation to which Consultant is entitled. City will not make any federal or state tax withholdings on behalf of Consultant or its agents, employees or subconsultants. City will not pay any workers' compensation insurance, retirement contributions or unemployment contributions on behalf of Consultant or its employees or subconsultants. Consultant agrees to indemnify and pay City within thirty (30) days for any tax, retirement contribution, social security, overtime payment, unemployment payment or workers' compensation payment, including, but not limited to, those based on any provision of the Federal Affordable Care Act, which City may be required to make on behalf of Consultant or any agent, employee, or subconsultant of Consultant for work done under this Agreement. At the City's election, City may deduct the amounts paid pursuant to this Section, from any balance owing to Consultant.

9. Subcontracting. Consultant's services are being requested by City because they are unique and personal. Except as may be specified in Exhibit A, Consultant will not subcontract any portion of the Services without prior written approval of City Manager or his/her designee. If Consultant subcontracts any of the Services, Consultant will be fully responsible to City for the acts, errors and omissions of Consultant's subconsultant and of the persons either directly or indirectly employed by the subconsultant, as Consultant is for the acts and omissions of persons directly employed by Consultant. Nothing contained in this Agreement will create any contractual relationship between any subconsultant of Consultant and City. Consultant will be responsible for payment of subconsultants. Consultant will bind every subconsultant and every subconsultant of a subconsultant by the terms of this Agreement applicable to Consultant's work unless specifically noted to the contrary in the subcontract and approved in writing by City.

10. Other Consultants. The City reserves the right to employ other consultants in connection with the Project or the Services.

11. Indemnification. Consultant agrees to indemnify, including the cost to defend, City, its officers, agents, volunteers and employees from any and all claims, demands, costs or liability (collectively, "Liability") that arise out of, or pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant and its agents in the performance of Services under this Agreement, but this indemnity does not apply to Liability caused by the active negligence, sole negligence or willful misconduct of City. This indemnification obligation is not limited by any limitation on the amount or type of damages available under

any applicable insurance coverage and will survive the expiration or termination of this Agreement with respect to any Liability arising from or caused during the term of the Agreement.

12. Insurance. Consultant will obtain and maintain, at its cost and expense, for the duration of the Agreement and any and all amendments, insurance against claims for injuries to persons or damage to property which may arise out of or in connection with performance of the Services by Consultant or Consultant's agents, representatives, employees or subconsultants. The insurance will be obtained from an insurance carrier admitted and authorized to do business in the State of California. The insurance carrier is required to have a current Best's Key Rating of not less than "A:VII."

12.1 Coverages and Limits. Consultant will maintain the types of coverages and minimum limits indicated below, unless Risk Manager or City Manager, in consultation with the City Attorney approves a lower amount. These minimum amounts of coverage will not constitute any limitations or cap on Consultant's indemnification obligations under this Agreement. City, its officers, agents, volunteers and employees make no representation that the limits of the insurance specified to be carried by Consultant pursuant to this Agreement are adequate to protect Consultant. The coverage will contain no special limitations on the scope of its protection to the above-designated insureds except for Workers Compensation and errors and omissions insurance. Consultant will obtain occurrence coverage, excluding Professional Liability, which will be written as claims-made coverage. If Consultant believes that any required insurance coverage is inadequate, Consultant will obtain such additional insurance coverage, as Consultant deems adequate, at Consultant's sole expense.

12.1.1 Commercial General Liability Insurance. $2,000,000 combined single-limit per occurrence for bodily injury, personal injury and property damage. If the submitted policies contain aggregate limits, general aggregate limits will apply separately to the work under this Agreement or the general aggregate will be twice the required per occurrence limit.

12.1.2 Automobile Liability. $1,000,000 combined single-limit per accident for bodily injury and property damage.

12.1.3 Workers' Compensation and Employer's Liability. Workers' Compensation limits as required by the California Labor Code and Employer's Liability limits of $1,000,000 per accident for bodily injury. Workers' Compensation and Employer's Liability insurance will not be required if Consultant has no employees and provides, to City's satisfaction, a declaration stating this.

12.1.4 Professional Liability. Errors and omissions liability appropriate to Consultant's profession with limits of not less than $1,000,000 per claim. The professional liability insurance must include prior acts coverage.

12.2 Endorsements. For Commercial General Liability Insurance, Consultant will ensure that the policies are endorsed to name the City, its officers, agents, volunteers and employees as additional insureds. Prior to City's execution of this Agreement, Consultant will furnish certificates of insurance and endorsements to City.

12.3 Cancellation. Insurance will be in force during the life of the Agreement and any extensions of it and will not be canceled without thirty (30) days prior written notice to City sent pursuant to the notice provisions of this Agreement.

12.4 Failure to Maintain Coverage. If Consultant fails to maintain any of these insurance coverages, then City will have the option to declare Consultant in breach of this Agreement, or may purchase replacement insurance or pay the premiums that are due on existing policies in order to maintain the required coverages. Consultant is responsible for any payments made by City to obtain or maintain insurance and City may collect these payments from Consultant or deduct the amount paid from any sums due Consultant under this Agreement.

12.5 Submission of Insurance Policies. City reserves the right to require, at any time, complete and certified copies of any or all required insurance policies and endorsements.

12.6 Primary Coverage. For any claims related to the Services and this Agreement, the Consultant's insurance coverage will be primary insurance with respect to City, its officers, agents, volunteers and employees. Any insurance or self-insurance maintained by City for itself, its officers, agents, volunteers and employees, will be in excess of Consultant's insurance and not contributory with it.

12.7 Reduction in Coverage/Material Changes. Consultant will notify City in writing pursuant to the notice provisions of this Agreement thirty (30) days prior to any reduction in any of the insurance coverage required pursuant to this Agreement or any material changes to the respective insurance policies.

12.8 Waiver of Subrogation. The policies shall contain a waiver of subrogation for the benefit of City.

13. Business License. Consultant will obtain and maintain a City of Brentwood Business License for the term of the Agreement, as it may be amended from time-to-time.

14. Maintenance of Records. Consultant will maintain complete and accurate records with respect to costs incurred under this Agreement. All records will be clearly identifiable. Consultant will allow a representative of City during normal business hours to examine, audit, and make transcripts or copies of records and any other documents created pursuant to this Agreement. Consultant will allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

15. Ownership of Documents.

15.1 All product produced by Consultant or its agents, employees, and subcontractors pursuant to this Agreement (the "Work Product") is the property of City. In the event this Agreement is terminated, all Work Product produced by Consultant or its agents, employees and subcontractors pursuant to this Agreement will be delivered to City pursuant to the termination clause of this Agreement. Consultant will have the right to make one (1) copy of the Work Product for Consultant's records.

15.2 The Work Product may be used by City and its agents, employees, representatives, and assigns, in whole or in part, or in modified form, for all purposes City may deem advisable, without further employment of or payment of any compensation to Consultant; provided, however, that if this Agreement is terminated for any reason prior to completion of the Project and if under such circumstances City uses, or engages the services of and directs another consultant to use, the Work Product, City agrees to hold Consultant harmless from any and all liability, costs, and expenses relative to claims arising out of matters and/or events which occur subsequent to the termination of this Agreement as a result of causes other than the fault or negligence of Consultant, or anyone for whose acts it is responsible, in preparation of the Work Product. Consultant will not be responsible for deficiencies solely attributable to modifications of the Work Product performed by others, or that arise from use of the Documents in connection with a project or site other than that shown in the Work Product.

16. Copyrights. Consultant agrees that all copyrights that arise from the Services will be vested in City and Consultant relinquishes all claims to the copyrights in favor of City.

17. Confidentiality. All documents, reports, information, data, and exhibits prepared or assembled by Consultant in connection with the performance of the Services pursuant to the Agreement are confidential until released by the City to the public, and the Consultant will not make any of these documents or information available to any individual or organization not employed by the Consultant or the City without the written consent of the City before any such release.

18. Notices. Any notices relating to this Agreement shall be given in writing and shall be deemed sufficiently given and served for all purposes when delivered personally, by facsimile or by generally

recognized overnight courier service, or five (5) days after deposit in the United States mail, certified or registered, return receipt requested, with postage prepaid, addressed as follows:

For City:	For Consultant:
City of Brentwood 150 City Park Way Brentwood, CA 94513 Phone: (925) 516-6070 Attn: Casey Wichert Email: cwichert@brentwoodca.gov	Name: Water Works Engineers, LLC Title: Project Manager Address: 2260 Douglas Blvd., Suite 105 Roseville, CA 95661 Phone: (916) 238-1460 Attn: Joe Ziemann Email: joez@wwengineers.com

Either Party may change its address for purposes of this section by giving the other Party written notice of the new address in the manner set forth above.

19. Conflicts of Interest.

19.1 City will evaluate Consultant's duties pursuant to this Agreement to determine whether disclosure under the Political Reform Act and City's Conflict of Interest Code is required of Consultant or any of Consultant's employees, agents, or subcontractors. Should it be determined that disclosure is required, Consultant or Consultant's affected employees, agents, or subconsultants will complete and file with the City Clerk those schedules specified by City and contained in the Statement of Economic Interests Form 700.

19.2 Consultant understands that its professional responsibility is solely to City. Consultant warrants that it presently has no interest, present or contemplated, and will not acquire any direct or indirect interest that would conflict with its performance of this Agreement. Consultant further warrants that neither Consultant, nor Consultant's agents, employees, subcontractors and consultants have any ancillary real property, business interests or income that will be affected by this Agreement or, alternatively, that Consultant will file with the City an affidavit disclosing this interest. Consultant will not knowingly, and will take reasonable steps to ensure that it does not, employ a person having such an interest in the performance of this Agreement. If after employment of a person, Consultant discovers that it has employed a person with a direct or indirect interest that would conflict with its performance of this Agreement, Consultant will promptly disclose the relationship to the City and take such action as the City may direct to remedy the conflict.

20. General Compliance with Laws. Consultant will keep fully informed of federal, state and local laws and ordinances and regulations which in any manner affect those employed by Consultant, or in any way affect the performance of the Services by Consultant. Consultant will at all times observe and comply with these laws, ordinances, and regulations and will be responsible for the compliance of the Services with all applicable laws, ordinances and regulations.

21. Pandemic Health Laws**.** Consultant's duty to comply with Laws includes compliance by Consultant and Subcontractors with all local, state, or federal Laws that have been or may be enacted in response to the COVID-19 pandemic (collectively, "Health Laws"), which include all of the County of Contra Costa Health Orders. Failure to fully comply with the Health Laws constitutes a material default, subject to all available remedies including suspension or termination.

22. Discrimination and Harassment Prohibited. Consultant will comply with all applicable local, state and federal laws and regulations prohibiting discrimination and harassment.

23. Termination. In the event of the Consultant's failure to prosecute, deliver, or perform the Services, City may terminate this Agreement for nonperformance by notifying Consultant in writing pursuant to the notice provisions of this Agreement. Consultant has five (5) business days to deliver any documents owned by City and all work in progress to City address contained in this Agreement. City will make a determination

of fact based upon the work product delivered to City and of the percentage of work that Consultant has performed which is usable and of worth to City in having the Agreement completed. Based upon that finding City will determine the final payment of the Agreement. In the event City elects to terminate, City will have the right to immediate possession of all Work Product and work in progress prepared by Consultant, whether located at the project site, at Consultant's place of business, or at the offices of a subconsultant.

Either Party, upon tendering thirty (30) calendar days written notice to the other Party, may terminate this Agreement for convenience. In this event and upon request of City, Consultant will assemble the work product without charge and put it in order for proper filing and closing and deliver it to City. Consultant will be paid for work performed to the termination date; however, the total will not exceed the lump sum fee payable under this Agreement. City will make the final determination as to the portions of tasks completed and the compensation to be made.

24. Covenants Against Contingent Fees. Consultant warrants that Consultant has not employed or retained any company or person, other than a bona fide employee working for Consultant, to solicit or secure this Agreement, and that Consultant has not paid or agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration contingent upon, or resulting from, the award or making of this Agreement. For breach or violation of this warranty, City will have the right to terminate this Agreement for nonperformance, or, in its discretion, to deduct from the Agreement price or consideration, or otherwise recover, the full amount of the fee, commission, percentage, brokerage fees, gift, or contingent fee.

25. Claims And Lawsuits. By signing this Agreement, Consultant agrees that any Agreement claim submitted to City must be asserted as part of the Agreement process as set forth in this Agreement and not in anticipation of litigation or in conjunction with litigation. Consultant acknowledges that if a false claim is submitted to City by Consultant, it may be considered fraud and Consultant may be subject to criminal prosecution. Consultant acknowledges that California Government Code sections 12650 *et seq.*, the False Claims Act, applies to this Agreement and, provides for civil penalties where a person knowingly submits a false claim to a public entity.

26. Jurisdiction, Venue and Governing Law. Any action at law or in equity brought by either of the Parties for the purpose of enforcing a right or rights provided for by this Agreement will be tried in a court of competent jurisdiction in the County of Contra Costa, State of California, and the Parties waive all provisions of law providing for a change of venue in these proceedings to any other county. This Agreement will be governed by the laws of the State of California.

27. Testimony. Consultant will testify at City's request if litigation is brought against City in connection with Consultant's services under this Agreement. Unless the action is brought by Consultant, or is based upon Consultant's actual or alleged negligence or other wrongdoing, City, upon prior written agreement with Consultant will compensate Consultant for time spent in preparation for testimony, testimony, and travel at Consultant's standard hourly rates at the time of actual testimony.

28. Successors and Assigns. It is mutually understood and agreed that this Agreement will be binding upon the Parties and their respective successors. Neither this Agreement nor any part of it nor any monies due or to become due under it may be assigned by Consultant without the prior written consent of City, which will not be unreasonably withheld.

29. Section Headings. Section headings as used in this Agreement are for convenience only and will not be deemed to be a part of such sections and will not be construed to change the meaning of the section.

30. Waivers. The waiver by either Party of any breach or violation of any term, covenant, or condition of this Agreement or of any applicable law will not be deemed to be a waiver of such term, covenant, condition or law or of any subsequent breach or violation of same or of any other term, covenant, condition or law. The acceptance by either Party of any fee or other payment which may become due under this Agreement will not be deemed to be a waiver of any preceding breach or violation by the other Party of any term, covenant, or condition of this Agreement or any applicable law.

31. Entire Agreement and Order of Precedence. This Agreement, together with any other written document referred to or contemplated by it embody the entire Agreement and understanding between the Parties relating to the subject matter of it. The City Manager is authorized, in consultation with the City Attorney, to agree to non-material amendments to this Agreement. Neither this Agreement nor any of its provisions may be amended, modified, waived or discharged except in a writing signed by both Parties. Notwithstanding that the RFP and Proposal are incorporated into this Agreement as Exhibit B and Exhibit C, respectively, if any provision in the Proposal or the RFP differs from or is inconsistent with the terms of this Agreement, including Exhibit A, the terms of this Agreement, including Exhibit A, will take precedence over any such differing or inconsistent provision. Likewise, to the extent any terms in the Proposal differ from or are inconsistent with the terms of the RFP, the terms of the RFP will take precedence over any differing or inconsistent terms in the Proposal

32. Authority. The individuals executing this Agreement and the instruments referenced in it on behalf of Consultant each represent and warrant that they have the legal power, right and actual authority to bind Consultant to the terms and conditions of this Agreement.

33. Severability. If any term, provision, condition or covenant of this Agreement or its application to any Party or circumstances shall be held, to any extent, invalid or unenforceable, the remainder of this Agreement, or the application of the term, provision, condition or covenant to persons or circumstances other than those as to whom or which it is held invalid or unenforceable, shall not be affected, and shall be valid and enforceable to the fullest extent permitted by law.

34. Signatures.

34.1 Counterparts. This Agreement may be executed in two or more counterparts, each of which together will be deemed an original, but all of which together will constitute the same instrument.

34.2 Digital/Electronic Signatures. Using a City-approved method, this Agreement may be executed through the use of digital or electronic signatures in accordance with Government Code Section 16.5. The presence of an electronic signature on this Agreement will be construed as the Parties' consent to do business electronically.

CONSULTANT:

DocuSigned by:
By: Sami Kader
F43D1BDD498249F...
Sami Kader, Managing Member

CITY:

By: _____
Tim Y. Ogden, City Manager

ATTEST:

By: _____
Margaret Wimberly, City Clerk

APPROVED AS TO FORM:

By: _____
Damien Brower, City Attorney

If required by City, proper notarial acknowledgment of execution by Consultant must be attached. If a Corporation, Agreement must be signed by one corporate officer from each of the following two groups.

*Group A.
Chairman,
President, or
Vice-President

**Group B.
Secretary,
Assistant Secretary,
CFO or Assistant Treasurer

Otherwise, the corporation must attach a resolution certified by the secretary or assistant secretary under corporate seal empowering the officer(s) signing to bind the corporation.

If an LLC:

- The Agreement must be signed by a Managing Member or the LLC must attach a resolution empowering the signatory to bind the LLC.

AGREEMENT FOR CIVIL ENGINEERING SERVICES
Water Works Engineers, LLC

Biosolids Dryer Project, CIP No. 592-59140
EXHIBIT "A"

PART ONE - SCOPE OF SERVICES

1. General. Consultant must provide civil engineering design and related services for the Project, as more particularly described in the RFP and Proposal, including and subject to the following general requirements.

1.1 Preliminary Design Conference. Following the City's execution of this Agreement, or as otherwise specified in Exhibit A, Consultant must attend a preliminary design conference with the Project Manager. At the request of the Project Manager, the Consultant must submit written minutes of the preliminary design conference in order to demonstrate its understanding of the Project requirements.

1.2 City Approval. Consultant may not proceed with the development of successive Design Documents, as detailed below in Section 2, until it has received written approvals from the City. Consultant must promptly review and revise the following to the City's satisfaction, without additional compensation:

(A) Design Documents submitted for City approval and to which the City has objections; and

(B) Design Documents which have been determined by the City to present excessive cost or constructability problems.

1.3 Governmental Approval. Consultant must assist the City with obtaining the following required approvals from governmental agencies with jurisdiction over the Project: N/A.

1.4 Consultant will control the manner and the means of the services to be provided, and be responsible for the professional quality, technical accuracy and coordination of the Services. Consultant will, without additional compensation, correct or revise any errors or deficiencies in the Services.

1.5 Consultant will keep City informed on a regular basis that the Services are being performed in accordance with the requirement and intentions of this Agreement.

2 Basic Services. In addition to the tasks specified in the RFP and Proposal, Consultant's Basic Services include the following:

.2.1 Project Schedule. Following the City's execution of this Agreement, Consultant must prepare and submit for the City Engineer's review and approval a preliminary Project Schedule, based on the Proposed Project Schedule included in in Part Two, below, showing the timing and sequencing of the major design and construction phases required to complete the Project. The preliminary Project Schedule should include times for completion of all major phases of environmental procedures, if applicable; design; bidding; construction; final close out; or as otherwise specified by the Project Manager. The Project Schedule must be updated for the City Engineer's review and approval upon completion of each major phase included in the Project Schedule.

2.2 Cost Estimate. Following the City's execution of this Agreement, Consultant must prepare and submit for the City Engineer's review and approval a preliminary estimate of the cost to construct the Project. As the design process progresses, Consultant must submit updates to the preliminary cost estimate for the City's approval concurrent with its submission of the Schematic Design Documents, Design Development Documents, and Construction Documents, respectively. If at any time, an updated cost estimate exceeds the City's previously approved cost estimate, Consultant must provide the City with recommendations for constructing the Project within the City's budget.

2.3 Schematic Design Documents. Within the time specified in the approved Project Schedule, Consultant must prepare and submit for the City Engineer's review and approval Schematic Design Documents consisting of drawings, outline specifications, and other documents showing the Project's basic components, scale, and location on the Project site. The Schematic Design Documents must include, to the extent applicable, conceptual plans of the Project site and improvements; preliminary sections and elevations; approximate areas, volumes, and dimensions; and preliminary selections of materials and systems. The Schematic Design Documents and updated cost estimate may be submitted electronically to the Project Manager, unless the Project Manager specifically requests two printed sets and one reproducible set of the Schematic Design Documents.

2.4 Design Development Documents. Based on the approved Schematic Design Documents and within the time specified in the approved Project Schedule, Consultant must prepare for the City Engineer's review and approval the Design Development Documents. The Design Development Documents must further define the Project, including drawings and outline specifications fixing and describing the Project size, character and site relationships, and other appropriate elements describing the structural, engineering, mechanical and electrical systems, as applicable. The Design Development Documents must include, as applicable, plans, sections and elevations; criteria and sizing of major components; equipment sizes and capacities and approximate layouts, including required spaces and clearances; typical details; materials selections and general quality levels. When submitting the Design Development Documents for the City Engineer's approval, the Consultant must identify in writing all material changes and deviations, if any, that have taken place since approval of the Schematic Design Documents, including, but not limited to, changes to the last updated cost estimate and the approved Project Schedule. The Design Development Documents and updated cost estimate may be submitted electronically to the Project Manager, unless the Project Manager specifically requests two printed sets and one reproducible set of the Design Development Documents.

2.5 Construction Documents. Based on the approved Design Development Documents and within the time specified in the approved Project Schedule, Consultant must prepare for the City Engineer's review and approval, and required governmental agency approval(s), if applicable, Construction Documents setting forth in detail the quality levels of and the requirements for construction of the Project, and consisting of drawings and technical specifications that comply with all applicable codes, laws, ordinances and regulations in effect at the time of their preparation at the location of the Project, and as further specified in the RFP. The Construction Documents must be submitted to the City Engineer in electronic form, ready to be added to the front end documents, which will be prepared by the City using the City's approved front end documents. When submitting the Construction Documents for the City Engineer's approval, the Consultant must identify in writing all material changes and deviations, if any, that have taken place since approval of the Design Development Documents including, but not limited to, changes to the last updated cost estimate and the approved Project Schedule. The Construction Documents and updated cost estimate may be submitted electronically to the Project Manager, unless the Project Manager specifically requests two printed sets and one reproducible set of the Construction Documents.

2.6 Bidding Phase Services. Consultant must assist the City during the bidding phase, including, if applicable, prequalification of bidders; conducting pre-bid meetings or site walks; issuance of addenda; bid review; and review of bid protests. If the lowest responsive bid exceeds the final approved construction cost estimate by twenty-five percent or more, and the City, acting in its sole discretion decides to reject all bids and re-bid the Project, Consultant must, at no additional cost to the City, work with the City to make the modifications to the Construction Documents to reduce the cost of construction so as not to exceed the previously approved construction cost estimate by more than the stated additional percentage.

2.7 Construction Phase Services. During the Construction Phase the Consultant must provide the following services to the City, as more particularly specified in Exhibit A:

(A) General administration of the Construction Contract including: review and advise the Project Manager as to the accuracy and reasonableness of Contractor's schedule of values; coordinate the Project Schedule with the Contractor's Work schedule; provide prompt and complete responses to

Contractor's requests for information; and coordinate efforts with the Project Manager to ensure the Project is completed in a timely, cost-effective manner, consistent with the City's requirements.

(B) Ongoing design services as needed, including: interpretations and clarifications of the Construction Documents provided by the Consultant; and preparation of design details for Change Orders, as needed for the proper execution and progress of the Work and consistent with the intent of the approved Construction Documents.

(C) Consultant must timely review Contractor's design-related submittals, including shop drawings, product data and samples, and issue written approvals of and/or recommendations to the City within ten days of receipt of each such submittal, unless additional time is required based on the nature of the submittal, in which case the review must be completed as soon as practicable under the circumstances. Consultant must check the submittals for compliance with the approved Construction Documents. Consultant's review must not extend to the Contractor's means, methods, techniques, sequences, or procedures, unless such have previously been specified in the Construction Documents.

(D) Consultant must assist the Project Manager in evaluating whether to recommend approval of requests for changes in the Work, and, if applicable, must assist with preparing proposed Change Orders.

(E) Consultant must visit the Project site at intervals sufficient to monitor the progress and quality of the Work and to determine whether the Work is proceeding in conformance with the Construction Documents. Following each Project site visit, Consultant must promptly provide the Project Manager with a written report of Consultant's observations and recommendations, if any. If Consultant becomes aware of any defects or deficiencies in the Work, Consultant must provide prompt notice to the Project Manager, followed by written confirmation of that notice. If, in Consultant's opinion, special testing or inspection of the Work is needed, Consultant must recommend appropriate procedures and consultants to the City. Consultant is not responsible for Contractor's safety precautions and programs. However, if Consultant has knowledge of safety violations, Consultant must give prompt notice to the City of such violations.

(F) Consultant must assist the City in evaluating the Contractor's payment applications in accordance with the Construction Documents. Based on on-site observations and review of other relevant information, Consultant must evaluate whether the Work has progressed to the point indicated in the payment application. Consultant's review must include review of the status of the Contractor's record drawings.

(G) Consultant must attend meetings with the Project Manager and Contractor(s) prior to and during construction as requested.

(H) Consultant must prepare and submit reports on the progress or status of the Work to the Project Manager as requested.

(I) Consultant must conduct inspections reasonably necessary to determine whether Contractor has achieved final completion of the Work in accordance with the Construction Contract, and must prepare a list of items to be completed or corrected (the "punch list"), including estimates of the cost for the City to correct or complete each punch list item, as well as required final submittals (e.g., warranties, manuals, as-built drawings, etc.) in order to achieve final completion.

2.8 Close Out and Post-Construction Services

(A) Consultant must promptly perform all tasks reasonably necessary for Project close out. If requested, Consultant must provide the City with a color schedule of all finished materials incorporated into the Project.

(B) If requested by the City, Consultant must make visits to the Project site during the warranty period to advise the City on the need for warranty work.

(C) All Project plans, including, but not limited to, record drawings, specifications, and estimates prepared pursuant thereto, must be and remain the property of the City for the purposes of repair, maintenance, renovation, modernization, or other purposes, only as they relate to the Project. The City reserves the right to use the Construction Documents, record drawings, or estimates related to the Project for the purposes of additions, alignments, or other development on or near the site or elsewhere in the City. Nothing in this provision is intended to transfer or waive Consultant's copyrights over these documents, including, but not limited to, all common law, statutory, and other reserved rights, unless transferred or waived in writing by Consultant. Notwithstanding the foregoing, if the City proposes to reuse the Construction Documents, in whole or in part, the City and Consultant will specify the terms and conditions for the reuse in this Agreement by an amendment or addendum.

3. Additional Services. If not expressly included in Basic Services, as specified above or in RFP or the Scope of Services in Exhibit A, the following services must be provided by Consultant and will be paid for as Additional Services, subject to prior written authorization by the City:

3.1 Investigation of financing or other special studies to determine the financial feasibility of the Project.

3.2 Consultations, negotiation, and the like for procurement of Project financing.

3.3 Investigation of or measured drawings of existing conditions or improvements or verification of the accuracy of the City-provided drawings or other information on existing conditions.

3.4 Surveys, site evaluations, or legal descriptions.

3.5 Soils, subsurface and environmental studies, reports and investigations required by outside agencies with jurisdiction over the Project.

3.6 Revisions to the City-approved Construction Documents which are required due to circumstances outside of Consultant's control.

3.7 Design, coordination, management, expediting and other services for the procurement of materials to be obtained or work to be performed by the City, including, but not limited to technology or other specialty systems which are not otherwise required by this Agreement.

3.8 Estimates, appraisals, consultations, and related services required for the repair or replacement of an insured loss.

3.9 Preparing for or providing expert witness services or participation in out-of-court dispute resolution in connection with any Project-related dispute or adversarial proceeding to which the Consultant is not a party, or potential party.

3.10 Out of town travel in connection with the Services, other than travel between Consultant's office, the City's offices, and the Project site.

3.11 The City-requested services which are not included in Basic Services and are not customarily provided as part of generally accepted civil engineering design services for this type of project and the region in which the Project is located.

3.12 Extended services required by non-performance, suspension, termination, or default of the Contractor in the performance of the Work, through no fault of Consultant.

3.13 Preparation of special models, renderings or mock-ups, which are not included in Basic Services.

3.14 Other services as agreed to by the Parties as set forth in written amendment or addendum to this Agreement.

4. References. Consultant's Services, including preparation of the Design Documents, should be informed and guided by the information or requirements included in the following document(s):

- BioforceTech Basis of Design Document

AGREEMENT FOR CIVIL ENGINEERING SERVICES
EXHIBIT “B”

REQUEST FOR PROPOSALS

City of Brentwood
Biosolids Dryer Project, CIP No. 592-59140

Exhibit "B"

September 14, 2023

To: All Interested Qualified Engineering Design Firms

Subject: Request for Proposals for Engineering Design Services
Biosolids Dryer, CIP Project No. 592-59140

The City of Brentwood invites qualified firms to submit proposals for engineering design services for the project listed above.

The Biosolids Dryer Project ("Project") includes design services and technical services ("Services"). The Project involves surveying, grading, paving, extending the necessary utilities (electrical, gas, water, etc.) and connecting to the proposed Biosolids Dryer. The Services required for the Project include design services to develop and prepare plans, specifications, cost estimates and all necessary contract documents for the Project.

To be considered, please email your proposal in pdf format to engineering@brentwoodca.gov **no later than 4:00 p.m. on October 10, 2023.**

Questions should be e-mailed to engineering@brentwoodca.gov to the attention of Aman Grewal no later than 4:00 p.m. on October 3, 2023. Answers to questions will be shared with all firms that have obtained the RFP document. To ensure receipt of notifications regarding this proposal, and to have the proposal considered valid, **this document must be obtained directly from the City.**

This solicitation does not commit the City to pay any costs incurred in the preparation and presentation of submittals or to select any consultant who responds. This solicitation covers only the work described herein and does not commit the City to any work beyond that described.

Sincerely,

Aman Grewal
Associate Engineer

Attachments:
Request for Proposals
Exhibit A – Sample Agreement
Exhibit B – Scope of Services
Exhibit C – Bioforcetech Basis of Design Document

ENGINEERING DEPARTMENT
150 City Park Way • Brentwood, California 94513
Phone: 925-516-5420 • Fax: 925-516-5421
email: engineering@brentwoodca.gov

Exhibit "B"

REQUEST FOR PROPOSALS
for Biosolids Dryer Project

THE CITY OF BRENTWOOD
HERITAGE ▪ VISION ▪ OPPORTUNITY

Date of Issuance:	September 14, 2023
Request for Information Deadline:	October 3, 2023 at 4:00 p.m.
Proposal Deadline	October 10, 2023 at 4:00 p.m.

CITY OF BRENTWOOD
REQUEST FOR PROPOSALS

The City of Brentwood ("**City**") requests proposals ("**Proposals**") from qualified individuals or firms (individually, a "**Respondent**" and collectively, "**Respondents**") for engineering design services for its Biosolids Dryer Project, CIP Project No. 592-59140 ("**Project**").

1. ABOUT THE CITY

The City is a general law city located in east Contra Costa County, with an estimated population of 65,300. Additional information about the City is available online at: https://www.brentwoodca.gov.

2. THE PROJECT

A. Summary. The City requires design services and technical services ("**Services**") for its Project. The Project involves surveying, grading, paving, extending the necessary utilities (electrical, gas, water, etc.) and connecting to the proposed Biosolids Dryer. The Services required for the Project include design services to develop and prepare plans, specifications, cost estimates and all necessary contract documents for the Project.

