

# ZFA STRUCTURAL ENGINEERS

September 21, 2015

Paul Cole  
Assistant Chief – Operations / Special Operations  
CAL FIRE – San Mateo – Santa Cruz Unit  
**Coastside Fire Protection District**  
1191 Main Street  
Half Moon Bay, CA 94019

RE: **Coastside Fire Protection District**  
**Fire Training Facility, Foundation Design Half Moon Bay, CA**  
Proposal for Structural Engineering Services  
2013 California Building Code (CBC) Foundation Design

Dear Chief Cole,

We are pleased to present our proposal for structural engineering services on the above referenced project. This proposal is between ZFA Structural Engineers (Consultant) and Coastside Fire Protection District (Client) and provides for a 2013 CBC based structural design and construction document preparation of the foundation system of the proposed fire training tower.

## **GENERAL PROJECT UNDERSTANDING**

We sincerely appreciate the opportunity to submit a proposal for your project and we appreciate the level of clarity that you have provided us in terms of the anticipated scope.

Based upon our review of the preliminary drawings from Fire Facilities, Inc. (Wesco model WT-4 plans, elevations and example foundation plan), a preliminary site plan from Sigma Prime Geosciences, as well as the discussions with fire facilities and yourself, ZFA understands that our scope of work will include the structural design of a foundation system and design for anchorage for the proposed training tower. ZFA will provide a complete and coordinated set of Construction Documents (CD's) that will be used for permit application and construction for the tower foundation. We assume that ZFA would not be responsible for developing or reviewing the drawings and calculations for the tower superstructure and that this work will be produced and permitted by another California Licensed Engineer. ZFA also assumes that all applicable reactions will be provided to ZFA by a Fire Facilities retained engineer so that we can properly design the tower foundation system.

As also discussed, we assume that the tower structural system will be designed as a non-essential facility, non-occupied structure with design seismic loading per chapter 15 of the ASCE7-10 or equivalent as accepted by the Authority Having Jurisdiction (AHJ). We also anticipate a limited number of site visits both for coordination meetings and structural observation during construction.

1390 el camino real  
suite 100  
**san carlos** ca 94070  
650 996 5095

7801 folsom boulevard  
suite 204  
**sacramento** ca 95826  
916 924 7024

100 bush street  
suite 1850  
**san francisco** ca 94104  
415 243 4091

1212 fourth street  
suite z  
**santa rosa** ca 95404  
707 526 0992



**Code Level Foundation Evaluation and Design:**

As requested, the fire training tower foundation will be designed using the 2013 CBC as it pertains to the design of Non-Building Structures (ASCE 7-10 Ch.15) as follows:

1. ZFA will provide the structural design calculations and construction documents for the tower foundation system using the CBC. This work will assume to occur within four weeks of receipt of the completed design of the superstructure provided by Fire Facilities.
2. ZFA will review of all available documentation provided by Fire Facilities including drawings and corresponding design calculations for the superstructure. At a minimum ZFA would require a foundation anchor layout plans that summarize gravity and lateral load reactions at all structural support locations
3. ZFA will review any available tower documentation including any Architectural and MEP drawings (if any) and gather input from other consultants retained by Client.
4. ZFA will review the Geotechnical Consultants site evaluation and prepare the foundation design in conformance with their recommendations. Conventional shallow foundation systems are anticipated.
5. ZFA has anticipated one round of review comments and coordination questions between ourselves and Fire Facilities. This includes any requests for additional information ZFA may need to complete a final foundation system design. An assumed list of key coordination components of the foundation system design would include:
  - Basic Configuration such as building geometry and column locations.
  - Interior and exterior non-structural partitions and curb locations and associated design loading for in and out-of-plane loadings
  - Any items requiring penetration of foundation system including below grade Fire suppression equipment and piping, HVAC equipment and Plumbing Distribution Systems and connections or Emergency lighting and power equipment systems
  - Anchorage of storage racks and their contents or systems at grade level
6. For tower foundation design, ZFA will perform our analysis using a finite element software analysis program (CSI SAFE®) to provide the most cost efficient structural design.
7. Design, coordination and Construction Document (CD) level detailing of the tower foundation system is assumed to include:
  - Spread footings, tie beams and reinforcing
  - Column support pedestals and anchorages for tower support locations
  - Slabs on grade size and reinforcing