B. Form of Agreement. A copy of the City's standard Agreement for Civil Engineering Services ("**Agreement**"), is attached and incorporated as **Exhibit A**. By submitting a Proposal, the Respondent agrees to enter into the Agreement using the attached form with no exceptions to the form of the Agreement.

C. Scope of Services. The required Scope of Services is attached and incorporated as **Exhibit B**. By submitting a Proposal, the Respondent represents that it is fully qualified and available to provide the Services set forth in the Scope of Services at the price set forth in its Proposal, and that it agrees to provide those Services if it is awarded the Agreement, which will attach and incorporate the Scope of Services.

3. REQUEST FOR PROPOSAL PROCEDURES

A. Requests for Information. Questions or objections relating to the Request for Proposal ("**RFP**"), the RFP attachments, the RFP procedures, the Project, or the required Services may only be submitted via email to Aman Grewal, Associate Engineer, at engineering@brentwoodca.gov by 4:00 p.m., October 3, 2023 (the "**Request for Information Deadline**"). Any questions or objections that are not submitted in the manner specified and by the Request for Information Deadline will be deemed waived. City will not be bound by the oral representations of any City officials, employees, or representatives.

B. Submittal Instructions. Proposals must be ***received*** by the City by or before October 10, 2023, at 4:00 p.m. Pacific Daylight Time ("**Proposal Deadline**"). Respondent must submit one copy of the Proposal in electronic format (pdf) via email to Aman Grewal, Associate Engineer, at engineering@brentwoodca.gov with the subject line stating:

"Proposal for Engineering Design Services for Biosolids Dryer, CIP Project No. 592-59140" by the Proposal Deadline. Late submissions will be disregarded.

C. Planned RFP Schedule. The following schedule is provided for planning purposes based on current information. However, all dates are subject to revision, including the Proposal Deadline, and may be amended by addenda to this RFP:

ACTIVITY	PLANNED DATES/TIME
RFP Issued	September 14, 2023
Request for Information Deadline	October 3, 2023, at 4:00 p.m.
Proposal Deadline	October 10, 2023, at 4:00 p.m.
Interviews (if requested by City)	October 12, 2023
Notice of Selection	October 16, 2023
Council or awarding officer Consideration of Award	November 14, 2023

D. Addenda. City reserves the right to issue addenda to modify the terms and conditions of this RFP, including modifications to the Proposal Deadline or to the Exhibits to this RFP. Addenda will be posted on the City's website at https://www.brentwoodca.gov/government/projects-bids-rfps. Each Respondent is solely responsible for checking the City's website for addenda, and for reviewing any and all addenda before submitting its Proposal.

4. PROPOSAL REQUIREMENTS

Each Proposal must be submitted in compliance with the requirements of this RFP. Each Proposal must respond to the items listed below. *Clarity and brevity are preferable to volume*. Unless requested, do not attach brochures or promotional materials to the Proposal. By submitting a Proposal, the Respondent agrees that the lump sum price and proposed approach to providing the Services, including staffing, constitute a firm offer to enter into the Agreement with the City, and that the offer will remain open for 60 days following the Proposal Deadline.

A. Cover Letter. Provide a brief cover letter that includes all of the following information:

(1) Respondent's name, address, phone number, and website address;
(2) Type of organization (e.g. corporation, partnership, sole proprietorship; and State of formation);
(3) A summary of general information about Respondent and the types of services it provides in relation to the Services required by the City; and
(4) Contact information, including name, title, address, phone number, and email, of Respondent's primary representative for purposes of this RFP.

The cover letter must be signed by a representative that is authorized to bind Respondent by contract and must state his or her name, title, and email address.

B. General Qualifications. Provide a brief description of the Respondent's business, including the number of years in business under the current name. Describe the size of the business, including total number of employees and offices, and identify and briefly

describe each local office that will be involved in providing the Services if awarded the Agreement. Describe how and why Respondent is qualified to provide the Services.

C. Experience. Identify services Respondent has provided in the last five years for projects that are similar in scope and nature to the Project described in this RFP, particularly with respect to services provided to other cities or public agencies. For each example, provide: (1) a brief description of the services provided; (2) an explanation of why this experience is relevant to the required Services; and (3) the name and address of the contracting agency, including contact information for a reference check (name, title, phone number, and email address).

D. Staffing. Identify by name and title Respondent's key personnel that will be assigned to provide the Services and for each, include a resume with his or her education, training, and experience. Identify by name, address, and website, each subconsultant or subcontractor, if any, that will be involved with providing the Services, including the proposed role for each such subconsultant or subcontractor. Include all applicable license numbers for any license required to perform the Services.

E. Price. Provide a lump sum price for the Services that is fully inclusive of all costs to provide the Services, including hourly billing rates, all labor, materials, equipment, supplies, the insurance required under the terms of the Agreement, travel fees, and any additional cost(s) the City would incur if Respondent is awarded the Agreement. Attach a copy of billing rates that would apply to any authorized additional Services.

F. Proposed Approach. Briefly describe Respondent's proposed approach to providing the Services and how that approach will offer value to the City. Identify any proposed innovations that may be used to achieve more cost-effective delivery of the Services and/or cost savings for the Project as a whole.

5. EVALUATION

The factors that the City will consider in evaluating Proposals are as follows:

• General qualifications	1-15 points
• Relevant experience	1-15 points
• Proposed staffing	1-15 points
• Pricing	1-15 points
• Proposed approach	1-10 points
• Responsiveness	1-10 points
• References	1-10 points
• Interview (if requested)	1-10 points

6. SELECTION AND AWARD

A. Review. Proposals will be reviewed for responsiveness and evaluated and ranked based on the factors listed in Section 5 above. When the evaluation is complete, the Proposals will be ranked based on total scores to identify the Proposal that provides the best value to the City. Acting in its sole discretion, the City may elect to conduct interviews

with shortlisted Respondents. Interviews are not public meetings as defined by California open meeting laws (the Brown Act).

B. Award. The City staff will recommend award of the Agreement, if at all, to the Respondent that is determined by the staff to offer the best value to the City based on the City's review, as outlined above. City staff will submit its recommendation to the City Council or the awarding officer, as applicable, for award of the Agreement to the Respondent that it determines to offer the best value. The Respondents will be notified of staff's intended recommendation by a Notice of Selection which will be posted on the City's website at https://www.brentwoodca.gov/government/projects-bids-rfps, and which may also be emailed to each Respondent that submits a Proposal. The City Council or awarding officer will award the Agreement, if at all, to the Respondent that is determined by the City Council, acting in its sole discretion, to offer the best value to the City.

C. Protest Procedures. Any protest challenging the City's intended selection or the selection process must be submitted no later than 5:00 p.m., on the fifth business day following the date of the Notice of Selection. The protest must be submitted in writing via email to Aman Grewal, Associate Engineer, at engineering@brentwoodca.gov, and must clearly specify the basis for the protest. The protest will be reviewed by the department director in consultation with the City Attorney's Office, and the reviewing individual's determination on the protest is final. No public hearing will be held on the protest. Time being of the essence, the City reserves the right to proceed with award of the Agreement and commencement of the Services notwithstanding any pending protest or legal challenge.

7. MISCELLANEOUS

A. Disclaimers and Reservation of Rights. Upon receipt, each Proposal becomes the sole property of City and will not be returned to the Respondent. Each Respondent is solely responsible for the costs it incurs to prepare and submit its Proposal. The City reserves, in its sole discretion, the right to reject any and all Proposals, including the right to cancel or postpone the RFP or the Services at any time, or to decline to award the Agreement to any of the Respondents. The City reserves the right to waive any immaterial irregularities in a Proposal or submission of a Proposal. The City reserves the right to reject any Proposal that is determined to contain false or misleading information, or material omissions.

B. Conflict of Interest. Respondents must disclose to the City any actual, apparent, direct or indirect, or potential conflicts of interest that may exist with respect to Respondent, any employees of Respondent, or any other person relative to the Services to be provided pursuant to this RFP. This RFP process will be conducted in compliance with all laws regarding political contributions, conflicts of interest, or unlawful activities. In accordance with Government Code Section 1090, Respondents who have participated in preliminary discussions, negotiations, reasoning, planning, and/or drawing of plans and specifications for previous agreements related to the same scope of work, will be excluded from consideration for the award of the Agreement. City employees are prohibited from participating in the selection process for this RFP if they have any financial or business relationship with any Respondent.

C. Public Records. The City is subject to the provisions of the California Public Records Act (Govt. Code § 6250 et seq.) (the "Act"), and each Proposal submitted to the City is subject to disclosure as a public record, unless the Proposal or any portion thereof is exempt under the Act. If a Respondent believes that any portion of its Proposal is exempt from disclosure under the Act, it must clearly identify the portion(s) it believes to be exempt and identify the basis for the exemption. Each Respondent bears the burden of proving any claimed exemption under the Act, and by submitting a Proposal, a Respondent agrees to indemnify, defend, and hold harmless the City against any third party claim seeking disclosure of the Proposal or any portions thereof.

Attachments:

Exhibit A – Form of Agreement
Exhibit B – Scope of Services
Exhibit C – Bioforcetech Basis of Design Document

Exhibit A – Form of Agreement

AGREEMENT FOR CIVIL ENGINEERING SERVICES
[Insert Name of Consultant]

THIS AGREEMENT FOR CIVIL ENGINEERING SERVICES ("Agreement") is made and entered into as of the ____ day of _____, 2023 by and between the City of Brentwood, a municipal corporation of the State of California ("City"), and _____, a _____ ("Consultant") (each a "Party" and collectively, the "Parties").

RECITALS

A. City does not have available personnel specifically trained and experienced to perform the civil engineering services required and requires the professional services of an individual or business entity with the necessary license, qualifications and experience to provide civil engineering services for the City's Biosolids Dryer Project, CIP Project No. 592-59140 (the "Project").

B. Consultant has the necessary license, professional skills and experience necessary to perform the civil engineering services described in this Agreement, and as further described in Exhibit A to this Agreement ("Exhibit A"), and in the City's Request for Proposals for Civil Engineering Services for the Project, dated <RFP Date> ("RFP"), attached as Exhibit B, both of which exhibits are incorporated herein.

C. City desires to engage Consultant to provide these civil engineering services by reason of its qualifications and experience in performing such services.

D. Consultant has submitted a proposal to City, dated <Month and Day>, 2023 ("Proposal"), attached as Exhibit C and incorporated herein, in response to the City's RFP, and has affirmed its willingness and ability to provide such civil engineering services on the terms and manner set forth in this Agreement.

NOW, THEREFORE, in consideration of these recitals and the mutual covenants contained herein, the Parties agree as follows:

1. Definitions. The following definitions apply to the body of this Agreement and Exhibit A unless otherwise indicated. Defined terms are capitalized in the Agreement with the exception of the words "day" and "including."

1.1 Additional Services means civil engineering services in addition to the Basic Services, which are provided pursuant to the City's written request or prior written authorization.

1.2 Basic Services means those civil engineering services necessary for design and construction of the Project, as specified in Exhibit A and in the RFP and Proposal.

1.3 Change Order means a written document approved and signed by the City after execution of the Construction Contract, which changes the scope of Work, the Construction Contract Price, or the Construction Contract Time.

1.4 City Engineer means the current or acting City Engineer and Director of Public Works for the City of Brentwood or his or her authorized delegee.

1.5 Construction Contract means the signed agreement between the City and Contractor, which includes and incorporates the Construction Documents.

1.6 Construction Contract Price means the total compensation to be paid to the Contractor for performance of the Work, as set forth in the Construction Contract.

1.7 Construction Contract Time means the time within which the Contractor is required to perform the Work, as set forth in the Construction Contract and as may be amended by Change Order.

1.8 Construction Documents means all of the documents that are prepared following approval of the Design Development Documents for bidding and construction of the Project, as further detailed in Exhibit A.

1.9 Contractor means the individual, partnership, corporation, or other entity which has signed the Construction Contract with the City to perform the Work. "Contractor" includes the Contractor's subcontractors, unless the context indicates otherwise.

1.10 Day means a calendar day unless otherwise specified.

1.11 Design Development Documents means detailed documents which are prepared following approval of the Schematic Design Documents, as further detailed in Exhibit A.

1.12 Design Documents means, collectively, the plans, drawings and specifications prepared or provided by the Consultant for the Project at all design stages, including Schematic Design Documents, Design Development Documents and Construction Documents.

1.13 Including, whether or not capitalized, means "including; but not limited to" unless the context requires otherwise.

1.14 Project Manager means the City employee or representative with primary responsibility for overseeing design and construction of the Project and who will be Consultant's sole point of contact for the City unless otherwise stated. The Project Manager for this Project is Casey Wichert.

1.15 Project Schedule means the detailed schedule developed by the Consultant, and subject to the City's approval, for design and construction of the Project, based on the Proposed Project Schedule provided in Exhibit A.

1.16 Proposed Project Schedule means the proposed Project schedule provided by the City in Exhibit A to this Agreement.

1.17 Rate Schedule means the schedule listing the hourly rates for Consultant's staff and rates for costs associated with providing the Services. The Rate Schedule is included in the Proposal.

1.18 Schematic Design Documents means preliminary drawings and related documents showing the Project's basic components, scale and location, as further detailed in Exhibit A.

1.19 Services means all civil engineering and related services required under this Agreement, including all Basic Services and any authorized Additional Services.

1.20 Work means the Contractor's construction and services necessary or incidental to constructing the Project in conformance with the requirements of the Construction Documents.

2. Scope of Services. Consultant, acting in its capacity as a civil engineer licensed under California law, will provide the Basic Services necessary to design and construct the Project in accordance with the City's requirements, as set forth in Part One – Scope of Services in Exhibit A, and will provide those Additional Services, if any, as requested and authorized in writing by the City.

3. Personnel and Subconsultants. Consultant will be responsible for employing or engaging all persons necessary to perform the Services. Consultant will control the manner and means of the services to be performed by its employees and subconsultants. All of Consultant's staff will be qualified by training and experience to perform their assigned tasks. Consultant will give its personal attention to the fulfillment of the provisions of this Agreement by all of its employees and consultant, if any, and will keep the Services under its control. On demand of City, if any employee or Consultant fails or refuses to carry out the

provisions of this Agreement or appears to be incompetent or to act in a disorderly or improper manner, he or she will be discharged immediately from the Services.

3.1 Consultant's Key Personnel. The Consultant's key personnel assigned to this Project, as specified in Consultant's Proposal, may not be changed without the prior written approval of the City. Consultant must promptly notify the City in writing of any changes or proposed changes to the key personnel identified in the Proposal (or subsequently approved by the City), and of any changes to the contact information (telephone and email) for any key personnel.

3.2 Consultant's Principal Representative. Consultant's principal representative assigned to this Project is <Name and Title>, who will have full authority from Consultant to receive and act on instructions from the City.

3.3 Subconsultants. Consultant may not engage the services of any subconsultant for this Project, including, but not limited to, firms or individuals providing specialized architectural or engineering services, without obtaining the City's prior written approval. The City's approval must not be deemed to create any contractual relationship between the City and any such subconsultant, except that the City must be considered a third party beneficiary of such services for the Project. Consultant must bind its subconsultants in the same manner as Consultant is bound to the City under this Agreement, including, but not limited to, the insurance and indemnity requirements.

3.4 Warranty of Qualifications. Consultant warrants and represents that Consultant, its personnel, and its subconsultants are each duly qualified, licensed, and authorized by law to perform the civil engineering and related services required under this Agreement.

4. Standard of Performance. Consultant acknowledges that in entering into this Agreement the City is relying on Consultant's special civil engineering skills and experience to do and perform the Services. The Services provided by Consultant pursuant to this Agreement must, at all times, meet or exceed the standard of care applicable to experienced, licensed civil engineers performing similar work in the area in which the Project is located. Similarly, the Services provided by any subconsultant must meet or exceed the standard of care applicable to others practicing in the subconsultant's field and performing similar work in the area in which the Project is located. The acceptance of the Services by City does not release Consultant from these obligations.

5. Term. Unless earlier terminated, the term of this Agreement will commence upon the date first above written and will expire upon completion of the Services by Consultant.

6. Schedule.

6.1 Time is of the essence for providing the Services. Consultant will generally adhere to the approved Project Schedule provided, that City will grant reasonable extensions of time for the performance of the Services occasioned by unusually lengthy governmental reviews of Consultant's work product or other unavoidable delays occasioned by unforeseen circumstances; provided, further, that such unavoidable delay will not include strikes, lockouts, work stoppages, or other labor disturbances conducted by, or on behalf of, Consultant's officers or employees.

6.2 Consultant acknowledges the importance to City of City's Project Schedule and agrees to put forth its best professional efforts to perform the Services in a manner consistent with that schedule. City understands, however, that Consultant's performance must be governed by sound practices. Consultant will work such overtime or engage such personnel and equipment as necessary to maintain the schedule, without additional compensation.

7. Compensation.

7.1 The total fee payable for the Basic Services to be performed during the term of this Agreement will be based on the Rate Schedule, for a not to exceed amount of <Amount in Words> dollars

($<Amount in Numerals>), including authorized expense reimbursements, or as otherwise specified in Exhibit A. Any authorized Additional Services will be paid for based on the Rate Schedule. No other compensation for the Services will be allowed except for items covered by subsequent amendments to this Agreement. The City reserves the right to withhold a ten percent (10%) retention until City has accepted the Services.

7.2 Payment will occur only after receipt by City of invoices sufficiently detailed to include hours performed, hourly rates, and related activities and costs for approval by City.

7.3 Within thirty (30) days after receipt of any applicable progress payment request, City will verify the accuracy of the request, correct the charges where appropriate, and make payment to Consultant in an amount equal to the amount of such application, as verified or corrected by City. No payment made prior to completion and acceptance of the Services will constitute acceptance of any part of the Services. City reserves the right to withhold payment from Consultant on account of Services not performed satisfactorily, delays in Consultant's performance of Services, or other defaults hereunder.

8. Status of Consultant.

8.1 Consultant will perform the Services in Consultant's own way, by controlling the manner and means of the work City needs completed, and pursuant to this Agreement as an independent contractor and in pursuit of Consultant's independent calling, and not as an employee of City. The persons used by Consultant to provide the Services under this Agreement will not be considered employees of City for any purposes whatsoever.

8.2 The payment made to Consultant pursuant to the Agreement will be the full and complete compensation to which Consultant is entitled. City will not make any federal or state tax withholdings on behalf of Consultant or its agents, employees or subconsultants. City will not pay any workers' compensation insurance, retirement contributions or unemployment contributions on behalf of Consultant or its employees or subconsultants. Consultant agrees to indemnify and pay City within thirty (30) days for any tax, retirement contribution, social security, overtime payment, unemployment payment or workers' compensation payment, including, but not limited to, those based on any provision of the Federal Affordable Care Act, which City may be required to make on behalf of Consultant or any agent, employee, or subconsultant of Consultant for work done under this Agreement. At the City's election, City may deduct the amounts paid pursuant to this Section, from any balance owing to Consultant.

9. Subcontracting. Consultant's services are being requested by City because they are unique and personal. Except as may be specified in Exhibit A, Consultant will not subcontract any portion of the Services without prior written approval of City Manager or his/her designee. If Consultant subcontracts any of the Services, Consultant will be fully responsible to City for the acts, errors and omissions of Consultant's subconsultant and of the persons either directly or indirectly employed by the subconsultant, as Consultant is for the acts and omissions of persons directly employed by Consultant. Nothing contained in this Agreement will create any contractual relationship between any subconsultant of Consultant and City. Consultant will be responsible for payment of subconsultants. Consultant will bind every subconsultant and every subconsultant of a subconsultant by the terms of this Agreement applicable to Consultant's work unless specifically noted to the contrary in the subcontract and approved in writing by City.

10. Other Consultants. The City reserves the right to employ other consultants in connection with the Project or the Services.

11. Indemnification. Consultant agrees to indemnify, including the cost to defend, City, its officers, agents, volunteers and employees from any and all claims, demands, costs or liability (collectively, "Liability") that arise out of, or pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant and its agents in the performance of Services under this Agreement, but this indemnity does not apply to Liability caused by the active negligence, sole negligence or willful misconduct of City. This indemnification obligation is not limited by any limitation on the amount or type of damages available under

any applicable insurance coverage and will survive the expiration or termination of this Agreement with respect to any Liability arising from or caused during the term of the Agreement.

12. Insurance. Consultant will obtain and maintain, at its cost and expense, for the duration of the Agreement and any and all amendments, insurance against claims for injuries to persons or damage to property which may arise out of or in connection with performance of the Services by Consultant or Consultant's agents, representatives, employees or subconsultants. The insurance will be obtained from an insurance carrier admitted and authorized to do business in the State of California. The insurance carrier is required to have a current Best's Key Rating of not less than "A:VII."

12.1 Coverages and Limits. Consultant will maintain the types of coverages and minimum limits indicated below, unless Risk Manager or City Manager, in consultation with the City Attorney approves a lower amount. These minimum amounts of coverage will not constitute any limitations or cap on Consultant's indemnification obligations under this Agreement. City, its officers, agents, volunteers and employees make no representation that the limits of the insurance specified to be carried by Consultant pursuant to this Agreement are adequate to protect Consultant. The coverage will contain no special limitations on the scope of its protection to the above-designated insureds except for Workers Compensation and errors and omissions insurance. Consultant will obtain occurrence coverage, excluding Professional Liability, which will be written as claims-made coverage. If Consultant believes that any required insurance coverage is inadequate, Consultant will obtain such additional insurance coverage, as Consultant deems adequate, at Consultant's sole expense.

12.1.1 Commercial General Liability Insurance. $2,000,000 combined single-limit per occurrence for bodily injury, personal injury and property damage. If the submitted policies contain aggregate limits, general aggregate limits will apply separately to the work under this Agreement or the general aggregate will be twice the required per occurrence limit.

12.1.2 Automobile Liability. $1,000,000 combined single-limit per accident for bodily injury and property damage.

12.1.3 Workers' Compensation and Employer's Liability. Workers' Compensation limits as required by the California Labor Code and Employer's Liability limits of $1,000,000 per accident for bodily injury. Workers' Compensation and Employer's Liability insurance will not be required if Consultant has no employees and provides, to City's satisfaction, a declaration stating this.

12.1.4 Professional Liability. Errors and omissions liability appropriate to Consultant's profession with limits of not less than $1,000,000 per claim. The professional liability insurance must include prior acts coverage.

12.2 Endorsements. For Commercial General Liability Insurance, Consultant will ensure that the policies are endorsed to name the City, its officers, agents, volunteers and employees as additional insureds. Prior to City's execution of this Agreement, Consultant will furnish certificates of insurance and endorsements to City.

12.3 Cancellation. Insurance will be in force during the life of the Agreement and any extensions of it and will not be canceled without thirty (30) days prior written notice to City sent pursuant to the notice provisions of this Agreement.

12.4 Failure to Maintain Coverage. If Consultant fails to maintain any of these insurance coverages, then City will have the option to declare Consultant in breach of this Agreement, or may purchase replacement insurance or pay the premiums that are due on existing policies in order to maintain the required coverages. Consultant is responsible for any payments made by City to obtain or maintain insurance and City may collect these payments from Consultant or deduct the amount paid from any sums due Consultant under this Agreement.

12.5 Submission of Insurance Policies. City reserves the right to require, at any time, complete and certified copies of any or all required insurance policies and endorsements.

12.6 Primary Coverage. For any claims related to the Services and this Agreement, the Consultant's insurance coverage will be primary insurance with respect to City, its officers, agents, volunteers and employees. Any insurance or self-insurance maintained by City for itself, its officers, agents, volunteers and employees, will be in excess of Consultant's insurance and not contributory with it.

12.7 Reduction in Coverage/Material Changes. Consultant will notify City in writing pursuant to the notice provisions of this Agreement thirty (30) days prior to any reduction in any of the insurance coverage required pursuant to this Agreement or any material changes to the respective insurance policies.

12.8 Waiver of Subrogation. The policies shall contain a waiver of subrogation for the benefit of City.

13. Business License. Consultant will obtain and maintain a City of Brentwood Business License for the term of the Agreement, as it may be amended from time-to-time.

14. Maintenance of Records. Consultant will maintain complete and accurate records with respect to costs incurred under this Agreement. All records will be clearly identifiable. Consultant will allow a representative of City during normal business hours to examine, audit, and make transcripts or copies of records and any other documents created pursuant to this Agreement. Consultant will allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

15. Ownership of Documents.

15.1 All product produced by Consultant or its agents, employees, and subcontractors pursuant to this Agreement (the "Work Product") is the property of City. In the event this Agreement is terminated, all Work Product produced by Consultant or its agents, employees and subcontractors pursuant to this Agreement will be delivered to City pursuant to the termination clause of this Agreement. Consultant will have the right to make one (1) copy of the Work Product for Consultant's records.

15.2 The Work Product may be used by City and its agents, employees, representatives, and assigns, in whole or in part, or in modified form, for all purposes City may deem advisable, without further employment of or payment of any compensation to Consultant; provided, however, that if this Agreement is terminated for any reason prior to completion of the Project and if under such circumstances City uses, or engages the services of and directs another consultant to use, the Work Product, City agrees to hold Consultant harmless from any and all liability, costs, and expenses relative to claims arising out of matters and/or events which occur subsequent to the termination of this Agreement as a result of causes other than the fault or negligence of Consultant, or anyone for whose acts it is responsible, in preparation of the Work Product. Consultant will not be responsible for deficiencies solely attributable to modifications of the Work Product performed by others, or that arise from use of the Documents in connection with a project or site other than that shown in the Work Product.

16. Copyrights. Consultant agrees that all copyrights that arise from the Services will be vested in City and Consultant relinquishes all claims to the copyrights in favor of City.

17. Confidentiality. All documents, reports, information, data, and exhibits prepared or assembled by Consultant in connection with the performance of the Services pursuant to the Agreement are confidential until released by the City to the public, and the Consultant will not make any of these documents or information available to any individual or organization not employed by the Consultant or the City without the written consent of the City before any such release.

18. Notices. Any notices relating to this Agreement shall be given in writing and shall be deemed sufficiently given and served for all purposes when delivered personally, by facsimile or by generally

recognized overnight courier service, or five (5) days after deposit in the United States mail, certified or registered, return receipt requested, with postage prepaid, addressed as follows:

For City:	For Consultant:
City of Brentwood	Name:
150 City Park Way	Title:
Brentwood, CA 94513	Address:
Phone No. (925) 516-6070	Phone No.:
Attn: Casey Wichert	Attn:
Email: cwichert@brentwoodca.gov	Email:_____

Either Party may change its address for purposes of this section by giving the other Party written notice of the new address in the manner set forth above.

19. Conflicts of Interest.

19.1 City will evaluate Consultant's duties pursuant to this Agreement to determine whether disclosure under the Political Reform Act and City's Conflict of Interest Code is required of Consultant or any of Consultant's employees, agents, or subcontractors. Should it be determined that disclosure is required, Consultant or Consultant's affected employees, agents, or subconsultants will complete and file with the City Clerk those schedules specified by City and contained in the Statement of Economic Interests Form 700.

19.2 Consultant understands that its professional responsibility is solely to City. Consultant warrants that it presently has no interest, present or contemplated, and will not acquire any direct or indirect interest that would conflict with its performance of this Agreement. Consultant further warrants that neither Consultant, nor Consultant's agents, employees, subcontractors and consultants have any ancillary real property, business interests or income that will be affected by this Agreement or, alternatively, that Consultant will file with the City an affidavit disclosing this interest. Consultant will not knowingly, and will take reasonable steps to ensure that it does not, employ a person having such an interest in the performance of this Agreement. If after employment of a person, Consultant discovers that it has employed a person with a direct or indirect interest that would conflict with its performance of this Agreement, Consultant will promptly disclose the relationship to the City and take such action as the City may direct to remedy the conflict.

20. General Compliance with Laws. Consultant will keep fully informed of federal, state and local laws and ordinances and regulations which in any manner affect those employed by Consultant, or in any way affect the performance of the Services by Consultant. Consultant will at all times observe and comply with these laws, ordinances, and regulations and will be responsible for the compliance of the Services with all applicable laws, ordinances and regulations.

21. Pandemic Health Laws**.** Consultant's duty to comply with Laws includes compliance by Consultant and Subcontractors with all local, state, or federal Laws that have been or may be enacted in response to the COVID-19 pandemic (collectively, "Health Laws"), which include all of the County of Contra Costa Health Orders. Failure to fully comply with the Health Laws constitutes a material default, subject to all available remedies including suspension or termination.

22. Discrimination and Harassment Prohibited. Consultant will comply with all applicable local, state and federal laws and regulations prohibiting discrimination and harassment.

23. Termination. In the event of the Consultant's failure to prosecute, deliver, or perform the Services, City may terminate this Agreement for nonperformance by notifying Consultant in writing pursuant to the notice provisions of this Agreement. Consultant has five (5) business days to deliver any documents owned by City and all work in progress to City address contained in this Agreement. City will make a determination of fact based upon the work product delivered to City and of the percentage of work that Consultant has

performed which is usable and of worth to City in having the Agreement completed. Based upon that finding City will determine the final payment of the Agreement. In the event City elects to terminate, City will have the right to immediate possession of all Work Product and work in progress prepared by Consultant, whether located at the project site, at Consultant's place of business, or at the offices of a subconsultant.

Either Party, upon tendering thirty (30) calendar days written notice to the other Party, may terminate this Agreement for convenience. In this event and upon request of City, Consultant will assemble the work product without charge and put it in order for proper filing and closing and deliver it to City. Consultant will be paid for work performed to the termination date; however, the total will not exceed the lump sum fee payable under this Agreement. City will make the final determination as to the portions of tasks completed and the compensation to be made.

24. Covenants Against Contingent Fees. Consultant warrants that Consultant has not employed or retained any company or person, other than a bona fide employee working for Consultant, to solicit or secure this Agreement, and that Consultant has not paid or agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration contingent upon, or resulting from, the award or making of this Agreement. For breach or violation of this warranty, City will have the right to terminate this Agreement for nonperformance, or, in its discretion, to deduct from the Agreement price or consideration, or otherwise recover, the full amount of the fee, commission, percentage, brokerage fees, gift, or contingent fee.

25. Claims And Lawsuits. By signing this Agreement, Consultant agrees that any Agreement claim submitted to City must be asserted as part of the Agreement process as set forth in this Agreement and not in anticipation of litigation or in conjunction with litigation. Consultant acknowledges that if a false claim is submitted to City by Consultant, it may be considered fraud and Consultant may be subject to criminal prosecution. Consultant acknowledges that California Government Code sections 12650 *et seq.*, the False Claims Act, applies to this Agreement and, provides for civil penalties where a person knowingly submits a false claim to a public entity.

26. Jurisdiction, Venue and Governing Law. Any action at law or in equity brought by either of the Parties for the purpose of enforcing a right or rights provided for by this Agreement will be tried in a court of competent jurisdiction in the County of Contra Costa, State of California, and the Parties waive all provisions of law providing for a change of venue in these proceedings to any other county. This Agreement will be governed by the laws of the State of California.

27. Testimony. Consultant will testify at City's request if litigation is brought against City in connection with Consultant's services under this Agreement. Unless the action is brought by Consultant, or is based upon Consultant's actual or alleged negligence or other wrongdoing, City, upon prior written agreement with Consultant will compensate Consultant for time spent in preparation for testimony, testimony, and travel at Consultant's standard hourly rates at the time of actual testimony.

28. Successors and Assigns. It is mutually understood and agreed that this Agreement will be binding upon the Parties and their respective successors. Neither this Agreement nor any part of it nor any monies due or to become due under it may be assigned by Consultant without the prior written consent of City, which will not be unreasonably withheld.

29. Section Headings. Section headings as used in this Agreement are for convenience only and will not be deemed to be a part of such sections and will not be construed to change the meaning of the section.

30. Waivers. The waiver by either Party of any breach or violation of any term, covenant, or condition of this Agreement or of any applicable law will not be deemed to be a waiver of such term, covenant, condition or law or of any subsequent breach or violation of same or of any other term, covenant, condition or law. The acceptance by either Party of any fee or other payment which may become due under this Agreement will not be deemed to be a waiver of any preceding breach or violation by the other Party of any term, covenant, or condition of this Agreement or any applicable law.

31. Entire Agreement and Order of Precedence. This Agreement, together with any other written document referred to or contemplated by it embody the entire Agreement and understanding between the Parties relating to the subject matter of it. The City Manager is authorized, in consultation with the City Attorney, to agree to non-material amendments to this Agreement. Neither this Agreement nor any of its provisions may be amended, modified, waived or discharged except in a writing signed by both Parties. Notwithstanding that the RFP and Proposal are incorporated into this Agreement as Exhibit B and Exhibit C, respectively, if any provision in the Proposal or the RFP differs from or is inconsistent with the terms of this Agreement, including Exhibit A, the terms of this Agreement, including Exhibit A, will take precedence over any such differing or inconsistent provision. Likewise, to the extent any terms in the Proposal differ from or are inconsistent with the terms of the RFP, the terms of the RFP will take precedence over any differing or inconsistent terms in the Proposal

32. Authority. The individuals executing this Agreement and the instruments referenced in it on behalf of Consultant each represent and warrant that they have the legal power, right and actual authority to bind Consultant to the terms and conditions of this Agreement.

33. Severability. If any term, provision, condition or covenant of this Agreement or its application to any Party or circumstances shall be held, to any extent, invalid or unenforceable, the remainder of this Agreement, or the application of the term, provision, condition or covenant to persons or circumstances other than those as to whom or which it is held invalid or unenforceable, shall not be affected, and shall be valid and enforceable to the fullest extent permitted by law.

34. Signatures.

34.1 Counterparts. This Agreement may be executed in two or more counterparts, each of which together will be deemed an original, but all of which together will constitute the same instrument.

34.2 Digital/Electronic Signatures. Using a City-approved method, this Agreement may be executed through the use of digital or electronic signatures in accordance with Government Code Section 16.5. The presence of an electronic signature on this Agreement will be construed as the Parties' consent to do business electronically.

CONSULTANT:

* By: _____

Printed Name: _____

Title: _____

** By: _____

Printed Name: _____

Title: _____

CITY:

By: _____

Tim Y. Ogden, City Manager

ATTEST:

By: _____

Margaret Wimberly, City Clerk

APPROVED AS TO FORM:

By: _____

Damien Brower, City Attorney

If required by City, proper notarial acknowledgment of execution by Consultant must be attached. If a Corporation, Agreement must be signed by one corporate officer from each of the following two groups.

*Group A.	**Group B.
Chairman,	Secretary,
President, or	Assistant Secretary,
Vice-President	CFO or Assistant Treasurer

Otherwise, the corporation must attach a resolution certified by the secretary or assistant secretary under corporate seal empowering the officer(s) signing to bind the corporation.

If an LLC:

- The Agreement must be signed by a Managing Member or the LLC must attach a resolution empowering the signatory to bind the LLC.

If a partnership:

- The Agreement must be signed by the Managing Partner or the Partner authorized to execute agreements of this type. Additional documentation, such as the partnership agreement, confirming this signature authority may be required.

If a sole proprietorship:

- The Agreement must be signed by the owner.

AGREEMENT FOR CIVIL ENGINEERING SERVICES
<Name of Consultant>

Biosolids Dryer Project, CIP No. 592-59140
EXHIBIT "A"

PART ONE - SCOPE OF SERVICES

1. General. Consultant must provide civil engineering design and related services for the Project, as more particularly described in the RFP and Proposal, including and subject to the following general requirements.

1.1 Preliminary Design Conference. Following the City's execution of this Agreement, or as otherwise specified in Exhibit A, Consultant must attend a preliminary design conference with the Project Manager. At the request of the Project Manager, the Consultant must submit written minutes of the preliminary design conference in order to demonstrate its understanding of the Project requirements.

1.2 City Approval. Consultant may not proceed with the development of successive Design Documents, as detailed below in Section 2, until it has received written approvals from the City. Consultant must promptly review and revise the following to the City's satisfaction, without additional compensation:

(A) Design Documents submitted for City approval and to which the City has objections; and

(B) Design Documents which have been determined by the City to present excessive cost or constructability problems.

1.3 Governmental Approval. Consultant must assist the City with obtaining the following required approvals from governmental agencies with jurisdiction over the Project: N/A.

1.4 Consultant will control the manner and the means of the services to be provided, and be responsible for the professional quality, technical accuracy and coordination of the Services. Consultant will, without additional compensation, correct or revise any errors or deficiencies in the Services.

1.5 Consultant will keep City informed on a regular basis that the Services are being performed in accordance with the requirement and intentions of this Agreement.

2 Basic Services. In addition to the tasks specified in the RFP and Proposal, Consultant's Basic Services include the following:

.2.1 Project Schedule. Following the City's execution of this Agreement, Consultant must prepare and submit for the City Engineer's review and approval a preliminary Project Schedule, based on the Proposed Project Schedule included in in Part Two, below, showing the timing and sequencing of the major design and construction phases required to complete the Project. The preliminary Project Schedule should include times for completion of all major phases of environmental procedures, if applicable; design; bidding; construction; final close out; or as otherwise specified by the Project Manager. The Project Schedule must be updated for the City Engineer's review and approval upon completion of each major phase included in the Project Schedule.

2.2 Cost Estimate. Following the City's execution of this Agreement, Consultant must prepare and submit for the City Engineer's review and approval a preliminary estimate of the cost to construct the Project. As the design process progresses, Consultant must submit updates to the preliminary cost estimate for the City's approval concurrent with its submission of the Schematic Design Documents, Design Development Documents, and Construction Documents, respectively. If at any time, an updated cost estimate exceeds the City's previously approved cost estimate, Consultant must provide the City with recommendations for constructing the Project within the City's budget.

2.3 Schematic Design Documents. Within the time specified in the approved Project Schedule, Consultant must prepare and submit for the City Engineer's review and approval Schematic Design Documents consisting of drawings, outline specifications, and other documents showing the Project's basic components, scale, and location on the Project site. The Schematic Design Documents must include, to the extent applicable, conceptual plans of the Project site and improvements; preliminary sections and elevations; approximate areas, volumes, and dimensions; and preliminary selections of materials and systems. The Schematic Design Documents and updated cost estimate may be submitted electronically to the Project Manager, unless the Project Manager specifically requests two printed sets and one reproducible set of the Schematic Design Documents.

2.4 Design Development Documents. Based on the approved Schematic Design Documents and within the time specified in the approved Project Schedule, Consultant must prepare for the City Engineer's review and approval the Design Development Documents. The Design Development Documents must further define the Project, including drawings and outline specifications fixing and describing the Project size, character and site relationships, and other appropriate elements describing the structural, engineering, mechanical and electrical systems, as applicable. The Design Development Documents must include, as applicable, plans, sections and elevations; criteria and sizing of major components; equipment sizes and capacities and approximate layouts, including required spaces and clearances; typical details; materials selections and general quality levels. When submitting the Design Development Documents for the City Engineer's approval, the Consultant must identify in writing all material changes and deviations, if any, that have taken place since approval of the Schematic Design Documents, including, but not limited to, changes to the last updated cost estimate and the approved Project Schedule. The Design Development Documents and updated cost estimate may be submitted electronically to the Project Manager, unless the Project Manager specifically requests two printed sets and one reproducible set of the Design Development Documents.

2.5 Construction Documents. Based on the approved Design Development Documents and within the time specified in the approved Project Schedule, Consultant must prepare for the City Engineer's review and approval, and required governmental agency approval(s), if applicable, Construction Documents setting forth in detail the quality levels of and the requirements for construction of the Project, and consisting of drawings and technical specifications that comply with all applicable codes, laws, ordinances and regulations in effect at the time of their preparation at the location of the Project, and as further specified in the RFP. The Construction Documents must be submitted to the City Engineer in electronic form, ready to be added to the front end documents, which will be prepared by the City using the City's approved front end documents. When submitting the Construction Documents for the City Engineer's approval, the Consultant must identify in writing all material changes and deviations, if any, that have taken place since approval of the Design Development Documents including, but not limited to, changes to the last updated cost estimate and the approved Project Schedule. The Construction Documents and updated cost estimate may be submitted electronically to the Project Manager, unless the Project Manager specifically requests two printed sets and one reproducible set of the Construction Documents.

2.6 Bidding Phase Services. Consultant must assist the City during the bidding phase, including, if applicable, prequalification of bidders; conducting pre-bid meetings or site walks; issuance of addenda; bid review; and review of bid protests. If the lowest responsive bid exceeds the final approved construction cost estimate by twenty-five percent or more, and the City, acting in its sole discretion decides to reject all bids and re-bid the Project, Consultant must, at no additional cost to the City, work with the City to make the modifications to the Construction Documents to reduce the cost of construction so as not to exceed the previously approved construction cost estimate by more than the stated additional percentage.

2.7 Construction Phase Services. During the Construction Phase the Consultant must provide the following services to the City, as more particularly specified in Exhibit A:

(A) General administration of the Construction Contract including: review and advise the Project Manager as to the accuracy and reasonableness of Contractor's schedule of values; coordinate the Project Schedule with the Contractor's Work schedule; provide prompt and complete responses to

Contractor's requests for information; and coordinate efforts with the Project Manager to ensure the Project is completed in a timely, cost-effective manner, consistent with the City's requirements.

(B) Ongoing design services as needed, including: interpretations and clarifications of the Construction Documents provided by the Consultant; and preparation of design details for Change Orders, as needed for the proper execution and progress of the Work and consistent with the intent of the approved Construction Documents.

(C) Consultant must timely review Contractor's design-related submittals, including shop drawings, product data and samples, and issue written approvals of and/or recommendations to the City within ten days of receipt of each such submittal, unless additional time is required based on the nature of the submittal, in which case the review must be completed as soon as practicable under the circumstances. Consultant must check the submittals for compliance with the approved Construction Documents. Consultant's review must not extend to the Contractor's means, methods, techniques, sequences, or procedures, unless such have previously been specified in the Construction Documents.

(D) Consultant must assist the Project Manager in evaluating whether to recommend approval of requests for changes in the Work, and, if applicable, must assist with preparing proposed Change Orders.

(E) Consultant must visit the Project site at intervals sufficient to monitor the progress and quality of the Work and to determine whether the Work is proceeding in conformance with the Construction Documents. Following each Project site visit, Consultant must promptly provide the Project Manager with a written report of Consultant's observations and recommendations, if any. If Consultant becomes aware of any defects or deficiencies in the Work, Consultant must provide prompt notice to the Project Manager, followed by written confirmation of that notice. If, in Consultant's opinion, special testing or inspection of the Work is needed, Consultant must recommend appropriate procedures and consultants to the City. Consultant is not responsible for Contractor's safety precautions and programs. However, if Consultant has knowledge of safety violations, Consultant must give prompt notice to the City of such violations.

(F) Consultant must assist the City in evaluating the Contractor's payment applications in accordance with the Construction Documents. Based on on-site observations and review of other relevant information, Consultant must evaluate whether the Work has progressed to the point indicated in the payment application. Consultant's review must include review of the status of the Contractor's record drawings.

(G) Consultant must attend meetings with the Project Manager and Contractor(s) prior to and during construction as requested.

(H) Consultant must prepare and submit reports on the progress or status of the Work to the Project Manager as requested.

(I) Consultant must conduct inspections reasonably necessary to determine whether Contractor has achieved final completion of the Work in accordance with the Construction Contract, and must prepare a list of items to be completed or corrected (the "punch list"), including estimates of the cost for the City to correct or complete each punch list item, as well as required final submittals (e.g., warranties, manuals, as-built drawings, etc.) in order to achieve final completion.

2.8 Close Out and Post-Construction Services

(A) Consultant must promptly perform all tasks reasonably necessary for Project close out. If requested, Consultant must provide the City with a color schedule of all finished materials incorporated into the Project.

(B) If requested by the City, Consultant must make visits to the Project site during the warranty period to advise the City on the need for warranty work.

(C) All Project plans, including, but not limited to, record drawings, specifications, and estimates prepared pursuant thereto, must be and remain the property of the City for the purposes of repair, maintenance, renovation, modernization, or other purposes, only as they relate to the Project. The City reserves the right to use the Construction Documents, record drawings, or estimates related to the Project for the purposes of additions, alignments, or other development on or near the site or elsewhere in the City. Nothing in this provision is intended to transfer or waive Consultant's copyrights over these documents, including, but not limited to, all common law, statutory, and other reserved rights, unless transferred or waived in writing by Consultant. Notwithstanding the foregoing, if the City proposes to reuse the Construction Documents, in whole or in part, the City and Consultant will specify the terms and conditions for the reuse in this Agreement by an amendment or addendum.

3. Additional Services. If not expressly included in Basic Services, as specified above or in RFP or the Scope of Services in Exhibit A, the following services must be provided by Consultant and will be paid for as Additional Services, subject to prior written authorization by the City:

3.1 Investigation of financing or other special studies to determine the financial feasibility of the Project.

3.2 Consultations, negotiation, and the like for procurement of Project financing.

3.3 Investigation of or measured drawings of existing conditions or improvements or verification of the accuracy of the City-provided drawings or other information on existing conditions.

3.4 Surveys, site evaluations, or legal descriptions.

3.5 Soils, subsurface and environmental studies, reports and investigations required by outside agencies with jurisdiction over the Project.

3.6 Revisions to the City-approved Construction Documents which are required due to circumstances outside of Consultant's control.

3.7 Design, coordination, management, expediting and other services for the procurement of materials to be obtained or work to be performed by the City, including, but not limited to technology or other specialty systems which are not otherwise required by this Agreement.

3.8 Estimates, appraisals, consultations, and related services required for the repair or replacement of an insured loss.

3.9 Preparing for or providing expert witness services or participation in out-of-court dispute resolution in connection with any Project-related dispute or adversarial proceeding to which the Consultant is not a party, or potential party.

3.10 Out of town travel in connection with the Services, other than travel between Consultant's office, the City's offices, and the Project site.

3.11 The City-requested services which are not included in Basic Services and are not customarily provided as part of generally accepted civil engineering design services for this type of project and the region in which the Project is located.

3.12 Extended services required by non-performance, suspension, termination, or default of the Contractor in the performance of the Work, through no fault of Consultant.

3.13 Preparation of special models, renderings or mock-ups, which are not included in Basic Services.

3.14 Other services as agreed to by the Parties as set forth in written amendment or addendum to this Agreement.

4. References. Consultant's Services, including preparation of the Design Documents, should be informed and guided by the information or requirements included in the following document(s):

- BioforceTech Basis of Design Document

AGREEMENT FOR CIVIL ENGINEERING SERVICES
EXHIBIT “B”

REQUEST FOR PROPOSALS

City of Brentwood
Biosolids Dryer Project, CIP No. 592-59140

[Attach City’s RFP, including any exhibits thereto.]

AGREEMENT FOR CIVIL ENGINEERING SERVICES
EXHIBIT “C”

PROPOSAL
<Name of Consultant>

City of Brentwood
Biosolids Dryer, CIP No. 592-59140

[Attach Consultant’s Proposal, including any exhibits thereto.]

Exhibit B – Scope of Services

Scope of Services

1) Topographic Survey: Consultant to provide topographic surveying and base mapping of the proposed Biosolids Dryer location (east side of the Wastewater Treatment Plant) and affected surrounding area to the extent necessary to provide a complete design service. Deliverables shall include control, field topographic survey, collection of all existing utilities and depths such as sanitary sewer mains and manholes, storm drainage pipes, catch basins and manholes, water mains and associated connections including valves and any additional field topographic surveying data necessary for the complete design and grading of adjoining grounds. Mapping will be provided at a scale of 1" = 20', 1-foot contour interval, with spot elevations at every change in grade. Survey will include flow line and lip of gutters, edge of asphalt, existing utilities, boxes, vaults, and any other pertinent information relevant for the complete design services.

2) Geotechnical Services: Consultant shall conduct subsurface exploration, prepare geotechnical data and recommendation reports for roadway and utility design. Soil bores shall be sufficiently deep to provide design and construction parameters for the construction of utilities and roadway improvements.

3) Data Collection and Evaluation: Consultant shall review the historical data and, based on this information, determine/validate appropriate system capacity and design criteria. The Consultant shall be responsible for identification and coordination with each utility to eliminate conflicts identified during the design of the project.

   The Consultant shall also review and evaluate all other information necessary to establish horizontal and vertical control, utility locations and property boundaries. The utilities may include but are not limited to City utilities, PG&E and AT&T.

4) Preliminary Design: Work with City staff and Bioforcetech staff to provide input regarding potential conflicts related to the location and installation of the pre-purchased Biosolids Dryer that will be constructed and delivered to the Project site. After meeting and gathering information, the Consultant's project team will develop renderings of the preliminary design/layout.

   The Consultant shall provide preliminary engineering design services for the Project in accordance with City Standards and Specifications and as directed by the City Engineer.

   Preliminary engineering design services shall include, but not be limited to the following: review of existing studies and reports for the Project site, including the attached Exhibit C – Bioforcetech Basis of Design Document, perform preliminary design and analysis work, preliminary plan preparation, preliminary coordination with utilities, preliminary engineers cost estimate, and all other appropriate preliminary engineering work necessary.

5) Contract Documents: The Consultant shall provide engineering design services and shall prepare all contract documents (construction plans, specifications, and cost estimates) for the project in accordance with City Standards and Specifications as defined herein and as directed by the City.

Final engineering design services shall include, but not be limited to:

- Prepare design calculations, plans, technical specifications, special provisions, engineers cost estimates and all other appropriate engineering necessary to provide complete contract documents, ready for bidding. All design work shall incorporate all conditions or requirements of all environmental or agency permits.
- Coordinate with any and all utilities required to ensure horizontal and vertical conflicts are identified and resolved through design or relocations.
- Submittals for review shall be prepared at the appropriate design stages; drawings and specifications can be submitted electronically. A complete and final set of contract documents, including plans, specifications and estimates shall also be submitted on a “thumb” drive in the format determined by the City.
- Complete bid packages shall be prepared incorporating City Standards and Specifications, technical specifications, special provisions and approved plans.

Formal submittals (plans, specifications and estimates) shall occur at the 60%, 90% and 100% final package completion points for City and outside agency review.

6) Assistance during Construction: The Consultant shall provide assistance to the City during construction to ensure the Contractor understands all technical aspects of the design and any design changes.

This assistance shall include, but not be limited to:

- Conduct pre-bid meeting with prospective bidders to answer contractor and supplier technical questions;
- Coordinate through City responses to contractor and supplier technical questions during bidding and assist with preparing any addenda and/or clarifications;
- Assist the City with submittal reviews, preparation of change orders and response to requests for information related to design technical issues encountered;
- Prepare as-built drawings following construction from mark ups by the contractor. The original engineers stamp and signature shall be maintained on the as-built drawings. An “As-Built” or “Record Drawing” stamp shall be added to the drawings.

Exhibit C – Bioforcetech Basis of Design Document

BIOFORCETECH CORPORATION

XB9 Basis Of Design Document

08/29/2023

Table Of Contents

1 - INTRODUCTION

1.1 - Document Scope

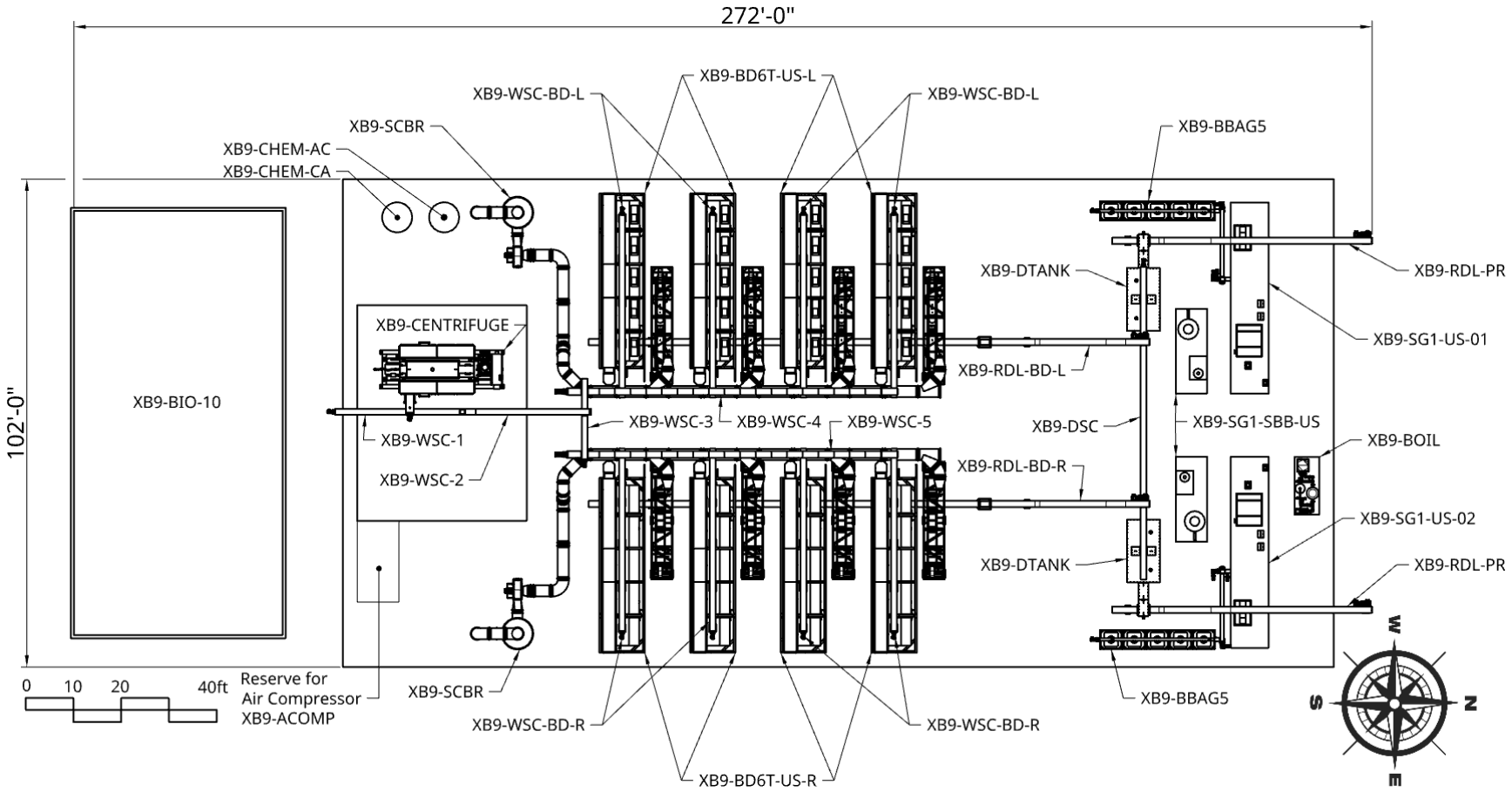
The scope of this base of design document (BODD) is to identify any project and site specific requirements for the selected engineering firm to be used as the basis of design for the BioDrying and Pyrolysis facility at the City of Brentwood's Wastewater Treatment Plant (BWWTP).

1.2 - Project Location

The project is located within the WWTP fence line at 2201 Elkins Way, Brentwood, CA 94513.
The new plant will be located in a currently unutilized area that is at a lower elevation compared to the other part of the WWTP. The engineer will be required to design the civil and structural part of the new facility, including the required work to increase the base elevation to the other part of the WWTP.

1.3 - Plant Layout

This is a representation of the Bioforcetech plant layout, including the equipment reference code for easier coordination between the manufacturer, the city, the engineering firm, and the contractor.



1.4 - Equipment Code List

This chapter has a complete list of all the equipment provided by Bioforcetech under the scope of this project. The list has been split into two sections, section one is listing all the machinery while section two is listing all the electrical panels present on the site.

1.4.1 - List of Supplied Machineries with Reference Codes

Machinery Description	BFT Reference Code	WWTP Protocol	Quantity
BioDryer with airskid (right configuration)	XB9-BD6T-US-R	54-BIOD-01-E	4
BioDryer with airskid (left configuration)	XB9-BD6T-US-L	54-BIOD-02-W	4
Acid scrubber for BioDryers	XB9-SCBR	54-BIOD-03-ASCRUB	2
Biofilter For Biodryers	XB9-BIO-10	54-BIOD-04-FILT	1
Caustic Chemical storage system	XB9-CHEM-CA	54-BIOD-05-CCSS	1
Acid Chemical storage system	XB9-CHEM-AC	54-BIOD-06-ACSS	1
Air Compressor	XB9-ACOMP	54-BIOD-07-COMP	2
Centrifuge skid	XB9-CENTRIFUGE	54-BIOD-08-CENT	1
Reversible wet sludge screw conveyor	XB9-WSC-1	54-WSC-01-REV	1
Inclined Wet sludge screw conveyor	XB9-WSC-2	54-WSC-02-INCL	1
Horizontal wet sludge screw conveyor	XB9-WSC-3	54-WSC-03-HORI	1
Wet sludge distribution screw conveyor (Left Config)	XB9-WSC-4	54-WSC-04-W	1
Wet sludge distribution screw conveyor (Right Config)	XB9-WSC-5	54-WSC-05-E	1
Screw conveyor on top of BioDryer (Left Config)	XB9-WSC-BD-L	54-WSC-06-WT	4
Screw conveyor on top of BioDryer (Right Config)	XB9-WSC-BD-R	54-WSC-07-ET	4
Chain Conveyor under the BioDryers (Left Config)	54-DSC -01-W	54-DSC -01-W	1
Chain Conveyor under the BioDryers (Right Config)	XB9-RDL-BD-R	54-DSC-02-E	1
Screw conveyor for dry solids	XB9-DSC	54-DSC-03-SOLIDS	1
Dry solids storage tank	XB9-DTANK	54-DSC-04-STO	2
Chain conveyor for Pyrolysis Loading	XB9-RDL-PR	54-DSC-05-LOAD	2
Pyrolysis Unit - Discharge Option 1	XB9-SG1-US-O1	54-PYRO-01-DIS	1
Pyrolysis Unit - Discharge Option 2	XB9-SG1-US-O2	54-PYRO-02-DIS	1
Pyrolysis Scrubbing System	XB9-SG1-SBB-US	54-PYRO-03-SCRUB	2
Bagging station for Biochar	XB9-BBAG5	54-PYRO-04-BAG	2
2MMBtu Boiler skid with pumps	XB9-BOIL	54-BOIL-01-P	1

1.4.2 - List of Supplied Electrical panels with Reference Codes

Machinery	Code	WWTP PROTOCOL	Quantity Supplied
Electrical panel for BioDryer	XB9-EPBD-US	54-ELEC-01-EPBD	8
General electrical panel (conveyors, boiler, etc..)	XB9-EPGP-US	54-ELEC-02-EPGP	1
Electrical panel for Pyrolysis	XB9-EPPY-US	54-ELEC-03-EPPY	2
Electrical panel for Pyrolysis scrubber	XB9-EPPC-US	54-ELEC-04-EPPC	2
Centrifuge panel	ND		1

2 - Design Criteria

The design criteria utilized as the basis of design for this document refer to the City Of Brentwood RFP title "REQUEST FOR PROPOSALS from Qualified Suppliers for Biosolids Drying and Pyrolysis System/Services".

2.1 - WWTP Solid production

The BWWTP is currently producing Waste Activated Sludge (WAS) and the expected solid production utilized as the base of the design is reported below

Table 1- WWTP Biosolids production

WAS Biosolids Source [1]	Average Annual Loading
Current WAS Biosolids	1,430 [dry ton/year]
Future WAS Biosolids	1,700 [dry ton/year]

The minimum required Total Solids (TS) after dewatering for this project is 18%.

2.2 - Centrifuge

The centrifuge size has been picked to match the BioDryer loading time. Taking into account the original RFP required the centrifuge to be sized on the current WAS load, with an average (homogenized) inlet solids content of approximately 0.75% TS, and with a target of a minimum dry solids content output of 18%.
The City Of Brentwood is requesting to account for a second centrifuge placement to handle the future load. Only the provision of the centrifuge is required while the actual centrifuge will be procured at a later time.

2.3 - BioDryer

The layout developed by Bioforcetech is currently showing eight BioDryers being installed with the provision of adding two more units in the future. The eight biodryer are required to handle only the current solids load, as shown in Table 1, while the two extra units will be required and installed when the future load will be achieved.
Even if the extra two BioDryers are for future needs, the utility connections, in terms of conduits, water, and drainage, will be incorporated into this first design phase.

2.4 - Pyrolysis

The current scope and layout is showing two pyrolysis units to be delivered into this initial design phase.
The two pyrolysis are sized to be able to handle the future load, as per Table 1.
The reason behind the decision of sizing the pyrolysis on future load is that the WWTP will need two units even to handle the current load.

2.5 - NFPA Classification

NFPA 820 is a set of standards developed by the National Fire Protection Association (NFPA) for fire protection in wastewater treatment and collection facilities. Table 2 summarizes the NFPA 820 area

[1] Current rate used for design, future rate to be used for space to expand the system.

classification requirements for the facilities associated with the Bioforcetech facility. The area classification requirements in Table 2 are based on the potential fire and explosion hazards associated with the various activities that take place at the Bioforcetech facility.