- Wall support curbs and anchorages details for the tower partition walls
8. ZFA will provide progress drawings at 75% CD which we anticipate will be used for review and coordination by all stakeholders. Upon agreement and approval of all stakeholders based upon this review, we will proceed with final development of all necessary calculations, drawings and associated details.

### **ADDITIONAL PROJECT ASSUMPTIONS**

In addition to the Scope of Services outlined above, the following specific assumptions have been used to develop this scope and fee proposal.

1. The structural design and any revisions necessary for the tower structure design or construction drawings (not including foundation system) during design and construction will be performed by others (Fire Facilities).
2. The foundation design approach will conform to the 2013 California Building Code as amended by the City of Half Moon Bay and assumes non-occupied, non-essential structure with design loading per ASCE 7-10 Ch. 15.
3. Geotechnical recommendations will be made available prior to commencement of foundation design.
4. All drawings for the tower foundation system will be done within REVIT. It is assumed that the Tower designer will provide architectural REVIT or compatible ACAD model or digital files for design team reference and use.
5. All reimbursable expenses including travel will be included within our lump sum fee.
6. Any additional work outside of the scope of work outlined above will be billed separately in accordance with our current rate schedule.
7. Complete design drawings are to be made available to ZFA for the fire tower. These would include all architectural, MEP and structural drawings to be used for construction.
8. ZFA assumes a single round of city plan check comment responses will be necessary, additional rounds of comments would be addressed on an hourly basis in accordance with our current rate schedule.
9. Any non-destructive testing during construction will be performed by City staff.
10. It is assumed that the AHJ is the City of Half Moon Bay.
11. ZFA structural engineers will provide structural observations during construction in conformance with Ch.17 of the CBC, this does not waive the owner or city's responsibility to perform all necessary inspections.
12. Structural input for any site improvements outside the footprint of the tower is not anticipated.



## **PROJECT FEE**

We propose to provide for the project scope as described above as a lump sum fee as follows:

### **CBC Code Evaluation and Foundation Design**

Tower Foundation Design and Coordination.	\$ 9,800
<u>Reimbursable Expenses</u>	<u>\$ 250</u>
Total = \$10,050	

We appreciate the opportunity to work with the Coastside Fire Protection District and sincerely thank you for giving ZFA the opportunity to be considered to join your team.

### **Offered by:**



Colin Blaney S.E.  
Executive Principal



Steven Patton S.E.  
Senior Associate

## **ZFA STRUCTURAL ENGINEERS TERMS AND CONDITIONS**

### **1. BILLINGS/PAYMENTS**

Invoices will be submitted monthly for labor charges and reimbursable expenses and are due when rendered. Invoices shall be considered PAST DUE if not paid within 30 days after the invoice date and ZFA Structural Engineers may without waiving any claim or right against Client, and without liability whatsoever to the Client, terminate the performance of the service. In addition, a service charge of 1.5 percent per month on the past due principal balance may be charged. In the event any portion or all of an account remains unpaid 90 days after billing, the Client will be liable for any costs of collection if necessary, including reasonable attorney's fees plus court and related costs. All late payments will be applied first to interest, then to attorneys' fees and costs, and lastly to principal.

### **2. REIMBURSABLE EXPENSES**

Expenses other than labor charges that are directly attributed to our professional services are invoiced at our cost plus 20 percent. Reimbursable expenses typically include: 1) extra prints and reproductions, 2) special delivery (e.g. overnight) costs, 3) sub-consultants hired for the project by ZFA Structural Engineers with Client's authorization and 4) any and all work, fees, expenses and costs that are not specifically listed and identified in the Agreement, Description, and Scope of Services.