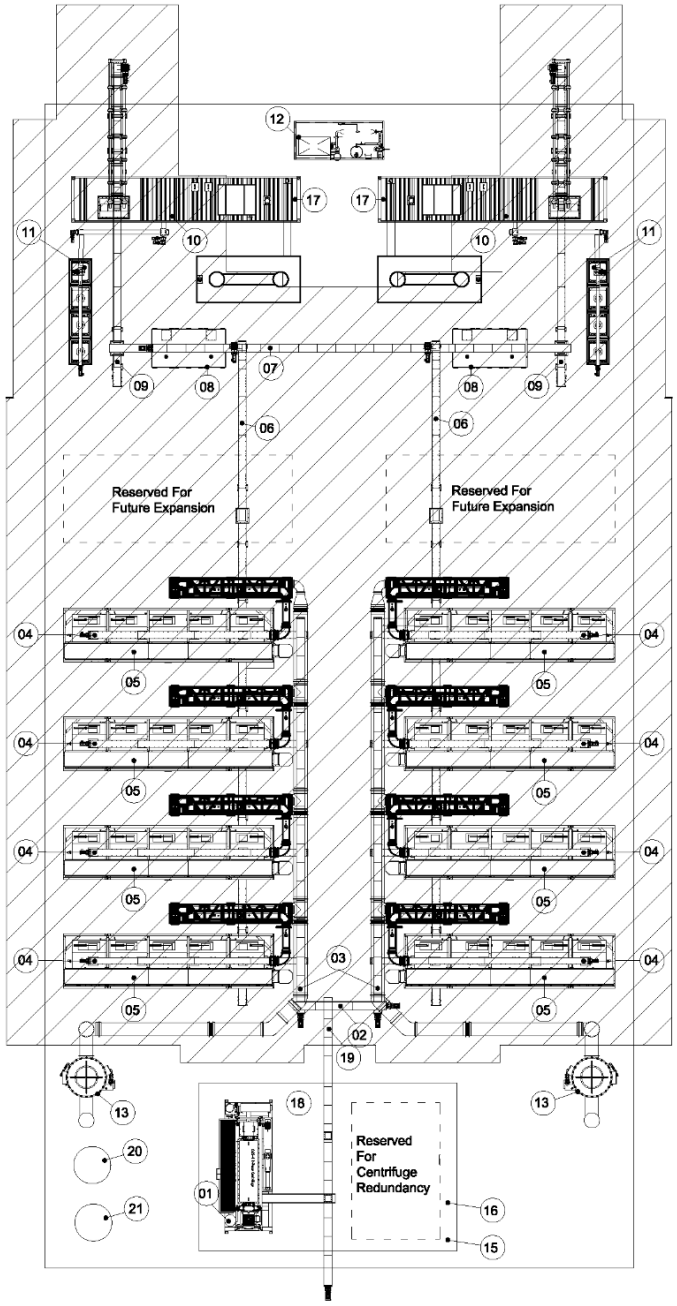
Table 2 - Interpretation of NFPA Classification

Equipment Code	WWTP PROTOCOL	NFPA 820 Reference	Classification	Notes
XB9-BD6T-US-R	54-BIOD-01-E	Table 6.2.2 (b)	Areas within 3 m (10 ft) of equipment processing combustible particulate solids is Class II Div II	The 3 m (10 ft) envelope start from the octagonal metal wall of the Biodryer reactor body
XB9-BD6T-US-L	54-BIOD-01-W	Table 6.2.2 (b)	Areas within 3 m (10 ft) of equipment processing combustible particulate solids is Class II Div II	The 3 m (10 ft) envelope start from the octagonal metal wall of the Biodryer reactor body
XB9-WSC-BD-L	54-WSC-06-WT	Table 6.2.2 (a)	Class II Div II	The equipment should be unclassified but it's included in the XB9-BD6T-US-L Class II Div II 3 m (10 ft) envelope
XB9-WSC-BD-R	54-WSC-07-ET	Table 6.2.2 (a)	Class II Div II	The equipment should be unclassified but it's included in the XB9-BD6T-US-R Class II Div II 3 m (10 ft) envelope
XB9-WSC-1	54-WSC-01-REV	Table 6.2.2 (a)	Unclassified	The equipment is unclassified provided that it is located outdoors (i.e. un-enclosed). Outdoors is considered similar to an adequately ventilated space in accordance with table 6.2.2(a) note C
XB9-WSC-2	54-WSC-02-INCL	Table 6.2.2 (a)	Unclassified	The equipment is unclassified provided that it is located outdoors (i.e. un-enclosed). Outdoors is considered similar to an adequately ventilated space in accordance with table 6.2.2(a) note C

XB9-WSC-3	54-WSC-03-HORI	Table 6.2.2 (a)	Class II Div II	The equipment should be unclassified but it's included in the XB9-BD6T-US-L Class II Div II 3 m (10 ft) envelope
XB9-WSC-4	54-WSC-04-W	Table 6.2.2 (a)	Class II Div II	The equipment should be unclassified but it's included in the XB9-BD6T-US-L Class II Div II 3 m (10 ft) envelope
XB9-WSC-5	54-WSC-05-E	Table 6.2.2 (a)	Class II Div II	The equipment should be unclassified but it's included in the XB9-BD6T-US-R Class II Div II 3 m (10 ft) envelope
54-DSC -01-W	54-DSC-01-L	Table 6.2.2 (b)	Areas within 3 m (10 ft) of equipment processing combustible particulate solids is Class II Div II	
XB9-RDL-BD-R	54-DSC-02-E	Table 6.2.2 (b)	Areas within 3 m (10 ft) of equipment processing combustible particulate solids is Class II Div II	
XB9-DSC	54-DSC-03-SOLIDS	Table 6.2.2 (b)	Areas within 3 m (10 ft) of equipment processing combustible particulate solids is Class II Div II	
XB9-DTANK	54-DSC-04-STO	Table 6.2.2 (b)	Areas within 3 m (10 ft) of equipment processing combustible particulate solids is Class II Div II	
XB9-RDL-PR	54-DSC-05-LOAD	Table 6.2.2 (b)	Areas within 3 m (10 ft) of equipment processing combustible particulate solids is Class II Div II	

XB9-SG1-US-O1	54-PYRO-01-DIS	Table 6.2.2 (b)	Areas within 3 m (10 ft) of equipment processing combustible particulate solids is Class II Div II	The Class II Div II envelope start from the edge of the area containing the dry Biosolids
XB9-SG1-US-O2	54-PYRO-02-DIS	Table 6.2.2 (b)	Areas within 3 m (10 ft) of equipment processing combustible particulate solids is Class II Div II	The Class II Div II envelope start from the edge of the area containing the dry Biosolids
XB9-SG1-SBB-US	54-PYRO-03-SCRUB	Table 6.2.2 (a)	Class II Div II	The equipment should be unclassified but it's included in the XB9-SG1-US-01 and XB9-SG1-US-02 Class II Div II 3 m (10 ft) envelope
XB9-BBAG5	54-PYRO-04-BAG	Table 6.2.2 (a)	Class II Div II	The equipment is included in the XB9-SG1-US-01, XB9-SG1-US-02, and XB9-RDL-PR Class II Div II 3 m (10 ft) envelope
XB9-SCBR	54-BIOD-03-ASCRUB	Table 6.2.2 (a)	Unclassified	The equipment is unclassified because is not servicing an item included into Table 6.2.2 (a) for Class I environment
XB9-BIO-10	54-BIOD-04-FILT	Table 6.2.2 (a)	Unclassified	The equipment is unclassified because is not servicing an item included into Table 6.2.2 (a) for Class I environment
XB9-CENTRIFUGE	54-BIOD-08-CENT	Table 6.2.2 (a)	Unclassified	The equipment is unclassified provided that it is located outdoors (i.e. un-enclosed). Outdoors is considered similar to an adequately ventilated space in accordance with table 6.2.2(a) note C

2.5.1 - Plant Overview With Classification Area



01	Centrifuge (Second Floor)
02	Screw Conveyor Distribution 1
03	Screw Conveyor Distribution 2
04	Screw Conveyor Top BioDryer
05	BioDryer
06	Chain Conveyor To Storage Tank
07	Screw Conveyor Dry Biosolids
08	Storage Tank
09	Chain Conveyor To Pyrolysis And Truck
10	Pyrolysis
11	Biochar Bagging Station
12	Water Heater Skid
13	Wet Scrubber
14	Biofilter
15	Main Control Panel (First Floor)
16	BioDryer Control Panel (First Floor)
17	Pyrolysis Control Panel
18	MCC Room (First Floor)
19	Screw Conveyor Distribution 3
20	H2SO4 Tank
21	NaOH Tank

Class II Div II Area

14 BIOFILTER

3 - Preliminary Design

3.1 - Centrifuge

The centrifuge capability will be sized to handle the future WAS biosolids production, with the main flow of the centrifuge being driven by the Biodryer loading cycle. In particular, the current centrifuge is sized to operate 3,476 hours per year with an inlet flow of 240 GPM. For expansion a second centrifuge of the same model would be advised.

3.2 - BioDryer

The BioDryer will be sized to handle the current WAS biosolids production with the space allocation required to install the necessary units when the future WAS biosolids production will occur. This allows the city to avoid a capital cost immediately and accurately monitor production growth.
In the layout eight BioDryers are shown to represent the current production and two empty slots are left for future production.
Each BioDryer has a maximum batch capacity of 26,000 lb and can dry Biosolids from an initial solid content of 18% to a final Biosolids solid content of up to 92%. While the BioDryers are coupled with a pyrolysis, a target goal of 80% solid content is desired.

3.3 - Pyrolysis

The pyrolysis units are already sized to handle the future WAS biosolids production. The reasoning is that one unit would not be sufficient to handle the current production, therefore two units will be installed and work at reduced capacity until the future growth is present. The turndown of the pyrolysis unit is up to 50% of the maximum design capacity of 250 lb/h.

3.4 - Conveyors

3.4.1 - XB9-WSC-1 - 54-WSC-01-REV

The Reversible Wet Sludge Screw Conveyor with WWTP Reference Code 54-WSC-01-REV is a component in the biosolids processing system at the Brentwood, CA project. With its Stainless Steel AISI 304 housing and HDPE liner, along with a painted carbon steel screw, this 335-inch long, 10-inch wide conveyor, with a 5 HP Motor, efficiently transports biosolids from the Centrifuge (54-BIOD-08-CENT) to the Inclined wet sludge screw conveyor(54-WSC-02-INCL). Its reversible capability provides a fail-safe mechanism, allowing the conveyor to quickly dump biosolids into a truck should any issues arise, ensuring a reliable and efficient biosolids treatment process. Additionally, an emergency rope stop will be provided, ensuring safety and allowing prompt action during critical situations. The equipment weight is 1,850 pounds.
The conveyor is equipped with a zero-speed switch.

3.4.2 - XB9-WSC-2 - 54-WSC-02-INCL

The Inclined Wet Sludge Screw Conveyor with WWTP Reference Code 54-WSC-02-INCL is a component within the biosolids processing system at the Brentwood, CA project. With its Stainless Steel AISI 304 housing, HDPE liner, and painted carbon steel screw, this 315-inch long, 12-inch wide conveyor, with 10 HP motor, efficiently transports wet sludge material from the Reversible Wet Sludge Screw Conveyor (54-WSC-01-REV) to the Horizontal wet sludge screw conveyor (54-WSC-03-HORI), ensuring a seamless and continuous flow of biosolids through the treatment process. Additionally, an emergency rope stop will be provided, ensuring safety and allowing prompt action during critical situations. The equipment weight is 2,100 pounds.
The conveyor is equipped with a zero-speed switch.

3.4.3 - XB9-WSC-3 - 54-WSC-03-HORI

The Horizontal Wet Sludge Screw Conveyor with WWTP Reference Code 54-WSC-03-HORI is a component of the biosolids processing system at the Brentwood, CA project. With a 10-inch width, 168-inch long, with 5 HP motor, and weighing 1,150 pounds, this conveyor is designed for efficient transport of wet sludge material from the preceding stage, the Inclined Wet Sludge Screw Conveyor (54-WSC-02-INCL), to the subsequent stages wet sludge distribution screw conveyors (54-WSC-04-W and 54-WSC-05-E). The conveyor features robust construction, with a housing made of Stainless Steel AISI 304 and an HDPE liner, accompanied by a painted carbon steel screw. Additionally, an emergency rope stop will be provided, ensuring safety and allowing prompt action during critical situations.
The conveyor is equipped with a zero-speed switch.

3.4.4 - XB9-WSC-4 - 54-WSC-04-W

The Wet Sludge Distribution Screw Conveyor with WWTP Reference Code 54-WSC-04-W is a component in the biosolids processing system at the Brentwood, CA project. Featuring a 12-inch width, 85 feet and 4-inch long, with a 10 HP Motor, and weighing 5,900 pounds, this conveyor is designed to efficiently distribute wet sludge material from the preceding stage, the Horizontal Wet Sludge Screw Conveyor (54-WSC-03-HORI), to the subsequent stage the Screw Conveyor on top of the BioDryer (54-WSC-06-WT). Its robust construction includes a housing made of Stainless Steel AISI 304 with an HDPE liner, accompanied by a painted carbon steel screw. Additionally, an emergency rope stop will be provided, ensuring safety and allowing prompt action during critical situations.
The conveyor is equipped with four pneumatic sliding gates and a zero-speed switch.

3.4.5 - XB9-WSC-5 - 54-WSC-05-E

The Wet Sludge Distribution Screw Conveyor with WWTP Reference Code 54-WSC-05-E is a component in the biosolids processing system at the Brentwood, CA project. With a width of 12 inches, a length of 85 feet and 4 inches, a 10 HP Motor, and weighing 5,900 pounds, this conveyor efficiently distributes wet sludge material from the preceding stage, the Horizontal Wet Sludge Screw Conveyor (54-WSC-03-HORI), to the subsequent stage “Screw conveyor on top of BioDryer” (54-WSC-07-ET). Its robust construction includes a housing made of Stainless Steel AISI 304 with an HDPE liner, along with a painted carbon steel screw. Additionally, an emergency rope stop will be provided, ensuring safety and allowing prompt action during critical situations.
The conveyor is equipped with four pneumatic sliding gates and a zero-speed switch.

3.4.6 - XB9-WSC-BD-L - 54-WSC-06-WT

The Screw Conveyor on top of the BioDryer with WWTP Reference Code 54-WSC-06-WT is a part of the biosolids processing system at the Brentwood, CA project. With a width of 10 inches, a length of 37 feet and 9 inches, a 5 HP Motor, and weighing 2,500 pounds, this conveyor is designed to efficiently transport biosolids from the preceding stage, the “Wet Sludge Distribution Screw Conveyor” (54-WSC-04-W), and forward them to the subsequent stage BioDryer with air skid (54-BIOD-01-W). Its sturdy construction includes a housing made of Stainless Steel AISI 304 with an HDPE liner, accompanied by a painted carbon steel screw. Additionally, an emergency rope will be provided for immediate stop, ensuring safety and allowing prompt action during critical situations.
The conveyor is equipped with four pneumatic sliding gates and a zero-speed switch.

3.4.7 - XB9-WSC-BD-R - 54-WSC-07-ET

The Screw Conveyor on top of the BioDryer with WWTP Reference Code 54-WSC-07-ET is a component of the biosolids processing system at the Brentwood, CA project. With a width of 10 inches, a length of 37 feet and 9 inches, with 5 HP Motor, and weighing 2,500 pounds, this conveyor efficiently transports biosolids from the preceding stage, the Wet Sludge Distribution Screw Conveyor (54-WSC-05-E), and forwards them to the subsequent stage, BioDryer with air skid (54-BIOD-01-E). Its sturdy construction includes a housing made of Stainless Steel AISI 304 with an HDPE liner, along with a painted carbon steel screw. Additionally, an emergency rope will be provided for immediate stop, ensuring safety and allowing prompt action during critical situations.
The conveyor is equipped with four pneumatic sliding gates and a zero-speed switch.

3.4.8 - 54-DSC -01-W - 54-DSC -01-W

The Chain Conveyor under the BioDryers with WWTP Reference Code 54-DSC -01-W is equipment within the biosolids processing system at the Brentwood, CA project. With a width of 15.75 inches, a length of 1,445 inches, with 10 HP Motor, and weighing 7,000 pounds, this conveyor efficiently transports biosolids from the preceding stage, BioDryer with air skid (54-BIOD-01-W), and forwards them to the subsequent stage, The Screw Conveyor for Dry Solids (54-DSC-03-SOLIDS). Its robust construction includes a housing made of Stainless Steel AISI 304, a stainless steel chain with plastic blades. Additionally, an emergency rope and a zero-speed switch will be provided for immediate stop, ensuring safety and allowing prompt action during critical situations.

3.4.9 - XB9-RDL-BD-R - 54-DSC-02-E

The Chain Conveyor under the BioDryers with WWTP Reference Code 54-DSC-02-E is a component of the biosolids processing system at the Brentwood, CA project. With a width of 15.75 inches, a length of 1,445 inches, with 10 HP Motor, and weighing 7,000 pounds, this conveyor efficiently transports biosolids from the preceding stage, BioDryer with air skid (54-BIOD-01-E), and forwards them to the subsequent stage, the Screw Conveyor for Dry Solids (54-DSC-03-SOLIDS). Its robust construction includes a housing made of Stainless Steel AISI 304, a stainless steel chain with plastic blades. Additionally, an emergency rope and a zero-speed switch will be provided for immediate stop, ensuring safety and allowing prompt action during critical situations.

3.4.10 - XB9-DSC - 54-DSC-03-SOLIDS

The Screw Conveyor for Dry Solids with WWTP Reference Code 54-DSC-03-SOLIDS is a component within the biosolids processing system at the Brentwood, CA project. With a width of 12 inches, a length of 748 inches, with 10 HP Motor, and weighing 5,600 pounds, this conveyor efficiently handles biosolids from the preceding stages The Chain Conveyor under the BioDryers left (54-DSC -01-W) and The Chain Conveyor under the BioDryers right (54-DSC-02-E), and forwards them to the subsequent stage, Dry solids storage tank (54-DSC-04-STO). Its robust construction includes a housing made of Stainless Steel AISI 304 and a stainless steel screw. Additionally, an emergency rope and a zero-speed switch will be provided for immediate stop, ensuring safety and allowing prompt action during critical situations.

3.4.11 - XB9-RDL-PR - 54-DSC-05-LOAD

The Chain Conveyor for Pyrolysis Loading with WWTP Reference Code: 54-DSC-05-LOAD is a component in the biosolids processing system at the Brentwood, CA project. With a width of 15.75 inches, a length of 748 inches, with 5 HP Motor, and weighing 4,000 pounds(including motor, gearbox, and gates), this conveyor efficiently handles biosolids from the preceding stage Dry solids storage tank (54-DSC-04-STO) and forwards them to the Pyrolysis Units (54-PYRO-01-DIS and 54-PYRO-02-DIS). Its robust construction includes a housing made of Stainless Steel AISI 304 with an HDPE liner, along with a painted carbon steel

screw. Additionally, an emergency rope will be provided for immediate stop, ensuring safety and allowing prompt action during critical situations

3.5 - Dry Biosolids Storage Tank

Since the BioDrying process is a batch system, and the pyrolysis process is a continuous process, Bioforceteh will provide a dry biosolids holding tank (54-DSC-04-STO) to work as a buffer and allow for the continuity between cycles.
The dry biosolids holding tank is sized to provide an actual storage volume of 19 cubic yards, ensuring the operativity of the pyrolysis unit for more than three days. Each tank is equipped with two radar sensors and the lower screw is controlled with a VFD to allow control of the biosolids discharge flow rate.
The tank has an empty weight of 11,000 lb and can store up to 25,000 lb of dry biosolids.

3.6 - Odor Control

3.6.1 - BioDryers Scrubber

The plant will have two sulfuric acid wet scrubbers, each one sized for serving up to five BioDryers. The scrubber will be a packed tower type made of PP plastic. The scrubber will have two centrifugal pumps and a level sensor. One scrubber's overall dimensions are 87” by 113” by 256” H, with an air inlet and outlet flange of 28”.

3.6.2 - Biofilter

The Biofilter will be an in-ground type and it will be sized to treat the air effluent of all ten BioDryers. The biofilter is used mostly to treat organics, with the media being specifically picked for this purpose.
The biofilter's overall dimensions are 45’ W x 90’ L x 7’ D and are going to be able to treat up to 21,200 cfm.

4 - Utilities, Electrical, and Communication

4.1 - Electrical panels and power requirements

List of electrical cabinets:

Ref #	Panel description	Code	WWTP Protocol	Quantity	Circuit Breaker (of each panel)	Actual Max Usage (of each panel)	Total Max Usage
E1-8	Electrical panel for BioDryer	XB9-EPBD-US	54-ELEC-01-EPBD	8	125A	50A	400A
E9	General electrical panel	XB9-EPGP-US	54-ELEC-02-EPGP	1	250A	160A	160A
E10,E11	Electrical panel for Pyrolysis	XB9-EPPY-US	54-ELEC-03-EPPY	2	150A	80A	160A
E10.1, E11.1	Electrical panel for Pyrolysis scrubber	XB9-EPPC-US	54-ELEC-04-EPPC	2	10A	5A	10A
E12	Centrifuge Electrical Cabinet	ND		1	350A	316A	316A

Total max contemporary load: ~ 870A
Electricity type: Three phase, 460V

4.2 - Communication requirements

The BFT system requires an internet connection to provide remote support and over-the-air software updates. The internet connection will be provided to the General electrical panel (E9). All the other panels will be wired with a CAT-6 ethernet to E9.
To ensure support access, the networks should provide a VPN with credentials or access via a fixed IP address + port forwarding.
The internet connection to the BFT automation system must have the following minimum requirements:

- Download speed: 10 MB/s
- Upload speed: 5 MB/s

4.3 - Water

List of water connections

Ref #	Connection description	Connection size (each)	Quantity	Max flowrate gpm (each)	Average water consumption (gal/day each)	Total consumption (gal/day)
W1-8	BioDryer wash water	½ inch	8	10	20	160
W9-10	BioDryer scrubbers (could be recycled water)	1 inch	2	100	4,000	8,000
W11-12	Pyrolysis wash water (city water)	½ inch	2	6	12	24
W13-14	Pyrolysis Scrubber (could be recycled water)	½ inch	2	50	500	1,000
W15	Centrifuge wash water (could be recycled water)	2 ½ inch	1	200	1,000	1,000
W16	Biofilter spray water (could be recycled water)	1 inch	1	100	500	500
W17	Boiler filling water	½ inch	1	25	NA	NA

Pressure required: 40 to 80 psi
Max peak consumption of recycled water: ~600 gpm (max length 5 minutes)
Max peak consumption of city water: ~120 gpm

4.4 - Natural Gas

List of natural gas connections

Ref #	Panel description	Connection size (each)	Quantity	Max consumption cfm (each)	Average gas usage (cf/day each)	Total consumption (cf/day)
G1-2	Pyrolysis startup gas	½ inch	2	6	1.5	3
G3	Boiler gas	1-½ inch	1	33	200	200

Pressure required: 20 to 60 inch of W.C.
Max peak consumption: 39 cfm
Average daily consumption: 202 cf/day

4.5 - Compressed air

List of pneumatic air connections

Ref #	Panel description	Connection size (each)	Quantity	Max consumption cfm (each)	Average usage (cf/day each)	Total consumption (cf/day)
A1-8	BioDryer	½ inch	8	3.5	30	240
A9-10	Pyrolysis	½ inch	2	2	3	6
A11-12	Dry storage tank	½ inch	2	1	4	8
A13-14	BioDryer scrubbers valves	½ inch	2	2	2	4

Pressure required: 120 psi
Max peak consumption: 38 cfm
Average daily consumption: 258 cfd

4.6 - Discharge water

List of water discharge connections

Ref #	Panel description	Connection size (each)	Quantity	Max discharge gpm (each)	Average discharge (gal/day each)	Total discharge (gal/day)
D1-8	BioDryers	1 inch	8	10	250	2,000
D9-10	BioDryer Scrubber	2 inch	2	100	4,000	8,000
D11-12	Pyrolysis	1.5 inch	2	10	20	40
D13-14	Pyrolysis Scrubber	1.5 inch	2	50	500	1,000
D-15	Centrifuge Discharge	4 inch	1	250	158,000	158,000
D-16	Biofilter discharge	4 inch	1	50	NA	NA
D-17	Chemical Tanks Discharge	4 inch	1	50	0	0

Max peak discharge: 700 gpm
Average daily discharge: 168,000 gal/day

4.7 - Centrifuge feed rate

Max centrifuge input: 250 gpm
Average daily centrifuge consumption: 158,000 gal/day
Connection size: 2.5 inches

5 - Permitting

Bioforcetech will be preparing and submitting the BAAQMD air permit application on behalf of the City of Brentwood. The City of Brentwood will be responsible for preparing and filing the CEQA document necessary for the BAAQMD application.

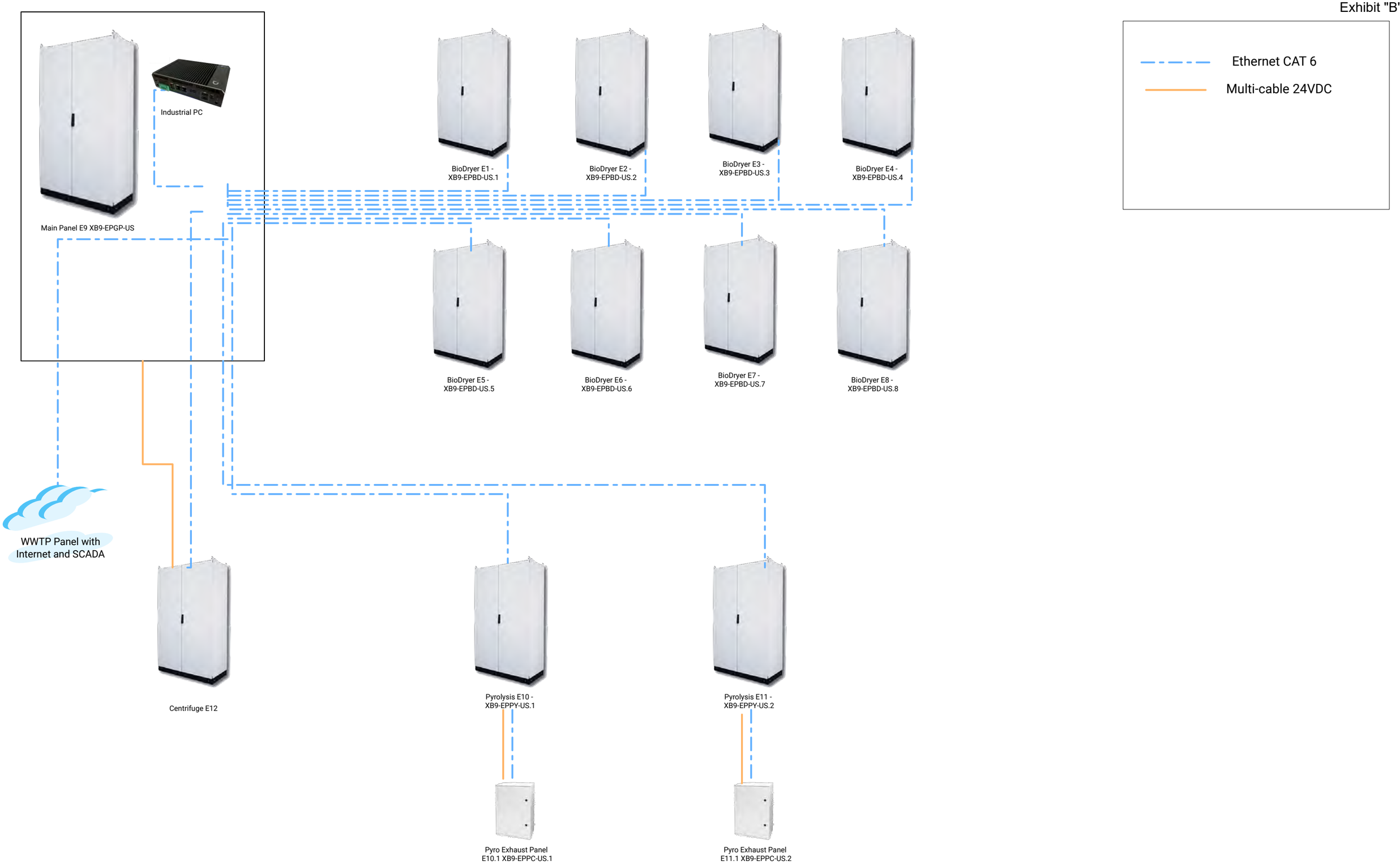
6 - Operator Access

All pumps, junction boxes, and necessary access points for the BioDryer & Airskid, Pyrolysis, and other miscellaneous systems will be easily accessible for operators. However some components for material transportation between machines will be out of reach of operators.

For example:
The inclined conveyors (54-WSC-02-INCL, 54-DSC -01-W, 54-DSC -01-W, & 54-DSC-02-E) will have partial access with a portion of the component requiring a scissor lift for maintenance. (E-Stop accessible)
The elevated conveyors (54-WSC-03-HORI, 54-WSC-04-W, 54-WSC-05-E, 54-DSC-03-SOLIDS) will be entirely out of reach from ground level and require a scissor lift for any access. (E-Stop inaccessible without tools)
However the screw conveyors atop the BioDryer (54-WSC-06-WT & 54-WSC-06-RT) will be accessible by the catwalk attached to the BioDryer.

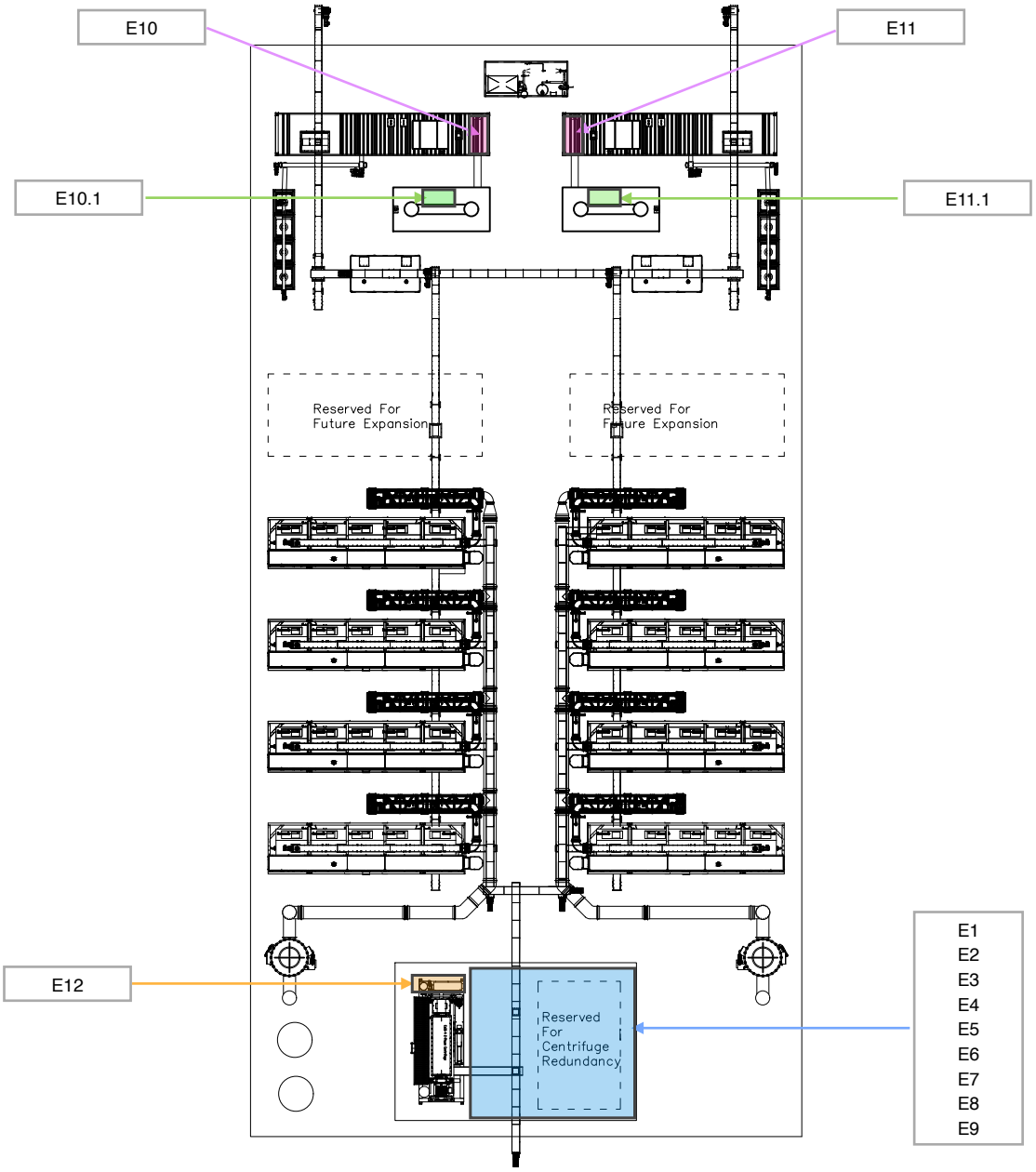
BIOFORCETECH CORPORATION

ATTACHMENT 1
ELECTRICAL PANELS NETWORK



	Electrical Panels Network	Project	XB9	Drawing	Copy of XB9 Boiler Loop	Drawing No.	2023	Edited	3 Feb 2023	Scale	1 : 1
		Client				Creator	Bioforcetech	Created	1 Feb 2023	Page	2 of 2

Bioforcetech



BIOFILTER

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS		NAME	SIGNATURE	DATE
ANGULAR = ± 0°10'	DRAWN	OZAN		2023-07-25
SURFACE FINISH 6.3 Ra	CHECKED			
	APPROVED	----		----
DO NOT SCALE DRAWING				
BREAK ALL SHARP EDGES AND REMOVE BURRS				
FIRST ANGLE PROJECTION	MATERIAL	----	FINISH	

XB9 Brentwood Electrical Panels Location

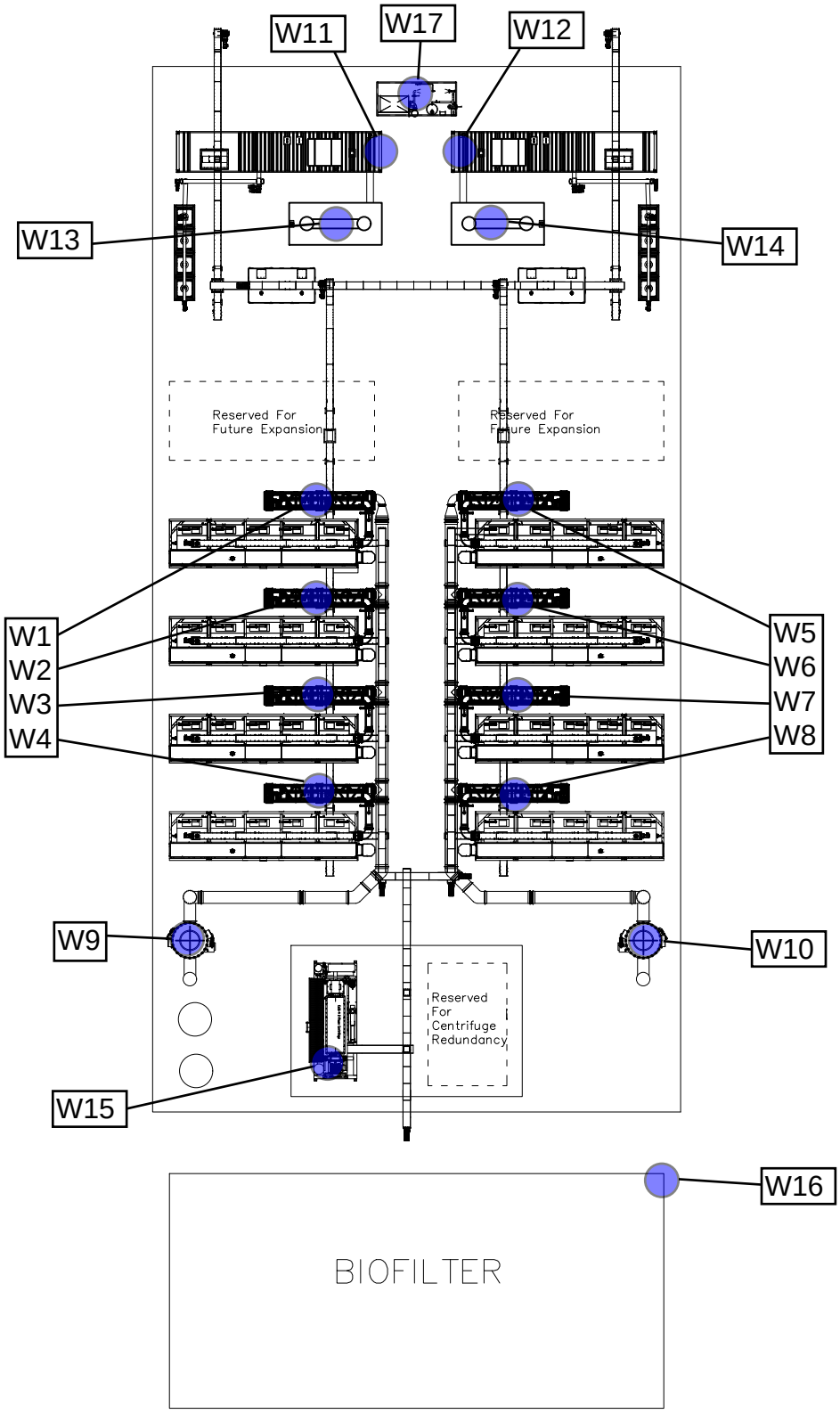
TITLE: Brentwood General Layout

SIZE	DWG NO.	REV.
A4	BRTW_LOY_002	02

SCALE	WEIGHT	SHEET
1:400		1 of 1

BIOFORCETECH CORPORATION

ATTACHMENT 2
Water Connections



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	APPROVED	----		----
DO NOT SCALE DRAWING				
BREAK ALL SHARP EDGES AND REMOVE BURRS				
FIRST ANGLE PROJECTION	MATERIAL ----		FINISH	

XB9 Brentwood Electrical Panels Location

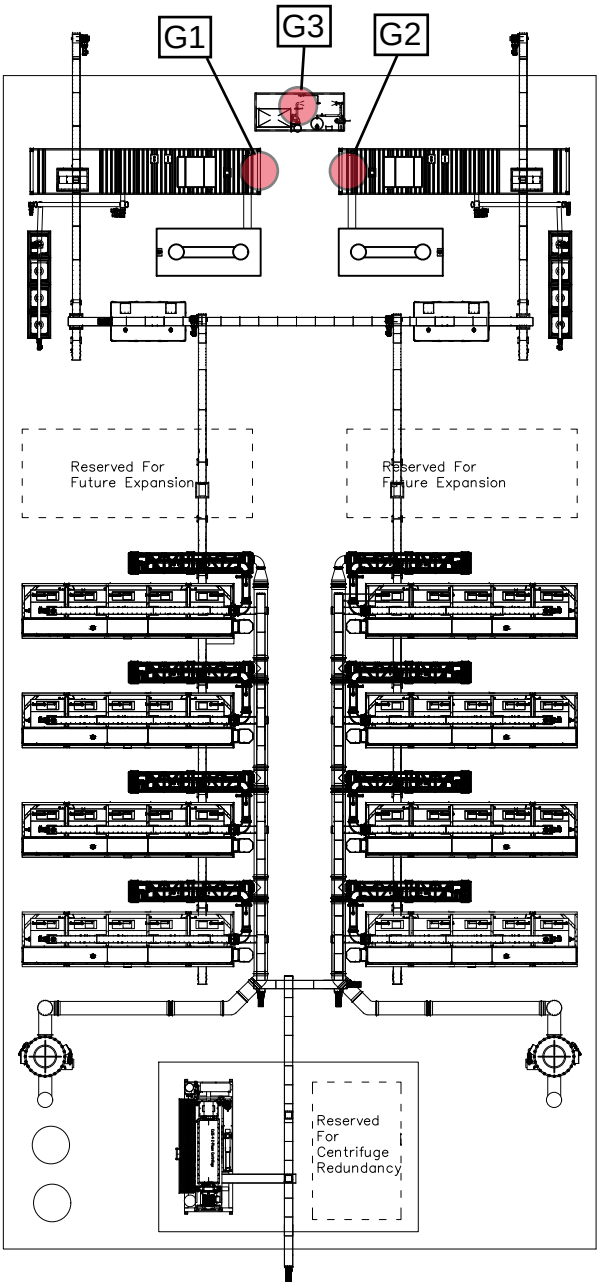
TITLE: Brentwood General Layout

SIZE	DWG NO.	REV.
A4	BRTW_LOY_002	02

SCALE	WEIGHT	SHEET
1:400		1 of 1

BIOFORCETECH CORPORATION

ATTACHMENT 3
Natural Gas Connections



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SURFACE FINISH 6.3 Ra	CHECKED			
	APPROVED	----		----
DO NOT SCALE DRAWING				
BREAK ALL SHARP EDGES AND REMOVE BURRS				
FIRST ANGLE PROJECTION	MATERIAL ----		FINISH	

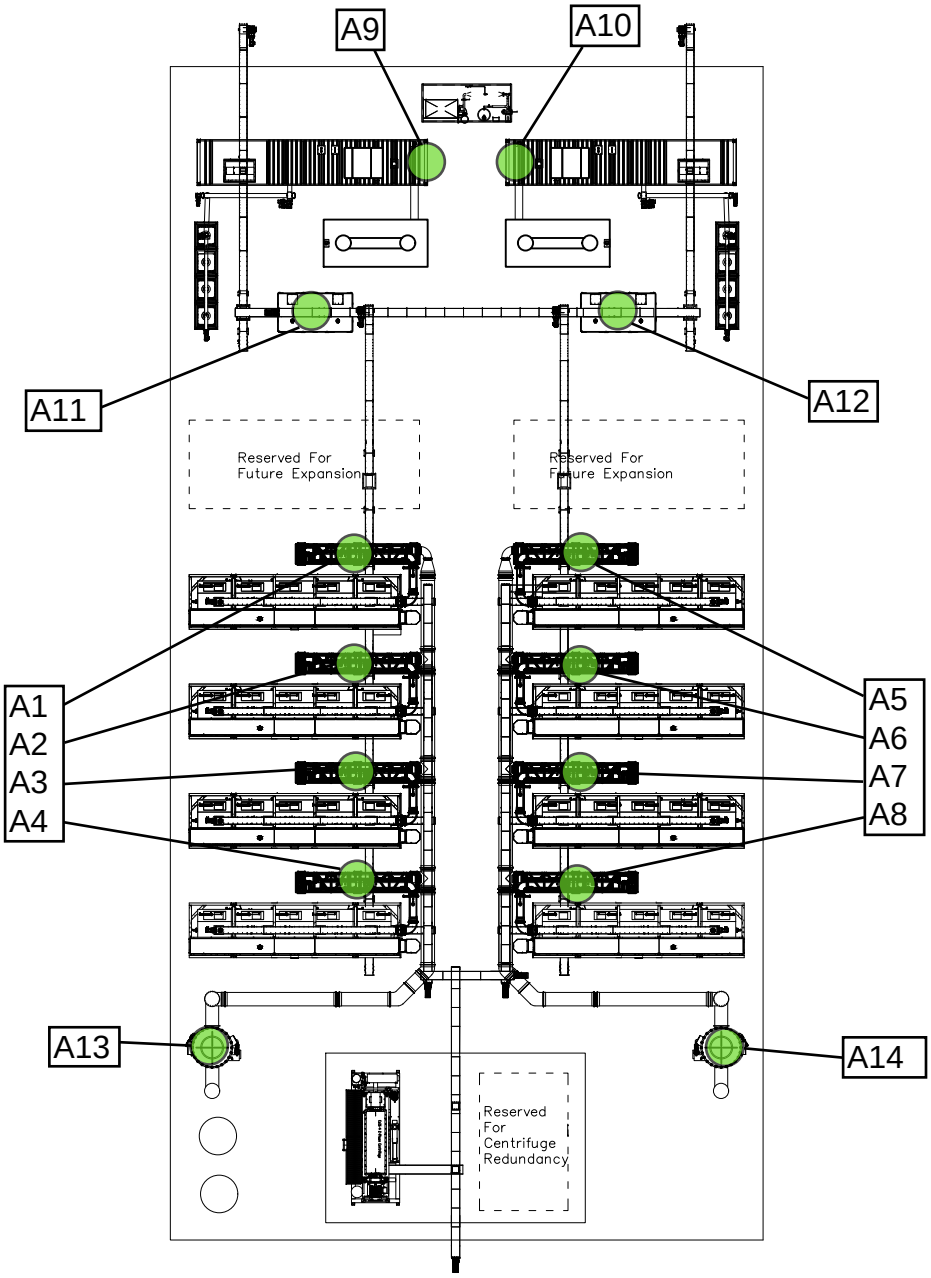
XB9 Brentwood Electrical Panels Location

TITLE: Brentwood General Layout

SIZE	DWG NO.	REV.
A4	BRTW_LOY_002	02

SCALE	WEIGHT	SHEET
1:400		1 of 1

ATTACHMENT 4
Compressed Air Connections



BIOFILTER

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS		NAME	SIGNATURE	DATE
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SURFACE FINISH 6.3 Ra	CHECKED			
	APPROVED	----		----
DO NOT SCALE DRAWING				
BREAK ALL SHARP EDGES AND REMOVE BURRS				
FIRST ANGLE PROJECTION	MATERIAL	----	FINISH	

XB9 Brentwood Electrical Panels Location

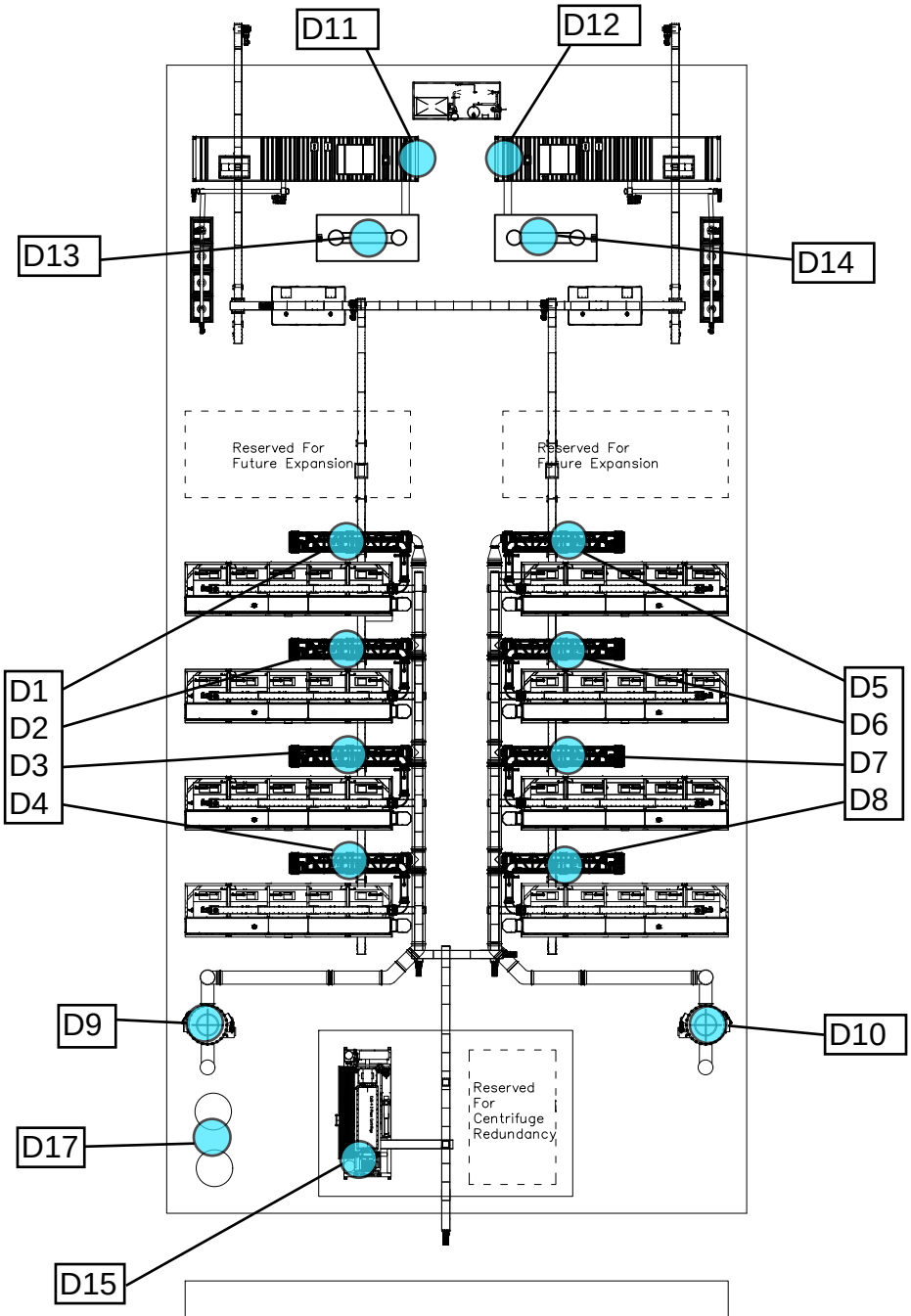
TITLE: Brentwood General Layout

SIZE	DWG NO.	REV.
A4	BRTW_LOY_002	02

SCALE	WEIGHT	SHEET
1:400		1 of 1

BIOFORCETECH CORPORATION

ATTACHMENT 5
Discharge Water Connections



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SURFACE FINISH 6.3 Ra	CHECKED			
	APPROVED	----		----
DO NOT SCALE DRAWING				
BREAK ALL SHARP EDGES AND REMOVE BURRS				
FIRST ANGLE PROJECTION	MATERIAL ----		FINISH	

XB9 Brentwood Electrical Panels Location

TITLE: Brentwood General Layout

SIZE	DWG NO.	REV.
A4	BRTW_LOY_002	02

SCALE	WEIGHT	SHEET
1:400		1 of 1

AGREEMENT FOR CIVIL ENGINEERING SERVICES
EXHIBIT “C”

PROPOSAL
Water Works Engineers, LLC

City of Brentwood
Biosolids Dryer, CIP No. 592-59140

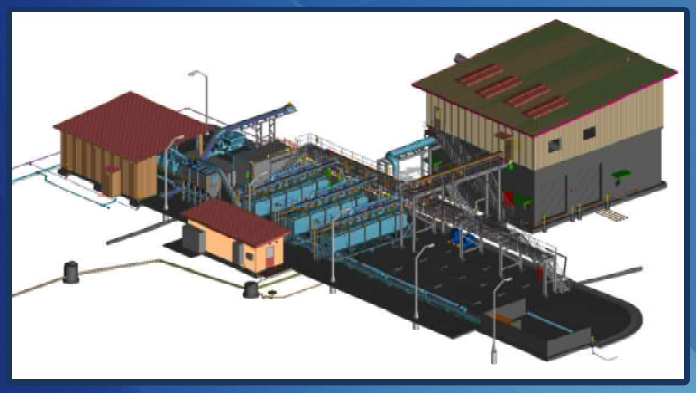
Exhibit "C"

PROPOSAL

THE CITY OF BRENTWOOD

ENGINEERING DESIGN SERVICES
BIOSOLIDS DRYER
CIP PROJECT NO. 592-59140

October 24, 2023



Drinking Water · Waste Water · Recycled Water

WATERWORKS ENGINEERS

A. COVER LETTER

October 24, 2023

RE: Proposal for the Biosolids Dyer Project, CIP Project No. 592-59140 to the City of Brentwood (Revision 1)

Dear Distinguished Members of the Selection Committee:

Water Works Engineers is pleased to submit the attached **revised** proposal to provide Engineering Design Services for the Biosolids Dryer Project, CIP Project No. 592-59140 for the City of Brentwood. We have included one Electronic copy in PDF version. In addition, we acknowledge we are in receipt of Clarification No. 1, dated October 4, 2023.

Water Works Engineers brings extensive experience in the planning and design of water and wastewater pumping, conveyance, and treatment systems. Our focus and work approach allow us to provide high-quality planning and design products very efficiently. We have grown to more than 95 engineers and designers, using targeted recruitments of highly skilled individuals, with annual revenues of over $30M. Since the beginning, Water Works Engineers has provided our clients with efficient, high-quality work on over 1,000 separate water and wastewater infrastructure projects. We average over 100 projects per year of sizes varying from $5,000 to $50M. Our team's principals and staff have extensive experience with facilities representing a broad range of size and complexity and continually provide practical approaches to projects.

Our team proposed for this project is the same team that recently completed the designs for centrifuge dewatering and Bioforcetech BioDrying and pyrolysis facilities for the City of Redding, which are very similar to what the City is planning under this project. As such, our team has the unique experience and familiarity with Bioforcetech's systems that very few other consulting firms have. This experience, and our lessons learned during the design and construction phases of these projects, make Water Works Engineers uniquely qualified to efficiently complete this project for the City.

Our focus and work approach allow us to provide high-quality planning and design products very efficiently. As you read through our proposal, you will find the reasons that Water Works Engineers is best positioned and suited to provide the City with the most experience integrating Bioforcetech's equipment with the existing treatment facility while producing the highest quality engineering work on this project.

If you have any questions or would like any additional information, please feel free to contact Joe Ziemann, Project Manager, at (916) 238-1460 or at joez@wwengineers.com or Sami Kader, Principal at 530-537-3115 ext. 301 or at samik@wwengineers.com. We look forward to the opportunity to assist the City on this exciting project.

Very Truly Yours

WATER WORKS ENGINEERS, LLC

Sami Kader, PE, Principal

Joe Ziemann, Project Manager

B. General Qualifications

Water Works was formed 18 years ago in 2005 by engineers who believed that water and wastewater engineering and consulting could be done a better way by combining the best attributes of large and small firms: *the technical expertise of a large firm and efficiency and personal attention of a small one*. Our vision was the formation and growth of a new kind of engineering firm, *a firm built on providing exceptional client service from highly experienced engineers in a "hands-on" highly interactive and enjoyable environment*.

To accomplish our vision, Water Works Engineers and all our teaming partners provide high-level staffing on every project with a *leaner overall firm structure* that is focused on delivering high quality work for client-specific needs. *We focus solely on collection, conveyance, water/wastewater treatment, water, and recycled water systems infrastructure design and construction management*. This focus makes us efficient, keeps us up to date, and allows us to provide the highest level of service. Our focus and work approach allow us to provide high-quality products very efficiently. *We take great pride in the fact that we don't just create documents, we facilitate projects*.

This focus and approach have fueled a consistent increase in our clients and projects, with 10 offices and 95 employees with approximately $30M in yearly revenue. By focusing exclusively on water and wastewater engineering, Water Works provides focused expertise rather than the broad umbrella approach of many other civil engineering firms. It is with these core values in mind that we assembled our team for this project.

Based on our experiences, we strongly believe that *people execute projects, not firms*. For that reason, the Water Works team is *committing high quality, senior staff and subconsultants with in-depth experience directly relevant* to this project. The entire project team is a consortium of experienced professionals who have been directly involved in the planning, design and construction management for a similar biosolids dewatering, BioDrying and pyrolysis project.

This project will be managed by Joe Ziemann out of our Roseville office with engineering and CAD support from our Redding and San Mateo offices. Our subconsultants are based out of Redding (Bajada-Geotech), Folsom (Frisch-Electrical) and Roseville (CWE-Surveying). All staff and subconsultants will be available for in-person meetings, field visits, and inspections as needed.

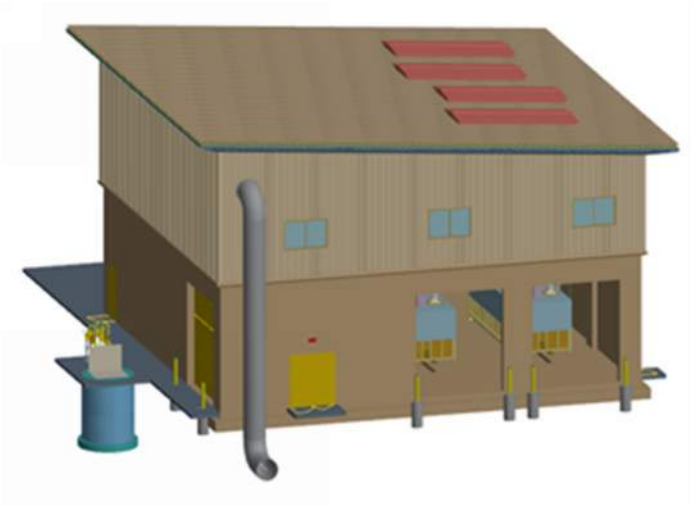
Water Works' team is uniquely qualified to provide the services required for this project. We recently completed the design a similar project for the City of Redding and are one of only two firms in the country that have designed facilities using Bioforcetech's equipment that has been constructed, and the only experienced team local to Northern California. In addition, our firm as a whole and subconsultants have extensive experience designing all aspects of wastewater treatment systems and the associated site civil, structural, mechanical, electrical and controls elements.

C. EXPERIENCE

Since our inception in 2005, Water Works Engineers has had the honor of working on a wide variety of engineering projects related to water and wastewater, often with cutting edge and innovative technologies. We're also one of only 2 firms in the US that have completed designs around Bioforcetech' s equipment for BioDrying and pyrolysis that have gone into construction. Previous services similar in scope and nature to those requested for this project are summarized below.

Clear Creek WWTP Biosolids Dewatering Project

City of Redding, 777 Cypress Avenue, Redding, CA 96001
Ryan Bailey, Assistant Director of Public Works, (530) 224-6030, rbailey@ci.redding.ca.us



Water Works Engineers prepared a Preliminary Design Report which evaluated several mechanical and solar drying technologies, including screw presses, belt filter presses, rotary fan presses, and centrifuges to move away from their using facultative sludge lagoons (FSLs) and sludge drying beds for biosolids treatment and drying. The City selected continued use of the FSLs for emergency biosolids storage and centrifuges for dewatering.

Water Works Engineers then designed a new 2-story dewatering building to include two loadout bays and a polymer room on the first floor. The second floor included two centrifuges (expandable to four), foul air fans, and a conditioned control room. Horizontal and low-incline shaftless screw conveyors were used to transport dewatered solids from the centrifuges to the loadout bays, and loadout conveyors with multiple discharge gates were used for even filling of the trailers without operator attention. A new soil biofilter adjacent to the building was designed to treat the foul air exhausted from the centrifuges, centrate wetwell, conveyors, and loadout area. Roof hatches in the building were included to allow the centrifuges to be installed during initial construction and future expansions, and also for irregular maintenance. Joe Riess was the lead civil and mechanical engineer for this project, and Frisch Engineering provided the design for electrical and controls. This team was also subsequently awarded the Construction Management portion of the project.

This project is very similar to what the City of Brentwood is planning for the new Centrifuge Building and biofilter, and our experience during design and construction of this project are directly relevant to the Brentwood project.

Clear Creek WWTP Phase 1 Biodrying and Pyrolysis Project

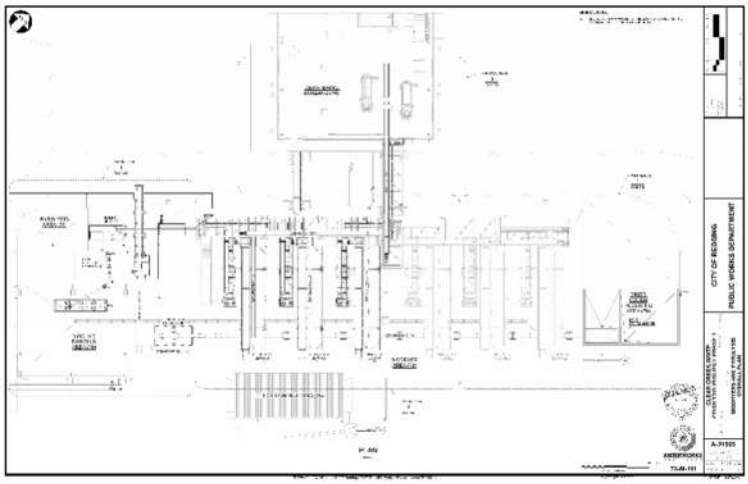
City of Redding, 777 Cypress Avenue, Redding, CA 96001
Josh Vandiver, Wastewater Utility Manager, (530) 224-6069, jvandiver@ci.redding.ca.us
Stefano Pessina, CTO/VP Engineering for Bioforcetech, (650) 954-0053, s.pessina@bioforcetech.com

In March of 2020, Water Works Engineers completed the Wastewater Treatment Plant Biosolids Master Plan Update for the City. The purpose of this Biosolids Master Plan was to evaluate the biosolids disposal options available to the City in terms of capital costs, operating costs, and other non-cost considerations to determine the preferred disposal method to pursue in the future to replace as an alternative to landfill disposal of biosolids. Of the alternatives evaluated (land application, incineration, Lystek, pyrolysis and contracted land application), pyrolysis has the lowest total net present value and second lowest annual operating cost, and also resulted in a marketable product: Biochar. Therefore, the Biosolids Master Plan recommended that the City consider implementing a pilot-scale drying and pyrolysis system at the Clear Creek WWTP to gain operating experience and prove out the technology on their waste stream prior to constructing a full-scale pyrolysis facility.

In late 2020, Water Works Engineers was contracted to design the pilot-scale pyrolysis facility at the Clear Creek WWTP, assist with permitting (air quality and Building Permitting) and provide engineering services during construction. Prior to starting final design, a study was conducted to identify and compare the available pyrolysis systems and manufacturers. It was determined at least 3 pyrolysis manufacturers could potentially provide the necessary equipment and a request for proposals and specifications were prepared to allow the City to pre-select and pre-purchase the equipment to be designed around. The City selected Bioforcetech, which proposed a system including three BioDryers and one pyrolysis system.

Water Works Engineers coordinated closely with the City and Bioforcetech through a series of meetings and workshops to determine the facility layout, constraints, and features. The resulting design included the following key elements:

- Replacement of existing screw conveyor in dewatering building to supply the new BioDryers with dewatered biosolids
- Elevated walkway for conveyor, odor control ductwork, and other utilities to span a driving aisle and coordinate with Bioforcetech conveyors
- Slab-on-grade for new Bioforcetech equipment
- Solids receiving station (to receive dried biosolids from other sources for testing)
- Biochar bagging area with canopy for weather protection
- Electrical Building for control panels
- New electric service
- Associated site civil, yard piping and electrical work



The design was completed for Phase 1 (3 BioDryers and 1 pyrolysis unit), but provisions include to expand to 6 BioDryers in Phase 2 and up to 12 BioDryers and 2 pyrolysis units in Phases 3 and 4. 3D CAD files were provided by Bioforcetech for their equipment and integrated into our designs, which was essential for utility coordination and conflict avoidance. In turn, as we revised our design, we sent Bioforcetech 3D models back of our slab and elevated walkway designs.

The project is under construction and will be completed in early 2024. Water Works Engineers is the also the Construction Manager for this project.

This project is very similar to what the City of Brentwood is planning for the new BioDryers and pyrolysis systems, and our experience during design and construction of this project are directly relevant to the Brentwood project. Additionally, we are proposing to use the same project team so there will be a very short learning curve on this project. Our experience in design and construction during this project forged a solid and efficient working relationship with Bioforcetech that we hope to continue during the City's project.