### **3. SUSPENSION OF ENGINEERING SERVICES**

If the Client fails to make payments when due or otherwise is in breach of *this Agreement or any other Agreements* Client has made with ZFA Structural Engineers, ZFA may suspend performance of *all* services entailed by these agreements upon five (5) calendar days' notice to the Client. In such instances, ZFA Structural Engineers shall have no liability whatsoever to the Client for any costs or damages as a result of such suspension caused by any breach of the Agreement(s) by the Client. In such instances, ZFA Structural Engineers shall also have the right, at its sole discretion, to apply any payment(s) under any one Agreement, to the balance owed under any of the Agreements between parties. Notwithstanding any of the foregoing the obligations of the Client under any Agreement(s) with ZFA Structural Engineers, remain separate and independent obligations of the Client and nothing herein shall be construed to invalidate any portion of any of the respective Agreement(s).

### **4. INDEMNIFICATION**

To the fullest extent permitted by law, the undersigned Client shall indemnify and hold ZFA harmless from any and all actions, causes of action, damages, claims, costs, demands and expenses including attorneys' fees,



## Half Moon Bay Fire Station Training Facility Foundation

that result from injuries to and/or deaths to any and all persons, including but not limited to, ZFA and its employees, arising out of or connected in any manner with the performance or purported performance of the construction work specified or referenced in this Agreement; and for any and all destruction, including loss of use of any property, arising out of or in connection with the work specified or referenced in this Agreement, except when such actions, causes of actions, damages, claims, costs, demand, and expenses including attorneys' fees are due to the sole active negligence of ZFA.

5. **TERMINATION**

This agreement may be terminated by either party within five (5) days of written notice to the other in the event of a substantial failure of performance by the other party through no fault of the terminating party. If this agreement is terminated, ZFA Structural Engineers shall be paid for services performed through the termination notice date, including reimbursable expenses due.

6. **EXPIRATION**

This Proposal and Agreement will expire automatically within 90 days from the date this document is issued and signed by ZFA, unless accepted and signed by Client within 90 days thereof, without modification.

7. **ACCESS TO SITE**

Unless otherwise stated, ZFA Structural Engineers will have access to the site for activities necessary for the performance of the services.

8. **HIDDEN CONDITIONS**

If ZFA Structural Engineers has reason to believe that such a condition may exist, the Client shall authorize and pay for all costs associated with the investigation of such a condition and, if necessary, all costs necessary to correct said condition. If 1) the Client fails to authorize such investigation or correction after due notification, or 2) ZFA Structural Engineers has no reason to believe that such a condition exists, the Client is responsible for all risks associated with this condition, and ZFA Structural Engineers shall not be responsible for the existing condition or any resulting damage to persons or property.

9. **CONSTRUCTION MEANS & METHODS**

ZFA Structural Engineers shall neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

10. **OTHER PROVISIONS**

ZFA Structural Engineers will prepare drawings and specifications in a timely manner. ZFA Structural Engineers is not responsible for delays occasioned by factors beyond its control, nor by factors which could not reasonably have been foreseen at the time this agreement was executed. Unless a specific deadline or schedule is agreed to under the Description and Scope of Services, then all work under this Agreement shall be performed in a reasonable time as determined by ZFA Structural Engineers. If Client suspend(s) and restart(s) the work or project, ZFA will be entitled to bill Client for any remobilization and extra costs as agreed upon with client. One or more waivers by either or both parties of any provision, part of any provision, term, condition, or covenant of this agreement shall not be construed as a waiver by either party of any other provision, part of any other provision, term, condition or covenant of this agreement.

Any opinion of construction cost offered by ZFA Structural Engineers represents the judgment of a design professional and is supplied for your general guidance. ZFA Structural Engineers does not guarantee the accuracy of its opinion as compared to actual contractor bids or actual cost to the owner.