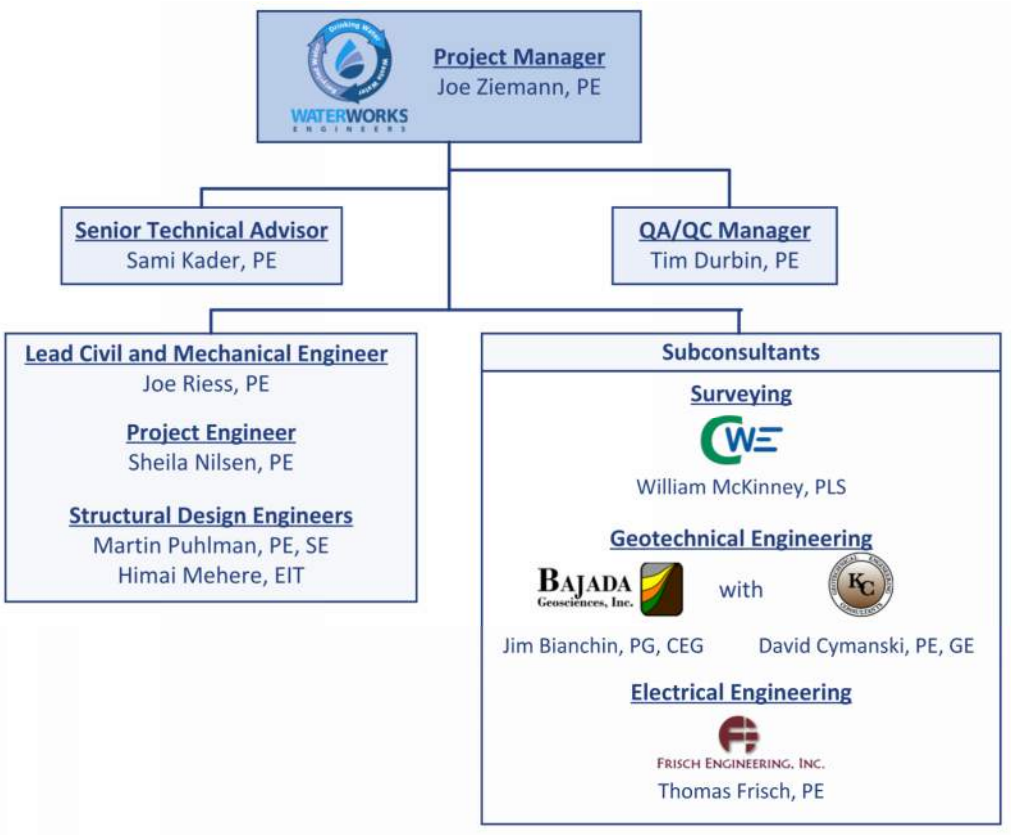
Other Relevant Projects

The Bioforcetech approach using BioDryers and pyrolysis is new and there are very few engineering consulting firms with experience designing projects with their equipment. Our team is fortunate to have this experience under our belt that can be readily applied to the City of Brentwood's project. In addition to the City of Redding projects described above, our team has extensive experience with other biosolids conveyance, dewatering, odor control, structural design and electrical design projects that are similar in scope to this project, although using different technologies. Information on additional relevant projects can be provided upon request or discussed in an interview setting if desired by the City.

We assume the City has visited Bioforcetech's demonstration facility at the Silicon Valley Clean Water WWTP in Redwood City. We would be happy to also host a site visit to the City of Redding's Clear Creek WWTP to see another example of a Bioforcetech installation if the City is interested at any point of the project, even if we're not selected for the project.

D. STAFFING

Our highly experienced project team is comprised of people with extensive recent experience directly related to biosolids conveyance, centrifuge dewatering and Bioforcetech BioDrying and pyrolysis as shown in the following project organization chart. This is the same team that that recently completed the design for the City of Redding's BioDrying and pyrolysis project which utilizes Bioforcetech equipment and is well positioned to hit the ground running on this project.



The core project team members are summarized below. Resumes are provided in Appendix 1 for additional details of our collective experience.

Water Works Engineers Personnel

760 Cypress Ave., Suite 201, Redding, CA 96001

This project will be managed by Joe Ziemann out of our Roseville, California office. Joe has a proven history of success in executing projects very similar in nature to this project. He will be committed to this project from start to finish and will be the single point of contact for City staff on all project issues. At Water Works Engineers, we believe and insist that our Project Managers have an in-depth involvement in the technical execution of the projects they manage. This significantly differentiates us from other firms, who see Project Management as a strictly administrative function. When you work with Water Works Engineers, the Project Manager is a one-stop shop for resolution of all project issues, from start to finish. Joe has the experience, judgement, and leadership skills to keep this project on-track and delivered while balancing the expectations and goals of all project participants. He also has the technical expertise and experience to be successful in the design of water tanks, booster pump stations, and pipelines, as well as significant knowledge in permitting, regulatory compliance, operation and maintenance, and navigating Agency building and planning department submittal, review and approval processes.

Joe Ziemann, P.E. – Project Manager (Roseville, CA)

Mr. Ziemann is a water and wastewater treatment process design and consulting engineer with 17 years of experience in the water, wastewater, and recycled water industry. He has worked as a project engineer and project manager on projects ranging from plan and specification preparation for new utility infrastructure to master planning and utility asset rehabilitation analysis and design. Mr. Ziemann prepared the City of Redding's Biosolids Management Master Plan Update which evaluated alternatives to reduce organic waste to landfill, which ultimately recommended BioDrying and pyrolysis. He then prepared the RFP for the pre-purchase of the BioDrying and pyrolysis equipment was a senior technical advisor during final design for the new facility.

Sami Kader, P.E. – Senior Technical Advisor (Redding, CA)

Mr. Kader is a water and wastewater treatment process design and consulting engineer with 30 years of experience in water, wastewater, and conveyance projects, and is also a founding Principal with Water Works Engineers. He has worked as a project manager, design manager and project engineer for large and small design projects as well as a resident engineer for large and small construction projects. His extensive construction administration experience provides him with a real-world practical knowledge of the application of design documents and details during construction and provides insight in the creation of constructible, practical designs which accomplish the intended engineering function with efficiency in both construction and operation. Sami's construction administration experience also provides him with a background in claims avoidance and assists in creating plans and specifications which will minimize confusion and claims (and therefore controlling overall project costs) during bidding and construction. Sami was the Project Manager for the City of Redding's BioDrying and pyrolysis project.

Tim Durbin, P.E. – QA/QC (Placerville, CA)

Mr. Durbin is a water and wastewater treatment process design and consulting engineer with 20 years of experience in the field of water and wastewater treatment and pumping systems. He started his career doing advanced research in wastewater chemistry, with a focus on strategies to minimize the formation of disinfection by-products. He has since applied his knowledge of chemistry and treatment processes to the design of water and wastewater treatment facilities. Mr. Durbin has worked on projects in California and other Western states related to treatment facility design, pumping of water and wastewater, chlorination, energy recovery, and chemical storage and feed system design. He currently serves as Quality Assurance Manager, where he oversees QA/QC procedures and technical reviews for projects across the firm.

Joe Riess, P.E. – Lead Civil and Mechanical Engineer (Redding, CA)

Mr. Riess is a water and wastewater treatment process design and consulting engineer with 25 years of experience in large and small civil infrastructure (water and wastewater treatment) projects, including feasibility studies, alternatives analyses, and design for treatment plant upgrades, expansions, modifications, and collection and treatment system monitoring, and construction management. He has specific experience in treatment process selection, closed-conduit and open channel hydraulic modeling, CADD design, GIS/GPS mapping, and other computer applications for designing and optimizing water and wastewater treatment and distribution systems. Mr. Riess was the design manager for the City of Redding's biosolids and pyrolysis project, and is currently the Construction Manager for the same project which is nearing completion.

Sheila Nilsen, P.E. – Project Engineer (Redding, CA)

Ms. Nilsen is a civil engineer with 6 years of experience in large and small civil infrastructure projects, including conceptual and preliminary design reports, construction document creation, engineering services during construction, and environmental inspector services. She has experience writing alternatives analyses, designing treatment plant upgrades, expansions, modifications, collection and treatment system monitoring and construction management. Sheila was the staff engineer responsible for preparing the Preliminary Design Report for the City of Redding's BioDrying and pyrolysis project and coordinating the civil and mechanical drawings and specifications for the project. Sheila is also currently providing submittal review, design support and inspection support on the City of Redding project.

Martin Puhlmann, P.E., S.E. – Senior Structural Engineer (Scottsdale, AZ)

Mr. Puhlmann has an extensive background and expertise in structural engineering through a career spanning 39 years. He has considerable structural engineering experience designing water and wastewater treatment plants and buildings including lateral analysis of buildings for wind and seismic forces, retaining wall design, reinforced concrete design, precast concrete design, steel design, precast concrete design and masonry design. He also has experience working in construction administration involving special structural inspections, plan review, shop drawings review and responding to RFIs. Mr. Puhlmann is very knowledgeable in the assessment of existing buildings and determining corrective action required to improve existing buildings. Martin was the senior structural engineer on the City of Redding's BioDrying and pyrolysis project.

Himai Mehere, E.I.T. – Staff Engineer (San Mateo, CA)

Ms. Mehere has over 6 years of experience in structural design engineering with projects in residential, mixed-use, and commercial building sector. She is proficient in steel, concrete, timber, masonry, and light-gage steel design and is a detail oriented, team player with proven ability to deliver fast paced projects from planning, design, permitting to construction phase. Ms. Himai prepared the anchorage calculations for the Bioforcetech BioDryers, conveyors, hoppers and pyrolysis system for the City of Redding's BioDrying and pyrolysis project and currently providing submittal review and design support during construction.

Subconsultants

Frisch Engineering, Inc (Electrical and Controls)

13405 Folsom Blvd., Suite 600, Folsom, CA 95630, (916) 353-1025,
https://www.frischengineering.com/

Frisch Electrical Engineering is committed to providing the highest level of quality and performance to assure each project's success from concept to completion. They provide Electrical Engineering, Construction Management, Programming Services and are continuously evolving with technology improvements to provide systems with the latest features. Frisch Engineering was founded in 2001 and has been dedicated to water/wastewater/power industries ever since. Their staff has a combined 130 years of experience, which averages to 20+ years per staff member. Typical projects are treatment plants, power plants, hydro-electric facilities, sub-stations, pump stations, reservoirs, wells, and sewage lift stations, and telemetry systems. They are proficient in power distribution, protective relaying, hardware controls, PLCs, SCADA, programming, and instrumentation.

Thomas Frisch, P.E.

Tom is a highly experienced electrical design engineer and will lead the electrical and instrumentation/control effort for this project. Tom has worked in the water/wastewater industry since 1991. His diverse experience includes both Contractor and Consultant services in various capacities. Consequently, he has an extremely high degree of product knowledge that enables him to minimize design exposure to unproven materials or practices. His designs for electrical, instrumentation, and telemetry systems have been very successful with near-zero design related change orders. His designs range from complex variable speed PLC control to simple "on-off" motor controls for pump stations, lift stations and motor operated valves, as well as SCADA telemetry. Tom has been the electrical engineer on many Water Works Engineers projects, including the City of Redding's BioDrying and pyrolysis project.

CWE (Surveying)

2260 Douglas Boulevard, Suite 160, Roseville, CA 95661, (916) 772-7800
https://cwecorp.com/

William F. "Bill" McKinney, P.L.S.

Bill's 50 years of experience encompasses public and private civil projects involving boundaries, mapping, topographic surveying, and construction staking. He has been Survey Supervisor for construction staking of roads and highways, bridges, buildings, underground piping, and utilities for commercial and residential properties as well as public and private development. Bill has experience resolving boundary and right-of-way discrepancies and is one of the more experienced and competent surveyors in the Sacramento area.

Bajada Geoscience (Geotechnical Services)

1003 Market St, Suite 201, Redding, CA 96001, (530) 638-5263
https://bajadageo.com/

Bajada Geosciences is a geotechnical engineering and engineering geologic company whose professionals have practiced throughout California since 1983. BGI personnel have extensive experience with tanks, treatment plants, pipelines, and trenchless, and other infrastructure-related projects utilizing state of the practice technologies during exploration, laboratory testing, and geotechnical evaluations. Their goal is to reduce conservatism while respecting client risk to assist our client's in saving time and money.

Jim Bianchin, P.G., C.E.G.

Jim is a Principal Engineering Geologist with more than 38 years of experience managing and providing engineering geologic services for geotechnical projects throughout California, Oregon,

Nevada, New Mexico, Oklahoma, and in the former Soviet Union. During much of his career, Jim has specialized in geotechnical services related to tank, pipeline, and treatment plant facility projects. Significant geotechnical projects that Jim has managed include the Central Coast Water Authority's Coastal Aqueduct Extension of the California State Water Project; design of scores of buried pre-stressed concrete water storage tanks in the Bay Area and Santa Barbara County; evaluation of 12 San Jose Water Company steel tanks; Carpinteria Valley Water District's water storage projects; and numerous Las Virgenes Municipal Water District storage and treatment projects. Jim provided geotechnical services for projects at the City of Redding's Clear Creek WWTP, including the dewatering and BioDrying and pyrolysis project.

Dave Cymanski, P.E., G.E.

Dave is a principal geotechnical engineer with over 33 years of experience as a consultant in the areas of geotechnical engineering. His experience has covered a wide variety of engineering projects throughout California, Oregon, and throughout the United States. His experience includes roadways, pipelines, heavy industrial facilities, airports, erosion control, characterization of site conditions, evaluations of geologic hazards, and surface and subsurface drainage facilities. Dave will be partnering with Bajada with this project to provide local geotechnical expertise.

E. PRICE

Our lump sum price for the Services required for this project is **$986,960**. This price is fully inclusive of all costs to provide the Services, including hourly billing rates, all labor, materials, equipment, supplies, the insurance required under the terms of the Agreement, travel fees, and any additional cost(s) the City would incur Water Works Engineers is awarded the project.

Our 2023 billing rates that would apply to any authorized additional Services not included in the Scope of Services are listed below.

Classification	Title	Hourly Rate
AA1	Administrative	81.00
AA2	Senior Administrative	114.00
E0	Jr Engineer / Jr Field Engineer	114.00
E1	Staff Engineer	143.00
E1A	Staff Engineer II	160.00
E2	Associate Engineer	175.00
E2A	Associate Engineer II	185.00
E3	Project Engineer	197.00
E3A	Project Engineer II	211.00
E4	Senior Project Engineer	228.00
E4A	Senior Project Engineer II	246.00
E5	Principal Engineer	264.00
E5A	Principal Engineer II	284.00
I1	Field Inspector	153.00
I2	Senior Inspector	172.00
I3	Supervising Inspector	191.00
T1	Drafter/Jr. Technician	97.00
T2	Designer/Sr. Technician	130.00
T3	Senior Designer	158.00

Notes:

1. A markup of 10% will be applied to all project related Subconsultants, Direct Costs and Expenses.
2. An additional premium of 25% will be added to the above rates for Expert Witness and Testimony Services.
3. Rate effective through December 31, 2023. A 3% increase will be added for any services performed in each year thereafter.

F. Proposed Approach

The core tenant of Water Works proposed approach is the recognition that considerable City time and resources have been expended on the equipment selection, conceptual design and RFP development leading up to this stage of the project. Now it is time to get the new dewatering, BioDrying and pyrolysis facilities designed, bid and constructed as efficiently as possible. To that end, Water Works has reviewed the RFP and is comfortable with the conceptual design, equipment selection, and required scope of services. We understand that the scope of this project will be as described in Exhibit B of the RFP, with key project elements as follows:

1. Topographic Survey
2. Geotechnical Services
3. Data Collection and Evaluation
4. Preliminary Design
5. Contract Documents
6. Assistance During Construction

The following sections briefly describe the assumptions we made in preparing this proposal and our fee, and our proposed approach. We understand that we may need to adjust some of our assumptions if awarded the project and will be happy to discuss them with City during an interview or prior to contract award.

Assumptions

To accurately scope this project, we have made the following assumptions based on our previous experience on similar projects, as listed below.

1. Process Design Responsibility:
    a. Bioforcetech and the City are responsible for the overall process design, including sizing and selection of the centrifuge, polymer system, BioDryers, pyrolysis equipment, boiler, chemical storage and feed, biofilter media, and all other systems included in Bioforcetech's scope of supply.
2. Bioforcetech Submittals:
    a. Submittals for all major equipment (i.e. centrifuge skid, BioDryers with airskids, pyrolysis units, conveyors, dry solids storage tanks, Biochar bagging stations, boiler and scrubbers) to be provided by Bioforcetech and installed by the contractor will be provided to Water Works Engineers prior to beginning preliminary design. Submittals will include to-scale drawings. Submittals for ancillary items (i.e. chemical tanks, chemical pumps, ductwork, control panels, etc.) will be provided piece-meal as they become available.
    b. Submittals will have all equipment weights, baseplate dimensions, anchor bolt type and size (anchor bolt design by Bioforcetech), and centers of gravity necessary for Water Works to complete the slab/foundation design.
    c. Submittals will clearly show all points of connection or contractor provided piping and ductworks, with connection type and size clearly labeled and dimensioned.
    d. Submittals will clearly indicate any components that will be shipped loose for contractor installation (e.g. valves and gauges for installation on air skid at heat exchanger)
3. Facilities and items to be designed by Water Works Engineers' project team are as listed below. Facilities and items not listed below, or expressly excluded, will be considered additional Services.

a. Site civil grading, paving and drainage design to accommodate the new facility. We assume that stormwater drainage can be conveyed by gravity to the adjacent stormwater detention basin on site.
b. Yard piping design (on-site) for WAS piping to the new centrifuge, plant drain piping to nearest feasible manhole, potable water, recycled water, natural gas, and other wet utilities necessary for a complete design.
c. Concrete or steel platform with stairs and guardrails to elevate the centrifuge(s) to the required level to support cake conveyance to the BioDryers and alternative loadout to dump truck. Some of the control panels may be located beneath the centrifuges, potentially in a conditioned room.
d. Odor control duct layout for contractor-supplied ductwork from scrubbers to biofilter.
e. Odor control ductwork design from centrifuge and new drain pump station wetwell to biofilter, with blowers and electrical as necessary.
f. Reinforced concrete slab to support Bioforcetech equipment:
    i. Sloped to area or trench drains
g. Pre-engineered metal canopy to cover all Bioforcetech equipment (approximately 208' x 102' footprint). The biofilter will be uncovered.
h. Spill containment for chemical storage tanks:
    i. Assumes tanks provided by Bioforcetech will be double wall tanks for secondary containment and concrete secondary containment structures are not required.
    ii. Spill containment provisions will be included in the design per California Fire Code requirements.
i. Centrate and BioDryer Pump Station:
    i. Pre-cast concrete or FRP wetwell with traffic rated lid with aluminum access hatch
    ii. Connection to odor control ductwork
    iii. Dual submersible pumps
    iv. Constant speed, float control
    v. Flowmeter
    vi. Control panel
j. Concrete footings and equipment pad design for all equipment and structures required to support the Bioforcetech-supplied equipment.
k. Structural steel seismic support system designs for elevated conveyors and foul air piping, potentially with integrated access platforms and stairs for equipment access
l. In-ground, concrete (or similar concept) biofilter utilizing media provided by Bioforcetech, including leachate collection and drains back to the new drain pump station.
m. Electrical design:
    i. Utility service with new transformer, meter/main switchboard, and feeders
    ii. Optional connection to existing 480 VAC electrical system if capacity exists
    iii. Lighting, receptacles, and grounding systems
    iv. No standby generator is required.
    v. No additional PLCs other than those that will be provided by Bioforcetech. Monitoring and control for devices not included in Bioforcetech's scope of supply will be by Bioforcetech's Main Panel E9.

4. Specifications:

a. Technical specifications (Divisions 1 through 46) will be developed for this project for contractor-furnished equipment.
b. The City's will be responsible for the front end bidding documents and Division 0 specifications

5. Permitting:
    a. Air Board Permit application has been completed by the City and submitted. No Air Board permitting in Water Works scope of work.
    b. No building or other local permits will be required by Water Works Engineers, per Clarification No. 1.
    c. No grading permits of C.3 stormwater permits will be required by Water Works Engineers.
    d. CEQA documentation has been or will be completed by the City.
6. Design Schedule:
    a. Our design schedule assumes delivery of Bioforcetech equipment in late spring/early summer 2025.
    b. Our goal is to complete the design with sufficient time to allow the project to be advertised, awarded and for construction to commence and be ready for delivery and installation of the Bioforcetech equipment delivery when available.
    c. The proposed design and bidding schedule is shown Appendix 2. We believe this schedule is conservative to account for project unknowns at this time and will be accelerated to the extent possible to provide more float in the schedule.
7. Estimated Construction Duration:
    a. Construction duration is anticipated to be approximately 360 calendar days, occurring predominantly in 2025. The estimated construction schedule is shown in Appendix 2.

Kickoff Meeting and Data Collection

The provide the services required to complete this project, our proposed approach begins with a kickoff meeting at the project site with key project team members. The focus of this meeting is to introduce the project team, review the project objectives, identify project constraints and City preferences, City Standards and Specifications, review Bioforcetech's scope of supply, familiarize the team with the existing treatment plant layout, and establish a solid starting point for preliminary design activities. During this meeting, we will want to review the existing WAS pumping, natural gas, electrical and SCADA systems and discuss options for integrating them with the proposed facilities. The proposed site for the new facility will be visited and constraints identified for raising the grade, including any interfering utilities, roadways, paths, etc. We will review existing chemical storage and feed facilities and truck access routes and schedules to assist with the new facility design. As-built drawings for the WWTP and all relevant historical data will be requested. The overall intent is that after this kickoff meeting, the project team will have a clear path to follow into preliminary design and can get right to work.

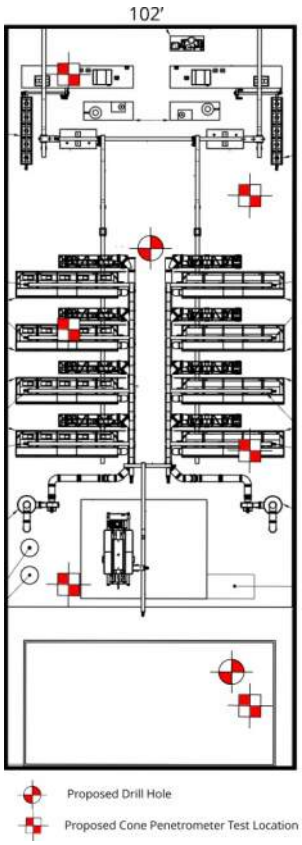
Topographic Survey and Geotechnical Services

Following the kickoff meeting, and after any decisions must be made to lock in the location and footprint of the new facilities, topographic survey and geotechnical investigations will be conducted at the site. This work will happen very early in the process to help identify utility locations and conflicts and serve as the basis for the site and structural designs.

If accurate as-built drawings are not available for any mechanical items for WAS conveyance (i.e. WAS pumps, piping, etc.) that will need to be modified under this project, Water Works Engineers will use our 3D LiDAR scanner to scan the WAS pumping facility. By utilizing the point cloud from the LiDAR scan, we can accurately model the existing pumps, piping, valves, etc. for inclusion in the Contact Documents.

The geotechnical services are divided into four tasks, as summarized below. A more detailed description of the geotechnical services scoped will be provided upon request.

1. Pre-exploration
2. Subsurface exploration:
    a. Two (2) exploratory drill holes to 50-feet
    b. Six (6) electric cone penetration tests
3. Laboratory testing
4. Geotechnical analyses
5. Reporting:
    a. Draft and Final reports)



Data Evaluation and Preliminary Design

Data collected during and after the kickoff meeting will be evaluated to confirm current and projected WAS pumping rates, electrical system capacities, natural gas system capacity, utility locations, vehicle paths of travel, and any other evaluations necessary for a complete design. We will work with the City and Bioforcetech to identify any conflicts related to the location and installation of the new pre-purchased equipment. We will also coordinate with the City and Bioforcetech to obtain accurate shop drawings for the new equipment to clearly show the scope of Bioforcetech's supply, points of connection for contractor-furnished items, and items that will be shipped loose for installation by the contractor. Of all the coordination items with Bioforcetech, this is the most critical to ensure that nothing gets left out of the design that may surface during construction as a change order.

The data and evaluations will be included in the Preliminary Design Report (PDR). The PDR will be prepared in draft form, reviewed by our QA/QC lead, and a meeting scheduled with the City to review the draft PDR. The goal is for all major design elements, evaluated data, and design criteria be identified and documented in the PDR, including construction cost estimate, Bioforcetech equipment information, utility requirements, geotechnical considerations and initial facility renderings produced for City's review, input and buy-in. The PDR will include 3D renderings, plans and sections of the new facility and major Bioforcetech equipment along with the site grading and structural slab, and draft P&IDs.

During PDR development, our team will strive to identify value adding opportunities that will either reduce construction costs, improve plant operations and reliability, or both. For example, depending on the City's preference for chemical storage and feed system layout, the new Centrifuge facility or Biochar Canopy could be designed to house the chemicals rather than locate them outside on the main slab as shown in Bioforcetech's conceptual layout. Additionally, the odor control ductwork from

the BioDryers to the scrubbers could be revised to be installed the slab to improve access and allow the scrubbers to be located adjacent to each other, potentially manifolding the two headers together to provide redundancy in case one scrubber is out of service. We understand that the Bioforcetech equipment has been pre-purchased, but there may be room to improve the layout and reduce costs with minor modifications to the conveyor and duct layout.

Comments received by the City and Bioforcetech on the Draft PDR will be reviewed and incorporated into the final PDR which will be the basis for moving forward with final design activities.

Contract Documents

Water Works' team will prepare the necessary contract documents (construction plans, typical details, specifications, 3D renderings and cost estimates) for the project, based on the design criteria and recommendations included in the Preliminary Design Report. The preparation of contract documents will be completed in three submittals: 60%, 90% and 100% Design Submittals. Prior to each submittal, the work product will be reviewed through our QA/QC process and, upon submittal to the City, will have been reviewed and revised in accordance with the QA/QC plan. Submittal of the 60% and 90% review documents will occur at design review meetings with the entire project team. The contents of the submittals will be presented to City to familiarize the group with the information being submitted and the design thought process behind the work. Following the design review meetings, we anticipate a 2-week City review period to provide any additional comments which were not brought forward during the design review meetings.

A preliminary drawing list and specifications table of contents were not included for the sake of brevity but can be included if requested.

60% Design Submittal

The 60% Design Submittal build off of the PDR and will communicate to the City the project design so that meaningful discussion can take place and the core project decisions can be made as a group. Water Works will use a combination of 2D design drawings, 3-dimensional CADD models, manufacturers' information and other communication tools to allow the City an opportunity for significant input into the design process. The following deliverables will be provided by City with this submittal:

- 60% Design Drawings (PDF)
- 60% Calculations
- 60% Technical Specifications
- 60% Cost Estimate

90% Design Submittal

In general, the 90% Design Submittal will be a complete project package, with all design drawings developed and the majority of details and specifications included. The period between 90% and 100% should solely be dedicated to minor inter-disciplinary coordination and final QA/QC checking of all documents. In the 90% submittal, 2-dimensional plan and section drawings are incorporated with 3-dimensional isometrics to clearly show how complex structures, equipment and piping systems are to be constructed. The following deliverables will be provided by City with this submittal:

- 90% Design Drawings (PDF)
- 90% Calculations
- 90% Technical Specifications
- 90% Cost Estimate

100% Design Submittal

The 100% Design Submittal will be prepared and submitted to the City for their use in soliciting contractor bids and constructing the project. Comments provided by the City at the 90% design stage or QA/QC comments generated by our QA/QC review team will be addressed and the project set will be completed. The following deliverables will be provided by City with this submittal:

- 100% Design Drawings (PDF)
- 100% Calculations
- 100% Technical Specifications
- 100% Cost Estimate

Assistance During Construction

Water Works is committed to the successful completion of this project and will provide assistance during bidding to ensure that the design intent is understood by interested bidders and throughout design by collaborating with the City and the installing contractor throughout construction and system startup. As required in the RFP, we will provide the following services at a minimum:

1. Conduct pre-bid meeting with prospective bidders to answer contractor and supplier technical questions;
2. Coordinate through City responses to contractor and supplier technical questions during bidding and assist with preparing any addenda and/or clarifications;
3. Assist the City with submittal reviews, preparation of change orders and response to requests for information related to design technical issues encountered;
4. Prepare as-built drawings following construction from mark ups by the contractor. The original engineers stamp and signature shall be maintained on the as-built drawings. An “As-Built” or “Record Drawing” stamp shall be added to the drawings.

Additionally, we propose that our Project Manager and lead design engineers visit the site approximately monthly during construction to review the construction progress against the design drawings, answer City and contractor/supplier questions, discuss desired/required changes in the field, and provide structural observations as necessary per California Building Code. We will also attend construction meetings virtually as necessary to ensure the project proceeds smoothly.

APPENDIX 1 – RESUMES

JOE ZIEMANN, P.E.

Project Engineer/Project Manager

Education	Experience	Registration	Memberships
M.S. – Environmental Eng. Lehigh University (2006)	14 years with the firm / 17 years total	Registered Civil Engineer California - C76172	AWWA CWEA
B.S. – Environmental Eng., Lehigh University (2005)			

Mr. Ziemann is a water and wastewater treatment process design and consulting engineer with 17 years of experience in the water, wastewater, and recycled water industry. He has worked as a project engineer and project manager on projects ranging from plan and specification preparation for new utility infrastructure to master planning and utility asset rehabilitation analysis and design. Mr. Ziemann's experience also includes operations and maintenance planning and protocol development, as well as graphical information systems (GIS) analysis, which have allowed him to develop a broad perspective of how individual projects fit in to the larger picture of a municipality's overall utility scheme and future objectives.

REPRESENTATIVE PROJECT EXPERIENCE

City of Redding Clear Creek WWTP Phase 1 Biodrying and Pyrolysis Project (Planning, Design)
Mr. Ziemann developed owner pre-purchase documents and provided planning and design support from preliminary design through contract documents for a Bioforcetech BioDrying and Pyrolysis biosolids treatment system utilizing 3 BioDryers and 1 pyrolysis unit, with provisions to expand to 12 BioDryers and 2 pyrolysis units. Prior to this project, Mr. Ziemann prepared the Wastewater Treatment Plant Biosolids Master Plan Update for the City which included the alternative evaluations and recommendation to utilize Bioforcetech's BioDryers and pyrolysis systems.

City of Folsom WTP Solids Dewatering Facility – Folsom, CA (Design/Build)
Water Works Engineers, in partnership with Auburn Constructors, was hired by the City to provide design-build services for the Dewatering Facility Project at the 50-mgd City of Folsom Water Treatment Plant. The project included rehabilitation of the existing flocculation/sedimentation basins to serve as filter backwash / actiflo blowdown treatment systems, sludge homogenization tanks with chopper pump-mixing, and a screwpress dewatering system and roll-off container storage for 20-25% cake prior to landfill disposal. Mr. Ziemann also developed a detailed Operations Guide for the facility which included SOPs for typical startup, shutdown, coagulant dose adjustment, operational mode selection, HMI control screen descriptions, and operational setpoints.

City of Roseville Dry Creek WWTP Sewer Collection System and Pump Station Hydraulic Investigation -Roseville, CA (Assessment) Mr. Ziemann provided engineering services in conducting a review of the existing City of Roseville sanitary sewer hydraulic model (in InfoWorks ICM) and developing inflow and infiltration reduction program recommendations.

Dry Creek Secondary Clarifier Replacement Project - City of Roseville, CA (Design/CM) Mr. Ziemann provided design and construction management services for the complete rehabilitation and replacement of four circular secondary clarifiers. The project included demolition of all existing internal mechanical equipment, re-tasking of existing concrete **structures** and supports, and replacement of the drive mechanisms with new stainless steel equipment. The project also included RAS pump replacement and controls improvements.

Sewer System Hydraulic Model and Master Plan - Woodland CA (Regulatory Compliance) Mr. Ziemann was involved with all phases of the hydraulic model development process, which included the following tasks: setup of the physical model within MWH Soft InfoSewer based on existing sewer collection system GIS data, physical data quality review, quantification of existing and future sewer system flows using land use GIS data, development

of adjustable spatial sewage flow assignment methods, establishment of modeling scenarios and dynamic simulation parameters, analysis of simulation results, and calibration with flow monitoring data. The project included assistance with integration of the hydraulic modeling process into the City's System Evaluation and Capacity Assurance section of their Sewer System Management Plan (SSMP) and development of processes and procedures for the City's continued use of the model by the technology and engineering departments.

City of Folsom Sewer Meter Replacement - Folsom CA (Regulatory Compliance) Mr. Ziemann developed construction plans and specifications and provided construction management services for replacement of 17 existing open-channel sewer flow meters throughout the City's sewer collection system and for installation of 3 new flow metering sites. The project included updates to the City's SCADA system that is used to monitor and record the flow meter data to allow for a more streamlined process of data extraction for future hydraulic model updates.

Placer County Water Agency WTP Operations Guides – Auburn, CA (Operations) Mr. Ziemann developed digital Operations Guides for all 8 of the Agency's water treatment plants. The Operations Guides will serve as a central location for plant information such as equipment O&M manuals, as-built drawings, and SOPs. The Operations Guides include clickable links to relevant documents and are easily navigable for both Operations and Engineering Staff.

City of Folsom – System Wide Sewer Hydraulic Evaluation and Capacity Assurance Plan – Folsom CA (Master Planning; Assessment; Model) Mr. Ziemann prepared a system wide sewer hydraulic evaluation and capacity assurance plan (SECAP) for existing and future development scenarios, and developed a new hydraulic model that simulated 250 miles of 6" to 54" pipeline within InfoWorks ICM 7.0 under design storm peak wet weather flow conditions. The process began with updating the existing GIS sewer network, adapting the new City General Plan into actionable development scenarios for the sewer collection system, and conducting a thorough analysis of existing flow meter data to produce a calibrated hydraulic model. Based on model simulation results a list of improvements with an associated timeline and trigger points was produced, along with a recommended inflow and infiltration reduction program to address capacity constraints within the collection system.

County of San Mateo On-Call Services CCTV Data Analysis – Redwood City, CA Mr. Ziemann provided field and office engineering assistance for the Wastewater Collection System CCTV Project at various County Sanitation and Sewer Maintenance Districts. Services included periodic field observation of CCTV Contractor during services, review of PACP observation code conformance, and production of daily field reports to summarize CCTV Contractor field work. Mr. Ziemann reviewed CCTV videos and conditions assessment reports for quality and compliance with PACP coding requirements and developed repair, replacement and rehabilitation recommendation for identified defects.

Sanitary Sewer Management Plan Development and Implementation Woodland, Shasta Lake, Rosemead, and Fresno County, CA (Regulatory Compliance) Typical services included General Waste Discharge Requirement gap analysis, SSMP development workshop facilitation, SSMP development plan and schedule preparation, staffing and budgeting impact assessment, and management, operation, and maintenance program development. Mr. Ziemann has extensive experience interpreting the requirements of the GWDR and developing operation, maintenance, capital improvement planning, fats/oils/grease control, and capacity assessment programs appropriate for the size and complexity of various types of sewer collection systems to both meet regulatory requirements and provide a value in terms of enhancing proactive and strategic maintenance and planning processes.

Sami Kader, PE

Principal

Education	Years of Experience	Registration	Memberships
M.S. – Civil/Environmental Engineering, University of Washington (1995) B.S. – Civil/Environmental Engineering, University of California, Davis (1993)	18 years with the firm/ 30 years total	Registered Civil Engineer: Arizona - 30012 California - C61534 Utah – 8169064-2202	WEF AZWA

Mr. Kader is a civil/sanitary design and construction engineer with 30 years of experience in water, wastewater, and conveyance projects. He has worked as a project manager, design manager and project engineer for large and small design projects as well as a resident engineer for large and s mall construction projects. His extensive construction administration experience provides him with a real world practical knowledge of the application of design documents and details during construction and provides insight in the creation of constructible, practical designs which accomplish the intended engineering function with efficiency in both construction and operation. Sami's construction administration experience also provides him with a background in claims avoidance and assists in creating plans and specifications which will minimize confusion and claims (and therefore controlling overall project costs) during bidding and construction.

Representative Project Experience

City of Redding Clear Creek WWTP Phase 1 Biodrying and Pyrolysis Project (Planning, Design)
Mr. Kader was the Project Manager and Principal in charge for a Bioforcetech BioDrying and Pyrolysis biosolids treatment system utilizing 3 BioDryers and 1 pyrolsys unit, with provisions to expand to 12 BioDryers and 2 pyrolysis units. Mr. Kader also the engineer of record for the Civil and Mechanical designs for this project.

City of Redding Clear Creek WWTP Biolsolids Dewatering and Handling Facility – Redding, CA (Design)
Mr. Kader was the Project Manager overseeing the Biosolids Dewatering Building design, complete with mechanical dewatering equipment, truck loading facilities, and all ancillary systems (e.g. polymer feed systems, utility water, HVAC, odor control. Design includes a Trucked Waste Receiving Station, integrated into the Biosolids Dewatering Facility and sharing truck routes.

City of Shasta Lake Water Treatment Residuals Feasibility Analysis - Shasta Lake, CA (Study) Mr. Kader was the Principal in Charge of this study that evaluated continued use of the Dewatering Ponds, which would require a Title 27 compliant lining and leachate monitoring system, in addition to elimination of the discharge of any dewatering liquids from the site (via land application). In addition, Water Works Engineers is evaluating the construction of a dewatering facility on the grounds of the WTP, which would allow the City to eliminate the operation and maintenance of the dewatering ponds on a separate site.

California Water Company Lucerne Water Treatment Plant Upgrade Project - Lucerne, CA (Design) Mr. Kader managed the design upgrade of a 1-mgd Water Treatment Plant from dual-media pressure filtration, carbon absorption and chlorine disinfection to microfiltration and ultraviolet disinfection. Included upgrades to various ancillary WTP systems including chemical storage and feed, pretreatment chemical addition and mixing, pre-screening, backwash settling and solids dewatering systems.

Longley Lane Water Treatment Plant - Washoe County, NV (Design, CM, Start-up and Operations support) Mr. Kader managed engineering planning, design and construction administration service s of a 4-mgd expandable to 6-mgd microfiltration water treatment plant for meeting SWTR regulations and providing coagulation/microfiltration for arsenic removal. Treatment process includes pH adjustment with CO2, ferric chloride feed, microfiltration, sodium hypochlorite and sodium hydroxide feed, chlorine

contact tank, finished water pumping, backwash recovery, solids dewatering with plate and frame filter press.

Fallon Paiute Shoshone Tribe Arsenic Removal WTP, Fallon, NV (Design, SDC, Start-up and Operations Support) Mr. Kader managed the design, provided construction administration, start-up and operations support for a 0.5-mgd WTP using coagulation/microfiltration (C/MF) for arsenic removal. 100-ug/L arsenic in raw water. Treatment process includes pH adjustment with CO2, ferric chloride and sodium hypochlorite addition, microfiltration, CO2 stripping, and backwash treatment consisting of lamella plate clarification and filter-bottom roll-off container dewatering (0.5-mgd).

City of Folsom Easton Valley Parkway Lift Station – Folsom, CA (Design) Mr. Kader provided QA/QC on the design services for the Folsom Plan Area Easton Valley Parkway Sewer Lift Station and Forcemain. The project included design of a 3MGD duplex submersible pump station with provisions to increase to 7 MGD at build-out. Site improvements included MCC, SCADA and emergency generator building; odor control; by-pass pumping connections; and approximately 3000-LF of forcemain, with two elevated creek crossing and a 300-LF auger bore and jack crossing of Highway 50 (eight lanes of traffic). Unique features of the project included analysis of multiple lift station design options, including vertical turbine solids handling pumps versus a grinder with submersible N-series Flygt pumps versus dry/wet pit submersible pumps We also compared absorbent, air scrubber, and bio-filters to identify the odor control device that best met the long term needs of the site.

Redding Rancheria Win River Lift Station Replacement - Redding, CA (Design, CM) Mr. Kader was the Project Manager overseeing the replacement design and construction management of existing 500-gpm submersible pump station with a new pump station in a new location. Included odor scrubbing equipment to remove station odors as the new location was adjacent to a public gathering/tribal ceremony area.

Nogales International Wastewater Treatment Plant Upgrade - Nogales, AZ (Design-Build) Mr. Kader served as QA/QC on the Design-Build team selected to design and construct the 14 mgd activated sludge process for the Nogales International Wastewater Plant Upgrade. The existing lagoon plant was upgraded to treat 14 mgd of wastewater coming from Nogales, Arizona and Nogales, Mexico. The project included upgrades to the raw wastewater screening, new grit removal facilities, nitrification/denitrification activated sludge system including anoxic basins, aeration basins and secondary clarifiers and new belt filter press sludge dewatering system.

City of Redding Stillwater WWTP Chlorine and Sulfur Dioxide Gas Safety Improvements Project – Redding, CA Modification of the existing chlorine gas storage and feed system (eight 1-ton cylinders and 3 2000-lb/day chlorinators) and sulfur dioxide gas feed system (eight 1-ton cylinders and 2 500 lb/day sulfonators) to improve system safety. The existing system used wall mounted vacuum regulators which were fed under pressure from each of the active 1-ton cylinders. The system was changed to use tank mounted vacuum regulators on each cylinder to eliminate gas lines under pressure and go to an all-vacuum system.

Sharon Heights Golf Club Water Reclamation Facility (WRF) - Menlo Park, CA (Design/Permitting) The project involved the design and construction of a MBR plant at the Sharon Heights Golf Club that produces Title 22 recycled water for use on the landscaping. Influent for the plant is pumped from a new pump station and forcemain to the plant. The project included the civil and yard piping design, permitting the WRF and pipeline including complying with the ISMND, writing the Title 22 WRF engineering report, and assisting with the SWPPP, Caltrans encroachment permit, County encroachment permit, and City encroachment permit. Mr. Kader was the Principal/Project Manager in Charge.

Tim Durbin, PE

Quality Assurance Manager

Education
M.S. – Civil/Environmental Engineering, University of California, Berkley (2002)
B.S. – Chemical Engineering, Pennsylvania State University (2000)

Years of Experience
17 years with the firm / 20 years total

Registration
Registered Civil Engineer: California – C75456

Mr. Durbin is a civil/environmental engineer with 20 years of experience in the field of water and wastewater treatment and pumping systems. He started his career doing advanced research in wastewater chemistry, with a focus on strategies to minimize the formation of disinfection by-products. He has since applied his knowledge of chemistry and treatment processes to the design of water and wastewater treatment facilities. Mr. Durbin has worked on projects in California and other Western states related to treatment facility design, pumping of water and wastewater, chlorination, energy recovery, and chemical storage and feed system design. He currently serves as Quality Assurance Manager, where he oversees QA/QC procedures and technical reviews for projects across the firm.

As the Quality Assurance Manager, Mr. Durbin has firm-wide responsibilities for overseeing all QA and QC activities. His responsibilities include:

- Refining the existing QA program and QC procedures
- Creating new procedures and guidelines to help ensure the quality of our work products
- Overseeing QC reviews for all project deliverables. Mr. Durbin performs some QC review activities himself and delegates some activities to other engineers
- Revising master guide specifications and standardized calculation spreadsheets as necessary
- Helping resolve conflicts or differences of opinion that arise
- Providing general assistance regarding engineering design to employees throughout the firm

Prior to becoming Quality Assurance Manager, he worked as project manager and engineer on a wide range of water and wastewater projects, with a focus on process and mechanical design. Mr. Durbin has worked on the following projects either in his quality control capacity or as project manager or project engineer.

Representative Project Experience

City of Redding Clear Creek Water Treatment Plant Biosolids Pyrolysis – Redding, CA

City of Redding Stillwater Wastewater Treatment Plant Odor Scrubber Replacement – Redding, CA

City of Provo WATRR Center Phase 1 2020 Improvement Project – Provo, UT

Hawaii Water Services Co., Pukalani WWTP – Maui, Hawaii

Albuquerque Bernalillo County Water Utility Authority Ammonium Sulfate Storage and Feed Facility – Albuquerque, NM

Oro Loma Sanitary District, Aeration Modifications Project – San Lorenzo, CA

Salt Lake City 1800 North Sewer Realignment – Salt Lake City, UT

City of Morro Bay WRF Lift Station and Offsite Pipelines – Morro Bay, CA

Ross Valley Sanitation District Pump Stations 12 &13 Rehabilitation Project – Greenbrae, CA

City of Redding, North Market Lift Station – Redding, CA

Alameda Bay Farm Island Sewer Lift Station Upgrade – Alameda, CA
City of Flagstaff On-Call – Flagstaff, AZ
City of Redding Stillwater Facility Plan Update – Redding, CA
S.T. Rhoades Construction Incorporated, Monterey Presidio Surge Relief Project – Redding, CA
City of Goodyear Rainbow Valley Reclamation Facility Centrifuge Upgrades – Goodyear, AZ
California Water Service DOM Well 30 Treatment – Compton, CA
Town of Gilbert North Water Treatment Plant – Gilbert, CA
Golden State Water Company 129th Street, Bellhaven, Southern & Doty Improvements – Gardena, Los Angeles, and Hawthorne, CA
Casitas Municipal Water District Ojai Water Pipeline Replacement – Ojai CA
Contra Costa Water District Chemical Storage Improvements Phase 2 – Oakley, CA
County of San Mateo CSA No. 7 Treatment Plant Improvements Project – Redwood City, CA
East Valley Water District Plant 134 GAC Improvements Project – Highland, CA
City of Goodyear Brine Management Project – Goodyear, AZ
Amy's Kitchen, Process Water Treatment Facility – Pocatello, ID
City of Scottsdale Thomas Groundwater Treatment Facility Detailed Design – Scottsdale, AZ
City of Millbrae Water System Improvement Project – Millbrae, CA
Casitas Municipal Water District Casitas Dam Drainage Improvements – Ventura, CA
Casitas Municipal Water District, Ojai Water Pipeline Replacement – Ojai CA
City of Davis, Phase 1 Recycled Water Facilities – Davis, CA
California Water Service DOM 272 Well Improvements – Compton, CA
Phillipsville Community Services District Water Quality, Storage, and Distribution Improvements Project – Phillipsville, CA
City of San Bruno Sneath and Lake Pump Station Rehabilitation Project – San Bruno, CA
Arizona Water Company East Sedona Water Storage and Booster Pump Station Design – Sedona, AZ
Valley of the Moon Water District Saddle Rd. Tank – Glen Ellen, CA
City of Prescott Water Production Facility and Intermediate Pump Station Facility – Prescott, AZ
City of Roseville West Side Tank and Pump Station Design and CM – Roseville, CA
San Jose Water Belgatos Reservoirs Replacement – Los Gatos, CA
California Water Service, Palos Verdes Stations 22, 23, and 30 Surge Tank Project – Palos Verdes, CA
Oakland Zoo, California Trail Exhibit Pump Stations – Oakland, CA
Paradise Irrigation District Engineering Services – Paradise, CA
City of Scottsdale Engineering Support Services – Scottsdale, AZ
Redway Community Services District WWTP Biosolids Master Plan – Redway, CA
Paradise Irrigation District Disaster Recovery Management Services – Paradise, CA
City of Carmichael La Vista Tank Replacement – Carmichael, CA
City of Roseville West Side Tank and Pump Station Design and CM – Roseville, CA

Joe Riess, PE

Senior Project Engineer/Project Manager

Education	Years of Experience	Registration
M.S. – Civil/Env. Engineering, University of California, Davis (2001/Honors) B.S. – Env. Resources Engineering, Humboldt State University (1998/Honors)	22 years with the firm / 25 years total	Registered Civil Engineer: California – C66413

Mr. Riess is a water/wastewater process design engineer with over 25 years of experience in large and small civil infrastructure (water and wastewater treatment) projects, including feasibility studies, alternatives analyses, and design for treatment plant upgrades, expansions, modifications, and collection and treatment system monitoring. He has specific experience in treatment process selection, closed-conduit and open channel hydraulic modeling, CADD design, GIS/GPS mapping, and other computer applications for designing and optimizing water and wastewater treatment and distribution systems. Typical duties include client interaction, permit review, technical report preparation and review, cost estimate preparation and review, preparation of contract drawings and specifications, contractor interaction, field visits, inspections, and engineering services during construction. Mr. Riess also has experience implementing large-scale river restoration projects, and coordinating with multiple local, state and federal agencies, stakeholders and landowners.

Representative Project Experience

City of Redding Clear Creek WWTP Phase 1 Biodrying and Pyrolysis Project (Design, CM)
Mr. Riess was the Senior Project Engineer that provided oversight on development of owner pre-purchase documents and preliminary design for a Bioforcetech BioDrying and Pyrolysis biosolids treatment system utilizing 3 BioDryers and 1 pyrolysis unit, with provisions to expand to 12 BioDryers and 2 pyrolysis units. During final design, Mr. Riess assisted with the civil and mechanical design development and subsequent building department review. Mr. Riess is currently the Construction Manager and part-time onsite representative for the City.

City of Redding Clear Creek WWTP Biosolids Dewatering and Handling Facility – Redding, CA (Design, CM)
Mr. Riess was the lead process engineer and Construction Manager for the City's new Biosolids Dewatering Building. The project included new centrifuge dewatering equipment, shaftless screw conveyors, truck loading facilities, and all ancillary systems (e.g. sludge feed pumps, polymer feed systems, HVAC, odor control, etc.). Mr. Riess was the Construction Manager and part-time onsite representative for the City.

City of Shasta Lake Wastewater Treatment Plant Final Design – Shasta Lake, CA (Planning/Design/SDC)
Mr. Riess was a Senior Project Engineer that oversaw the preliminary and final design of upgrades to the existing wastewater treatment plant that included a new influent pump station, retrofit of an oxidation ditch to an equalization basin, new 5-stage Bardenpho aeration basins, a new secondary clarifier, rehabilitation of existing clarifiers, a blower facility, and chemical feed systems. Also included in the project was the BioWin modeling of the advanced wastewater treatment upgrades to the plant.

Ross Valley Sanitation District Pump Stations 12 &13 Rehabilitation Project – Greenbrae, CA (Planning/Design/SDC)
Mr. Riess provided engineering services on this project which involved the alternatives assessment, preferred rehabilitation method selection, and preliminary engineering analysis for 5-pump / 10 MGD Bon

Air (PS12) and Duplex / 0.5 MGD Greenbrae (PS13) Wastewater Pump Station. Alternatives analysis included review, combining and update to the District's SewerCAD and InfoSWIMM hydraulic models to determine the required PWWF capacity for each. Following preliminary engineering assessment, Mr. Riess assisted the final design and construction management of the improvements project.

Tahoe-Truckee Sanitation Agency Water Reclamation Plant expansion and Upgrade – Truckee, CA (Design, SDC)

Mr. Riess was the Lead Process Engineer and Project Manager for advanced WWTP expansion from 7.4 to 9.6 mgd. The project included new primary clarifier, primary effluent flow splitting structure, high-purity oxygen activated sludge basin, liquid oxygen storage, secondary clarifier, sludge flow splitting, tertiary filters, biological nitrogen removal, biological odor control, and centrifuge solids dewatering (9.6 mgd).

Advanced Wastewater Treatment Plant – City of Hayward and Calpine/Bechtel, Hayward, California (Design)

Mr. Riess evaluated and prepared preliminary design and cost analysis for an advanced wastewater treatment plant. Evaluated alternative schemes to treat secondary effluent to Title 22 reuse standards for use as cooling water in a proposed power generation facility. Treatment processes and associated equipment evaluated included rapid mix, coagulation, flocculation, granular medium filtration, microfiltration, reverse osmosis, copper removal through co precipitation, and solids thickening and dewatering.

Weaverville Sanitary District Water Reclamation System – Weaverville, CA (Design)

Mr. Riess prepared preliminary and final designs to upgrade an existing WWTP from secondary to tertiary treatment to provide recycled water to users within the community. The project included the addition of a new secondary effluent equalization basin, filter influent pump station, tertiary filtration system, and recycled water storage and distribution system (0.5 mgd).

City of Thousand Oaks Hill Canyon Wastewater Treatment Plant Upgrade – Thousand Oaks, CA (Design, SDC)

Mr. Riess provided value engineering assistance and design of several major unit processes to be added or upgraded at the Hill Canyon Wastewater Treatment Plant. He designed a new filter influent pump station, upgrade of the existing filter influent pump station, new rapid mix, flocculation, and coagulation basin, and a polymer storage and feed facility (30 mgd).

Olivehurst Public Utilities District WWTP Upgrade and Expansion – Olivehurst, CA (Design, SDC)

Mr. Riess was the Lead Process Engineer and assistant design manager for WWTP expansion from 1.8 to 3.0 mgd ADWF. The project included California Toxics Rule compliance and the following new processes: fine screens, grit chambers, influent pump station, oxidation ditch, secondary clarifier, RAS/WAS pump station, filter influent pump station, cloth media filters, UV disinfection channels, re-aeration basin, chemical storage and feed, effluent pumps and outfall structure (3 mgd).

City of Redding Mary Street Lift Station Replacement – Redding, CA (Design)

Mr. Riess designed a replacement of an existing raw sewage lift station with new, parallel wet-pit lift station using duplex dry-put submersible pumps, and new electrical building with outdoor diesel generator set. He performed hydraulic calculations to support future 12-inch forcemain project (5.9 mgd)

SHEILA NILSEN, P.E.

ASSOCIATE ENGINEER

Education
B.S. – Environmental Engineering
Cal Poly,
San Luis Obispo, CA

Experience
8 years with the firm /
10 years total

Registration
Registered Civil Engineer
California - 89764

Ms. Nilsen is a registered civil engineer with nearly 10 years of experience in large and small civil infrastructure projects, including conceptual and preliminary design reports, construction document creation, engineering services during construction, and environmental inspector services. She has experience writing alternatives analyses, designing treatment plant upgrades, expansions, modifications, and collection and treatment system monitoring. Typical duties include engineering services during construction, engineering design, client interaction, permit review, technical report preparation and review, cost estimate preparation and review, preparation of contract drawings and specifications, contractor interaction, field visits and inspections. Ms. Nilsen also has experience coordinating with multiple local, state and federal agencies.

Representative Project Experience

City of Redding Clear Creek WWTP Phase 1 Biodrying and Pyrolysis Project (Design, CM)
Ms. Nilsen was the staff engineer responsible for the development of the preliminary design report for a Bioforcetech BioDrying and Pyrolysis biosolids treatment system utilizing 3 BioDryers and 1 pyrolysis unit, with provisions to expand to 12 BioDryers and 2 pyrolysis units. During final design, Ms. Nilsen coordinated civil and mechanical design development. Ms. Nilsen is currently the provided engineering services during construction and part-time inspection for the City.

City of Redding Clear Creek WWTP Biosolids Dewatering and Handling Facility – Redding, CA 2015 (Design) Ms. Nilsen performed resident engineer activities overseeing construction activities during the erection of the Biosolids Dewatering Building which included mechanical dewatering equipment, truck loading facilities, and ancillary systems (e.g. polymer feed systems, utility water, HVAC, odor control). She oversaw the project to completion by coordinating employee training, startup activities, and contractor finishing activities.

Redway Community Services District WWTP Biosolids Master Plan (Master Plan) Updated the Biosolids Master Plan required by the Regional Water Quality Control Board and to comply with applicable portions of 40 CFR57, 258 and 503 General Waste Discharge Requirements.

Redway Community Services District, CA 2018 (Wastewater Treatment Plant Upgrade Alternatives and Hydraulic Analysis) Ms. Nilsen completed the master plan update and effluent pumping analysis for Redway Community Service District. The discharge permit required an analysis of the current biosolids management program, including solids digestion, dewatering and disposal upgrade alternatives and effluent pump capacity and improvement analysis. She completed a hydraulic analysis of the effluent pipeline and determined the most cost-effective solution for improving the current solids handling process.

Sharon Heights Golf Course Water Reclamation Facility Design-Build - Menlo Park, CA (Design/Permitting) The project involved the design and construction of a MBR plant at the Sharon Heights Golf Club that produces Title 22 recycled water for use on the landscaping. Influent for the plant is pumped from a new pump station and forcemain to the plant. Ms. Nilsen was a project engineer that designed the civil and yard piping for the project. She also assisted with permitting the WRF and pipeline including complying with the ISMND, writing the Title 22 WRF engineering report, and assisting with the SWPPP, Caltrans encroachment permit, County encroachment permit, and City encroachment permit.

Hawaii Water Service Kukio Condition Assessment, Critical Asset Repair Project, and Preliminary Design – Kukio, HI 2018 (Preliminary Design) Ms. Nilsen participated in the condition assessment of the Kukio WWTP and completed an effective end-of-life assessment for every asset within the plant operation. She coordinated the replacement of critical equipment within a concise timeframe to remedy existing operational issues while ensuring continued plant operation. She completed the preliminary design for the WWTP upgrade, including critical infrastructure repair recommendations, equipment replacement, initial upgrades to continue streamline operation, and recommended upgrades to improve overall operation and maintenance requirements.

City of Roseville Dry Creek WWTP Digester 1&2 Structural Assessment and Rehabilitation Design Project - Roseville, CA (Inspection) Ms. Nilsen was the Project Engineer for the condition assessment of Digester 1 and 2 at the City of Roseville Dry Creek WWTP. During routine maintenance and cleaning, Ms. Nilsen and the Water Works inspection team provided a thorough structural assessment of the concrete structures, in particular the flat top and domed roofs and interior mechanical piping, to assess its condition and identify more significant rehabilitation and/or replacement needs. Sheila worked with the Contractor responsible for the routine cleaning project to remove all fluid and materials in the digesters; wash and clean all internal components; and pump the tank dry. They then set-up a scaffolding and lighting system for use by Water Works for the structural assessment. Water Works team efficiently completed a visual assessment and took concrete core samples for material testing to characterize the condition of the digester and summarized the findings and recommended improvements in a structural assessment report. Ms. Nilsen completed the structural condition report for the digester rehabilitation project. She focused on the design of the digester overflow piping reconfiguration, the roof drain repair, the safe roof access design, and the new manway design associated with the concrete dome interior recoating project. She compared two access alternatives for the interior recoating and repairs to provide alternatives to the client for future repair projects.

Lehigh Cement Process Water Treatment Plant – Cupertino, CA (Design) Ms. Nilsen assisted in the completion of design of a process water treatment plant treating industrial waste in partnership with the treatment equipment supplier in order to deliver project design and bid documents on a rapid timeline in order to meet regulatory requirements. Treatment process included UF/RO and proprietary biological processes.

City of Shasta Lake Wastewater Treatment Plant Upgrade – City of Shasta Lake, CA 2017-2018 (Preliminary and Final Design, Engineering Services During Construction) Ms. Nilsen participated in the preliminary and final design of the City of Shasta Lake wastewater treatment upgrade project to meet Title 22 recycled water goals. She focused on the UV disinfection and recycled water basin design, re-aeration structure, outfall structure, sludge drying bed, emergency retention facilities and overall plant yard piping coordination. She completed the hydraulic analysis of the upgrade project and as analyzed opportunities for Value Engineering during the preliminary design process. She performed engineering services during construction including by-weekly construction meetings, submittal reviews, and request for information responses. She maintained effective communication between the client, engineer, contractor, and construction manager to ensure a productive and accurate construction project.

Stillwater Diffuser Replacement Project – Redding, CA 2016 (Design) Ms. Nilsen completed the submittal documents for the diffuser replacement project at the Stillwater WWTF. This project included the replacement of three aeration basin air diffusers and isolation valves. Construction sequencing was coordinated to complete the replacement project while allowing the plant to continue operation. She worked closely with the plant operators and the diffuser system manufacturer to provide a cohesive system.