11. **OWNERSHIP OF DOCUMENTS**

All drawings, plans, calculations, and specifications are instruments of service and shall remain the property of ZFA Structural Engineers, whether the project for which they are made is executed or not. They are not to be used on other projects or extensions to this project except by agreement in writing and with appropriate compensation to ZFA Structural Engineers.

12. **VENUE**

This agreement shall be interpreted and enforced in accordance with the laws of the State of California. The venue of any action brought to interpret or enforce any of the terms of this agreement or otherwise adjudicate the rights or liabilities of the parties hereto shall be laid in County of work.

13. **DISPUTE RESOLUTION**

At the discretion of ZFA Structural Engineers, all claims, counterclaims, disputes or other matters in question between the parties hereto arising out of or in relation to this Agreement or the breach thereof will be presented to non-binding mediation, subject to the parties agreeing to a mediator(s).

14. **ENTIRE AGREEMENT**

This Agreement is solely for the benefit of the signatories hereto and represents the entire and integrated agreement between the parties, and unless specifically referenced herein, supersedes all prior negotiations, representations or proposals, either written or oral. If any term of this Agreement is held by a court of competent jurisdiction to be void or unenforceable, the remainder of the Agreement's terms shall remain in full force and effect and shall not be affected thereby. This Agreement or any part thereof shall not be assigned or transferred by Client, without the prior consent of ZFA Structural Engineers.



15. **CONTINGENT GUARANTEE**

The representative of Client, who executes this Agreement, hereby represents and guarantees that Client is financially solvent and an ongoing business concern, and has the necessary resources to fulfill all obligations, including all financial obligations, of this Agreement. In the event that Client is unable to fulfill any of the obligations under this Agreement, within the timeframe called for in the Agreement or on demand, then said representative shall, on demand, be deemed personally liable to ZFA Structural Engineers, for any and all such obligations. In addition to the foregoing, during the existence of this Agreement, this contingent guarantee shall be binding on the following: as to a corporate Client, on all officers and shareholders; as to a limited liability company Client, on all members; as to any partnership Client, on all partners.

If Client or its representatives object to any of the foregoing, then Client must present to ZFA Structural Engineers at the time of execution of this Agreement, in writing, evidence of financial credit worthiness. Such evidence shall include, but not be limited to: current Dun & Bradstreet Report, current annual and quarterly Financial Statements, a current Credit Line Statement, current list of ongoing construction projects, and the last three banking statements for Client.

16. **PROJECT INFORMATION**

Upon execution of this Agreement by Client, Client will provide ZFA Structural Engineers, the physical address and legal description of the project property, and will identify by name, address and telephone number, the owner, architect, construction lender and/or surety for the project, including the reference number(s) for any loan and/or surety bond.

17. **LIMIT OF LIABILITY**

*Neither ZFA Structural Engineers, their sub consultants, nor their agents or employees shall be jointly, severally, or individually liable to the Client in excess of ten times the compensation to be paid pursuant to this Agreement or fifty thousand dollars (\$50,000), whichever is greater, by reason of any act or omission, sounding in tort or contract, including breach of contract, breach of warranty, or negligence.*

18. **BILLING RATES**

Executive Principal .....\$195.00 per hour  
Senior Principal/Principal .....\$180.00 per hour  
Senior Associate.....\$160.00 per hour  
Associate.....\$140.00 per hour  
Senior Engineer.....\$135.00 per hour  
Engineer.....\$110.00 per hour

Engineer/Designer.....\$90.00 per hour  
BIM Manager.....\$125.00 per hour  
Senior BIM Tech .....\$100.00 per hour  
BIM Tech.....\$90.00 per hour  
Drafter.....\$80.00 per hour

Offered by: **ZFA STRUCTURAL ENGINEERS**

  
Colin Blaney  
Executive Principal

September 21, 2015

Accepted by:

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Date: \_\_\_\_\_