Martin Puhlmann, PE, SE

Structural Engineer

Education
M.S. - Civil Engineering, Brigham Young University (1984)
B.S. - Civil Engineering, Brigham Young University (1983)

Years of Experience
5 years with the firm/ 39 years total

Registration
Registered Civil Engineer:
Ariz. – 24051 - Structural
Calif. – S3889 - Structural
Calif. – C43331 - Civil

Certifications
City of Phoenix Special Inspector

Representative Project Experience

- California Water Service DOM Well 300 Treatment Project, Torrance, CA (Structural Engineer)
- Arizona Water Company Pinal Valley Well 34 and Arsenic Removal Facility (Structural Engineer)
- Arizona Water Company Pinal Valley Well 13 Arsenic Removal Facility (ARF) Expansion, Coolidge, AZ (Structural Engineer)
- Arizona Water Company E. Sedona Water Storage and Booster Pump Station Design, Sedona, AZ (Structural Engineer)
- City of Surprise Desert Oasis Arsenic Treatment Facility, Design and CA Services, Surprise, AZ (Structural Engineer)
- City of Surprise Rancho Mercado Water Campus and ARF, Surprise, AZ (Structural Engineer)
- City of Scottsdale As-Needed Engineering Services, Scottsdale, AZ (Structural Engineer)
    - Chaparral Water Treatment Plant (WTP)
    - Central Arizona Project (CAP) WTP Improvements
    - Central Groundwater Treatment Facility Evaluation and Design
- EPCOR USA, White Tanks Regional WTP, 2019 Expansion (Structural Engineer)
- City of Scottsdale Thomas Groundwater Treatment Facility (TGTF) Reverse Osmosis Facility, Scottsdale, AZ (Structural Engineer)
- Lennar Communities Development, Inc. Asante Well 1, Surprise, AZ (Structural Engineer)
- Lennar Communities Development, Inc. Asante Well 4, Surprise, AZ (Structural Engineer)
- City of Gilbert Site 26 Water Quality Improvements, Gilbert, AZ (Structural Engineer)
- City of Prescott Water Production Facility and Intermediate Pump Station, Prescott, AZ (Structural Engineer)
- City of Buckeye Industrial Park Lift Station and Fire Tank, Buckeye, AZ (Structural Engineer)
- EPCOR USA, Johnson Utilities Johnson Ranch Well 4 Nitrate Removal Facility (Structural Engineer)
- EPCOR USA Shea WTP Chemical Storage Improvements and TOC Reduction Study (Structural Engineer)

Himai Mehere

Structural Design Engineer

Education

M.S. - Civil Engineering (Structural)
Arizona State University (2017)
B.Tech. - Civil Engineering,
College of Engineering (2013)

Years of Experience

1 years with the firm/ 6 years total

Memberships

SEAONC
AZWA

Representative Project Experience

- City of Redding Clear Creek WWTP Phase 1 Biodrying and Pyrolysis Project, Redding, CA (Structural Design Engineer)
- Zone 7 Water Agency, Paterson Pass Water Treatment Plant Electrical Enclosure, Livermore, CA (Structural Design Engineer)
- California Water Service Company, DOM 215/216 ESCD, (Structural Design Engineer)
- The True Life Companies, Pioneer Place Lift Station Basis of Design Report, Cameron Park, CA ((Structural Design Engineer)
- California Water Service Company DOM Well 300 Treatment Project, Torrance, CA (Structural Design Engineer)
- El Dorado Irrigation District, Various Projects, (Structural Design Engineer)
    - Echo Lake Conduit Emergency Replacement, El Dorado County, CA
    - Diversion Fish Screen A11 Gates Analysis, Placerville, CA
    - Sly Park Intertie Improvements Project, El Dorado County, CA
    - Reservoir A Valve Replacement, El Dorado County, CA
- Pacific Hydrotech Corporation, City of Needles Well 11 Treatment Plant Upgrade, Needles, CA (Structural Design Engineer)
- Anderson Pacific, City of Palo Alto Regional Water Quality Control Plant Secondary Treatment Upgrade Project Temporary Bypass Systems, Palo Alto, CA (Structural Design Engineer)
- Paradise Irrigation District Water Treatment Plant Equalizer Tank Replacement, Paradise, CA (Structural Design Engineer)
- Contra Costa Water District, Bollman Water Treatment Plant Phase 2 Design Engineering During Construction, Concord, CA (Structural Design Engineer)
- San Jose Water, Belgatos Pump Station Design, San Jose, CA (Structural Design Engineer)
- City of Redding, Wastewater Treatment Plant Bisulfite Facilities Structural Design, Redding, CA (Structural Design Engineer)
- California Water Service Company, Palos Verdes Station 22 Sound Wall Project, Rolling Hills Estates, CA (Structural Design Engineer)
- California Water Service Company, DOM 275 UV Implementation & Startup, Carson, CA (Structural Design Engineer)
- City of Millbrae, Skyline Tank Engineering Services during Design, Millbrae, CA (Structural Design Engineer)
- EPCOR USA, Copper Basin Water Reclamation Facility, Pinal County, CA (Structural Design Engineer)
- City of Chandler, Water Facilities Optimization Improvements, Chandler, AZ (Structural Design Engineer)

- Placer County Water Agency, Bowman Water Treatment Plant Phase 3 Improvements, Placer County, CA (Structural Design Engineer)

Representative Project Experience Prior to Joining Water Works

ARUN SHAH & ASSOCIATES, FREEMONT, CA (2019 – 2021)

PROJECT ENGINEER

- Experience in delivering end to end structural work for wide range of materials and project types.
- Managed, designed and oversaw construction for following projects:
  - Stratford School, Milpitas, CA - 25,000 sf, 2 story tilt up concrete school building retrofit. Provided new concrete shear walls with mat foundation and retrofitted the diaphragm as high load flexible diaphragm. Designed structural steel braced frame as lateral system for new addition to the building.
  - SMT Annex Building, Concord, CA - 10,000 sf 2 story light gage steel community center building with composite shear wall panels on CFS studs set on grade beam and slab on grade foundation.
  - Homewood Suites, Fremont, CA - 50,000 sf, 4 story wood frame hotel on concrete podium with mat foundation.
  - Experienced in design for hillside homes with concrete retaining wall and pier foundation.
- Experienced in seismic design and detailing of structural steel moment frames, braced frames, and concrete shear walls.
- Proactive and highly collaborative with clients, architects, and MEP consultants during all stages of the project.
- Performed site inspections on a regular basis. Provided field reports and supplementary details to address discrepancies.
- Provided response to RFI's, plan check comments & reviewed shop drawings.
- Passionate about providing simple and economical design and feasible details from constructability point of view.

ARUN SHAH & ASSOCIATES, FREEMONT, CA (2019 – 2021)

GRADUATE ENGINEER

- Provided solutions for multiple tenant improvements, rehabilitation, and equipment anchorage projects.
- Provided structural drawings and calculations for following projects:
  - 1 story tilt up concrete community center building in Union City, CA,
  - 4 story wood frame apartments on podium slab with mat foundation, Oakland, CA
  - 3 story wood frame apartment buildings in Hayward, CA
- Developed understanding of seismic requirements for design and detailing ofsteel, concrete, and wood structures.

ARIZONA STATE UNIVERSITY, TEMPE, AZ

RESEARCH ASSISTANT

- Conducted uniaxial quasi static tests of fibers and fiber-matrix interface to study behavior and modelling.
- Developed automated manufacturing system for textile reinforced structural shapes to model multiple cracking behavior under tension and flexure using Digital Image Correlation.

Exhibit "C"

FRISCH ENGINEERING, INC.

Consulting Electrical Engineers
13405 Folsom Blvd., Unit 600
Folsom, CA 95630

Phone 916.353.1025

Thomas P. Frisch, P.E.

Education	B.S. Electrical Engineering, University California Los Angeles, 1991
Registration	Professional Electrical Engineer Reg. CA E15761, NV, NM, AZ, as needed

Work Experience

Electrical Engineer (28 years)

Mr. Frisch obtained his Professional Engineering License 1998, and shortly thereafter, began working as a consultant in Electrical Design. Thomas has designed over 250 projects ranging from small sewage lift stations to large (2000 HP total medium voltage) pump stations and treatment plants. During this time, Mr. Frisch has become proficient as a designer, obtained the respect of his peers, and now operates a successful Electrical Engineering design and construction services business.

Prior to consulting, Mr. Frisch worked for Tesco Controls as a Field Service Engineer (4 years), Sales Engineer (1 year), and Project Engineer (3 years). While working for Tesco, He became very familiar with design philosophies of HDR, Montgomery Watson, Brown and Caldwell, Black and Veatch, Carollo and others. He engineered and coordinated many projects including full treatment plants at El Dorado Hills, City of Davis, City of Corona, and City of Sanger. He became very familiar with many manufacturers of instrumentation, PLCs and SCADA systems. He developed and defined many of the standards still in use today at Tesco Controls concerning drafting, testing and manufacturing.

Project Experience

SCADA	San Juan Water District SCADA System
	SMUD Carson Power Plant
	City of Galt WWTP Tertiary Improvements
	City of Galt SCADA System
	Foothill Oaks Casino SCADA System
	City of West Sacramento SCADA System Improvements
	City of Lincoln SCADA System
Water	City of Galt, Industrial Park Reservoir and BPS
	Trinity Center WTP
	Lewiston RW Pump Station, WTP, and Tank
	Lucerne WTP
	Sacramento Suburban Enterprise Northrop BPS and Reservoir
	Pebble Beach CSD, Forest Lake Treatment Plant
	Cal Water Service Dominguez Wells 275 and 294 WTP Projects

	Trinity Center WTP
	Contra Costa Contra Loma Dam Seismic Monitoring
	Contra Costa Raw Water Pumping Plants, Comistas and Cowell Pump Stations, Contra Loma Pump Station, Shell Recycle Pump Station.
	City of Roseville, Crowder Road Flow Metering
	City of West Sacramento, Carlin Tank and BPS
	EID Promontory Tank and Reservoir 12
Wells	City of Davis, Well #30, Well 31 and Well 32
	City of Mountain View, Well 22
	City of Vacaville, Well 15 and 16, and Well 16 Ion Exchange Hex Chrome
	Sierra Army Depot, Well 5 and 8 rehabilitation and treatment
	Rio Linda Water District Well 14 and Well 15
Storm Water	Bureau of Reclamation RD784, Pump Station #6
	Bureau of Reclamation RD784, Pump Station #2,5,6,8,10
	S. Olivehurst Storm Water Pump Station
	Yuba City Walnut Park Storm Water Pump Station
Waste Water	Redding Clear Cleek WWTP Dewatering Project
	Redding Stillwater WWTP Expansion
	EID El Dorado Hill Waste Treatment Plant Capacity Upgrade
	City of Atwater Wastewater Treatment Plant
	City of Roseville, Sewer Lift Station Upgrade
	City of Vacaville, Easterly Wastewater Treatment Plant Tertiary Upgrade
	Redding Mary Street Sewage Lift Station
	Redding Sunnyhill Lift Station Pump and VFD replacement
	Redding Auditorium Drive Lift Station Replacement
	El Dorado Irrigation District, Bass Lake Reclaim BPS
	Pebble Beach CSD, Forest Lake Reclaim Reservoir and Booster Pump Station
	EID Highland Hills Sewage Lift Station
	Clayton Wastewater Treatment Plant
	EID Cambridge Oaks Sewage Lift Station
	City of Sacramento Sump 119
	EID Creekside Greens SLS
	Yuba City Lift Station 1
	Yuba City Lift Station 3
	Locke Low Pressure Sanitary System

William F. "Bill" McKinney

PLS

Years of Experience
53 (1969)

Years with CWE
13 (November 2009)

Education
California State University, Long Beach

Registrations
Registered Professional Land Surveyor Engineer, California, 4715

Bill has been involved in the field of surveying since 1969 after gaining skills and experience for it during his time in the US Army. In the last half-century, he has practiced in California, Nevada, and Oregon and has become one of the most experienced land surveyors in the northern California region. He has successfully completed all manner of topographic and boundary surveys, ALTA/ACSM land title surveys, lot line adjustments, legal descriptions and plats for easements and dedications, tentative and final parcel maps, and even construction staking in the field. He continues to develop skills using the latest survey equipment including total stations and, more recently, aerial drone surveying.

Bill's 50 years of experience encompasses public and private civil projects involving boundaries, mapping, topographic surveying, and construction staking. He has been Survey Supervisor for construction staking of roads and highways, bridges, buildings, underground piping, and utilities for commercial and residential properties as well as public and private development. Bill has experience resolving boundary and right-of-way discrepancies and is one of the more experienced and competent surveyors in the Sacramento area.

RELEVANT EXPERIENCE

Military Ocean Terminal Concord Navy Base Topographic Survey Preparation of topographic surveys for three different areas of MOTCO in Concord, California. Located existing utilities. Utilized vertical and horizontal control tied to the North American Vertical Datum 1988 appropriate to the site. Located surface evidence and underground features (plan and profile) of all utility lines within the project areas, all in accordance with USACE standards.

San Joaquin Regional Transit District General Engineering On-Call Survey Lead for a multi-discipline team with several subconsultants to provide on-call services to support operations, maintenance, and capital improvements for the District.

Nevada County Engineering On-Call Survey lead for a multi-discipline team with several subconsultants to provide on-call services to support operations, maintenance, and capital improvements for the County.

Butte County Record of Survey Review Support Project Manager on a contract to provide additional staff support to the County Surveyor for Record of Survey reviews to support the Camp Fire Recovery efforts in Butte County, California. Work included acting as contract staff reviewing applications

for Record of Survey reviews, providing formal comments, and coordinating with applicants and the County Surveyor.

GHD Lakeport Seawall Survey Manager for topographical survey for 650 feet of seawall, sidewalk, dock area, and park in Lakeport, California. The purpose of the project was to raise the existing seawall to reduce the frequency of frequent flooding due to high water surface elevations in Clear Lake. The field survey included a two-man crew with in-water survey work required. In order to save the client on the costs of a typical bathymetric survey, we used a more traditional instrument and rod to obtain elevations along the lakebed near the seawall.

DMB/Highlands Group, LLC Martis Camp, Truckee, CA Prepared boundary and topographic survey, final map, public road, drainage, and public utility easements for several phases of an 800-lot luxury single-family residential development in Truckee, California. The development included clubhouses, tennis courts, two golf courses, and open space. Work also included determining the Caltrans right-of-way from control points, monuments, and monumentation maps. Worked closely with Caltrans to coordinate mapping within and adjacent to their ROW.

Highway 65 and Ferrari Ranch Road Determined Caltrans right-of-way from control points, monuments, and monumentation maps to establish boundary and right-of-way line for new commercial shopping center for a private developer in Lincoln, California. Boundary and topography and construction staking were also provided. Caltrans coordination was required.

Pacific Gas & Electric Halsey Forebay and Canal Survey Provided topographic survey, mapping, and control staking for the Wise Canal that discharges into Halsey Forebay for a canal reconstruction project in Auburn, California. The canal was dewatered and the inverts, top of bank, and 50 feet of ground on either side were surveyed. Approximately one mile of canal was surveyed.

Placer County Water Agency Utility Easements Prepared approximately 30 utility easements for underground communications system conduit installation in multiple locations for Placer County Water Agency. The work included extensive coordination with Placer County Water Agency and Placer County staff.

Placer County Water Agency Sediment Removal Performed pre- and post-construction channel surveys of the American River flow control structures in Placer County, California. The project purpose was removal of accumulated river sediments from several sediment bars and diversion dams located along the Middle Fork of the American River.

Crossroads Shopping Center Provided boundary and topography, tentative and final maps, and construction staking for a private developer for new commercial development bordering Highway 49 in Auburn, California. Determined Caltrans right-of-way from control points, monuments, and monumentation maps. Caltrans coordination was required.

City of Lincoln 66-inch Sanitary Sewer Line Construction Prepared topographic and property line survey, and construction staking along public roadways for a 66-inch sanitary sewer trunk line in Lincoln, California.

Granite Bay Community Park, Granite Bay, CA Prepared topographic and boundary survey and construction staking for a 16-acre community park in Granite Bay, California. CWE helped Placer County with development of the plans for the park as well. The project created a playground, picnic areas, baseball and soccer fields, and a unique "Walk of Honor Memorial," which honors the sacrifices made by those in the armed forces.

William F. "Bill" McKinney
PLS

Egbert Tract, Rio Vista, CA Prepared an ALTA for a 3200-acre parcel for a private developer in Rio Vista, California. The surveying was used for the creation of ecological habitat reserves within the property. In some locations, locating monuments required digging two feet below ground due to the time that has passed since they were first placed.

Los Lagos Development, Granite Bay, CA Prepared Final Map and public right-of-way for residential development. The site was 4.5 sections of land that included 480 acres and 350 lots in Granite Bay, California. This project took several years from the planning stage to construction. While in construction, CWE provided construction staking for roads and utilities.

Multigroup, LLC 607 Sutter Street Prepared topographic and property line survey, and construction staking for site improvements at 607 Sutter Street in Folsom, California. The project included construction of a 3-story mixed used building to include commercial/retail, office and two apartments. The project provided much needed new retail space for the burgeoning Old Folsom area while featuring a design that maintained the old town aesthetic of the surrounding area.

Teichert/Chevreaux Ready Mix Plant Prepared an ALTA for the concrete ready-mix plant bordered by Marguerite Mine Road and adjacent to Highway 49 in Auburn, California. Work also included determining the Caltrans right-of-way from control points, monuments, and monumentation maps. Caltrans coordination was required.

Bruceville Road near Bilby Road Prepared Record of Survey for commercial 20-acre project for a private developer in Elk Grove, California. The project also required a Record of Survey to be filed with Sacramento County. Set property corner monuments upon recording of map to establish the record boundary.

Vista Cielo, Placer County, CA Performed boundary and topographic survey, tentative and final maps, and public ROW for 24-lot, 78-acre residential development in Placer County, California.

Clay Street near Glenrose Avenue Prepared Record of Survey for one residential lot, owned by a private owner, approximately half an acre in Sacramento, California. One of the main goals of this survey was to determine any encroachments onto the subject parcel from other properties.

60-Inch Water Main Construction Prepared topographic and boundary survey and construction staking for a 60-inch water trunk line for a private developer on Barton Road in Granite Bay, California.

Markley Cove Marina, Lake Berryessa On behalf of a private developer, performed a site-specific topographic survey of a portion of the Napa County, California site that was proposed to serve as the ADA access to the docks. Created a plan for ADA parking as well as ADA compliant walkway down to the boat docks. This included design of retaining walls, new ADA compliant pathway, and incorporation of gangways and floating platforms to provide access to docks. Laid down flight crosses in coordination with aerial survey company to get topography of the project site. Utilized the aerial topographic survey to design new and improved roadways to access the site which would the least amount of grading and retaining walls. The site is located on very steep slopes, which necessitated close review of the proposed roadway alignment to avoid excessive retaining walls. Determined locations of new parking areas, new cabins, and new dock access.

BAJADA Geosciences, Inc.

RESUME

JAMES A. BIANCHIN, PG, CEG

Position
Principal Engineering Geologist

Years of Experience
40

Education
B.A - Geology
California State University at Humboldt

Registration
Professional Geologist
CA - 5966

Certified Engineering Geologist
CA - 1644
OR - E1989

Associations
Association of Environmental & Engineering Geologists

American Society of Civil Engineers

American Public Works Association

Redding West Rotary Club

Jim is a Principal Engineering Geologist with more than 40 years of experience in managing and providing engineering geologic services for complex geotechnical projects located in Oregon, Nevada, throughout California, and in the former Soviet Union. He specializes in managing multifaceted, detailed geotechnical studies for difficult access sites and characterization of complex, geologically impacted sites.

Representative Project Experience

The following are two brief project descriptions that highlight Jim's experience:

Coastal Aqueduct Extension (Phase II) of the California State Water Project. Jim was the manager of geotechnical services and responsible engineering geologist for the design of the Central Coast Water Authority's components of the Coastal Aqueduct Extension (Phase II) of the California State Water Project. This project included 73 miles of large-diameter flexible pipeline, three 2-million-gallon pre-stressed concrete tanks, a 40-million gallon-per-day water treatment plant, a pump station, a scour evaluation of the pipeline crossing of the Santa Maria River, and a microtunnel alignment beneath the Santa Ynez River.

Calgren Biogas Pipeline Studies. Jim managed geotechnical services for the evaluation of over 120,000 lineal feet of new biogas pipeline in the Pixley area of Tulare County. The project included multiple crossings of roadways and irrigation ditches. Those services included evaluation of viable trenchless crossing methods along with consultation with the Contractor and client to reduce construction costs by selectively utilizing soils encountered along the alignments as pipe zone backfill materials.

Bay Point Sewer Pipeline Rehabilitation Project. Jim managed BAJADA's services to provide geotechnical engineering services for the rehabilitation of about 7,100 lineal feet of structurally deficient wastewater pipeline that is operated and maintained by Delta Diablo Sanitation. A total of 25 pipeline segments located over a relatively wide portion of the Bay Point area were evaluated. The rehabilitation methods consisted of removal and replacement and cured-in-place-pipeline lining. The pipelines were being replaced with the same diameter pipelines or being upsized by 2 to 4 inches.

Westside Interceptor Project. Jim managed BAJADA's services to provided design-level geotechnical services for a new 48-inch diameter sewer pipeline extending from Girvan Road to the City of Redding's Clear Creek Wastewater Treatment Plant. The salignment extended extend for a distance of about 3,000 feet tat depths ranging from about 12 to 28 feet. Loose granular sediments and shallow groundwater pose difficult design and construction conditions fo rthe proposed pipeline.

BAJADA Geosciences, Inc.

JAMES A. BIANCHIN, PG, CEG

Position
Principal Engineering Geologist

Years of Experience
40

Education
B.A - Geology
California State University at Humboldt

Registration
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Certified Engineering Geologist
CA - 1644
OR - E1989

Associations
Association of Environmental & Engineering Geologists

American Society of Civil Engineers

American Public Works Association

Redding West Rotary Club

San Mateo County Pipeline Rehabilitation Project. Geotechnical engineering services for the rehabilitation of about 6,023 lineal feet of structurally deficient water pipeline that is operated and maintained by San Mateo County were performed. Jim managed all aspects of those services. A total of ten pipeline segments located over a relatively wide portion of the county were evaluated. The rehabilitation methods consisted of removal and replacement and pipe bursting. The pipelines were being replaced with the same diameter pipelines or being upsized by 2 to 4 inches.

RECENT GEOTECHNICAL STUDIES FOR PIPELINE PROJECTS

Project Name	Lineal Feet	Pipeline Type[1]	Diameter (in)	Location	BAJADA Personnel[2]	Date
PROJECTS PERFORMED BY BAJADA GEOSCIENCES						
Ventura-Santa Barbara Intertie	6,900	FPVC, HDPE	16	Ventura & Santa Barbara Counties	JAB, JE, JSB, GB	On-going
Matilija Pipeline Replacement	2,100	DIP, HDPE	8	Ventura County	JAB, JE	On-going
Ojai Avenue Pipeline Replacement	5,725	CIP, PVC	6 to 8	City of Ojai	JSB, JAB, JE	2018 - 2021
Roseville Pipe Bursting	2,392	PVC, HDPE	8	City of Roseville	JAB, JE	On-going
Dominguez 232 North Header	20,065	MC	30	Torrance & Carson	JAB, JE	On-going
San Mateo County CSA 7	11,720	PVC	4 to 6	La Honda area	JAB, JE	On-going
Skyline Main Pipeline	3,500	TC	6	San Mateo County	JAB, JE	2022
Folsom Sewer Trunk	6,800	UK	18	City of Folsom	JAB, JE	2022
Sharon Heights HDD & Trenchless Pipelines	3,500	HDPE	12	City of Menlo Park	JAB, JE	2021
Calgren Trenchless Crossing, Highway 99	600	HDPE	24	Tulare County	JAB, JE	2021
Paradise PID Reservoir B	7,400	DIP or PVC	16	Butte County	JAB, JE	2018
Bay Point Sewer Rehabilitation	7,100	VCP	6 to 10	Contra Costa County	JAB, JE	2018
San Mateo County Sewer Rehabilitation	6,023	VCP	6 to 15	San Mateo County	JAB, JE	2018
Calgren Biogas Pipelines	>120,000	HDPE	4 to 16	Tulare County	JAB, JE	2016 - 2019
Westside Interceptor	3,025	RCP, TBD	48	City of Redding	JAB, JE	On-going
PROJECTS PERFORMED BY BAJADA GEOSCIENCE PERSONNEL[3]						
San Francisco Area Sewer	18,000	UK	6 to 8	City of Redding	JAB	2015
Mistletoe Sewer Rehabilitation	11,200	UK	6 to 10	City of Redding	JAB	2015 - 2016
Lake Redding Interceptor	11,000	TBD	21 to 27	City of Redding	JAB	2015
Ebbetts Pass Reach 3A Pipeline	18,000	TC, PVC, HDPE	12	Arnold, Calaveras County	JAB	2014
Ventura/Ferry Streets Sewer	1,425	PVC	6	City of Anderson	JAB	2015 - 2016
McKean Pipeline	2,400	DIP, PVC	16	Santa Clara County	JAB	2014 - 2016
Foothill Trunk Sewer	2,275	UK	12 to 24	City of Rocklin &	JAB	2014 - 2016

BAJADA Geosciences, Inc.

RESUME

David V. Cymanski, PE, GE

Position
Principal Geotechnical Engineer

Years of Experience
33

Education
B.S. - Civil Engineering
California State University at Chico

Registration
California Registered Civil Engineer (C51421)
California Registered Geotechnical Engineer (GE 2585)
Oregon Registered Civil Engineer (80732)

Affiliations
American Society of Civil Engineers
California Geotechnical Engineers Association

Dave is a principal geotechnical engineer with over 33 years of experience as a consultant in the areas of geotechnical engineering. His experience has covered a wide variety of engineering projects throughout California, Oregon, and throughout the United States. Hi experience includes roadways, pipelines, heavy industrial facilities, airports, erosion control, characterization of site conditions, evaluations of geologic hazards, and surface and subsurface drainage facilities.

Representative Experience

- Responsible charge of geotechnical engineering, materials testing, special inspection and environmental consulting.
- Manage and perform subsurface investigation and geotechnical design activities.
- Manage Environmental Site Assessments.
- Perform geotechnical Expert Witness services; construction materials evaluations, and forensic studies of distressed structures, concrete foundations, pavements, retaining walls, drainage & landslides.
- Engineering oversight and compaction testing for all grading, excavation and earthwork filling operations.
- Evaluate and test subsurface ground improvement construction & underground utility backfill placement.
- Analyze and recommend pavement designs including lime & cement modification and stabilization.
- Foundation design and review including piling, drilled piers, caissons, footings & post-tension slabs.
- Provide soil criteria and analysis of soil nail, tie-back, MSE, CMU & conventional retaining walls.
- Evaluate and analysis of global slope stability, landslides & earth movement.
- Bridge, dams and canal studies.

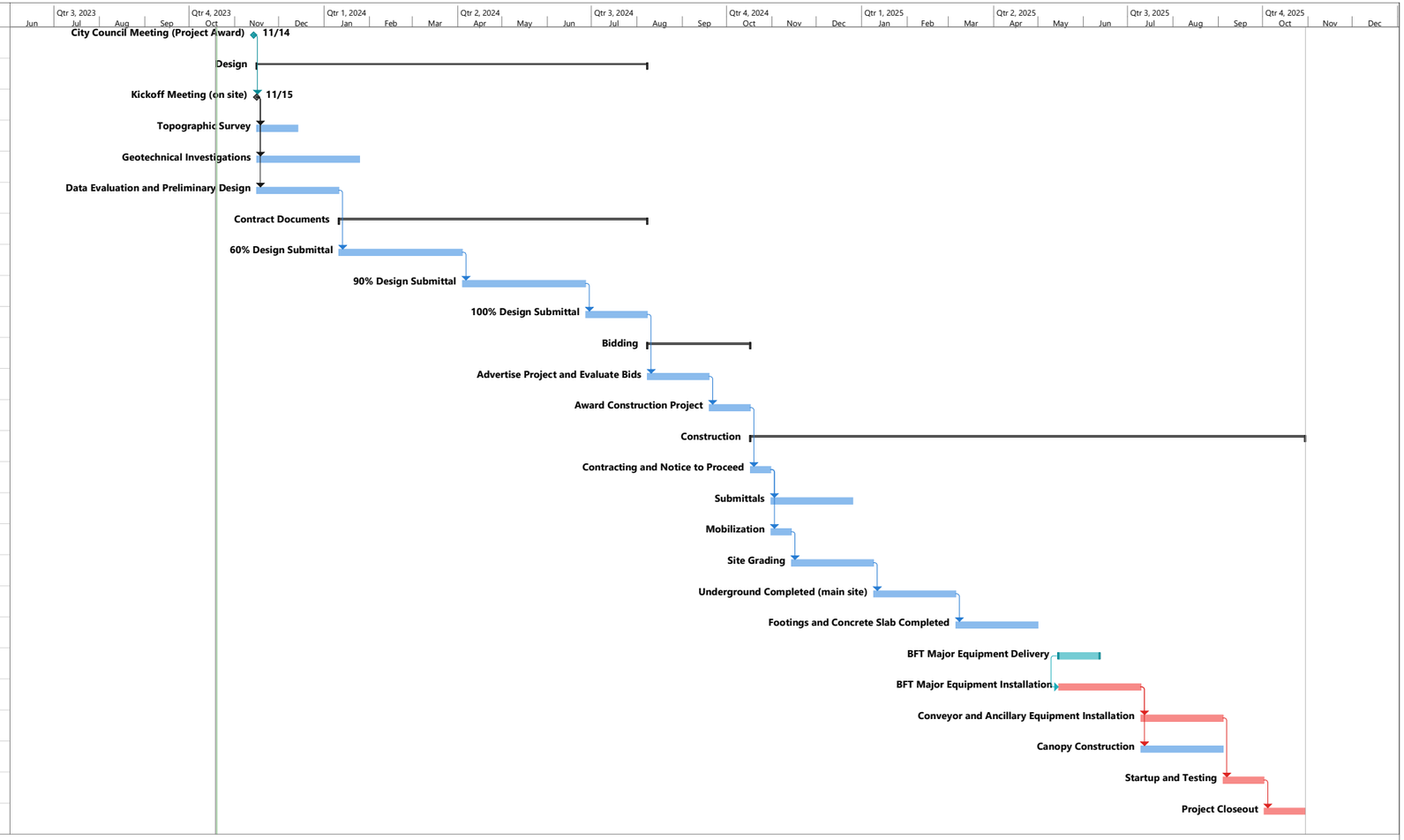
TERRASEARCH, INC., Fairfield & Dublin, CA, 1989-1996

- Project Engineer & Staff Engineer.
- Perform geotechnical engineering investigations for commercial, industrial, residential and public works.
- Perform compaction testing of earthwork operations.
- Perform special inspections of reinforced and pre-stressed concrete, structural masonry & structural steel.
- Supervise engineering technicians and laboratory during grading and foundation operations.
- Review civil and structural plans for geotechnical conformance.
- Evaluate distressed structures and perform forensic investigations of earthwork projects.

APPENDIX 2 – PROJECT SCHEDULE

Exhibit "C"

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		City Council Meeting (Project Award)	0 days	Tue 11/14/23	Tue 11/14/23	
2		**Design**	**190 days**	**Wed 11/15/23**	**Wed 8/7/24**	
3		Kickoff Meeting (on site)	0 days	Wed 11/15/23	Wed 11/15/23	1FS+2 days
4		Topographic Survey	20 days	Thu 11/16/23	Wed 12/13/23	3
5		Geotechnical Investigations	50 days	Thu 11/16/23	Wed 1/24/24	3
6		Data Evaluation and Preliminary Design	40 days	Thu 11/16/23	Wed 1/10/24	3
7		**Contract Documents**	**150 days**	**Thu 1/11/24**	**Wed 8/7/24**	
8		60% Design Submittal	60 days	Thu 1/11/24	Wed 4/3/24	6
9		90% Design Submittal	60 days	Thu 4/4/24	Wed 6/26/24	8
10		100% Design Submittal	30 days	Thu 6/27/24	Wed 8/7/24	9
11		**Bidding**	**50 days**	**Thu 8/8/24**	**Wed 10/16/24**	
12		Advertise Project and Evaluate Bids	30 days	Thu 8/8/24	Wed 9/18/24	10
13		Award Construction Project	20 days	Thu 9/19/24	Wed 10/16/24	12
14		**Construction**	**270 days**	**Thu 10/17/24**	**Wed 10/29/25**	
15		Contracting and Notice to Proceed	10 days	Thu 10/17/24	Wed 10/30/24	13
16		Submittals	40 days	Thu 10/31/24	Wed 12/25/24	15
17		Mobilization	10 days	Thu 10/31/24	Wed 11/13/24	15
18		Site Grading	40 days	Thu 11/14/24	Wed 1/8/25	17
19		Underground Completed (main site)	40 days	Thu 1/9/25	Wed 3/5/25	18
20		Footings and Concrete Slab Completed	40 days	Thu 3/6/25	Wed 4/30/25	19
21		BFT Major Equipment Delivery	20 days	Thu 5/15/25	Wed 6/11/25	
22		BFT Major Equipment Installation	40 days	Thu 5/15/25	Wed 7/9/25	21SS
23		Conveyor and Ancillary Equipment Installation	40 days	Thu 7/10/25	Wed 9/3/25	22
24		Canopy Construction	40 days	Thu 7/10/25	Wed 9/3/25	22
25		Startup and Testing	20 days	Thu 9/4/25	Wed 10/1/25	23
26		Project Closeout	20 days	Thu 10/2/25	Wed 10/29/25	25



Project: City of Brentwood Biodryer Project Schedule
Date: Fri 10/20/23

Task	Summary	Inactive Milestone	Duration-only	Start-only	External Milestone	Critical Split
Split	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline	Progress
Milestone	Inactive Task	Manual Task	Manual Summary	External Tasks	Critical	Manual Progress

WATERWORKS ENGINEERS

CONTACT:

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