

Proposal:

Design Services for the Demolition of the Gastineau Apartment Building

In response to (C3) RFP E16-015

Submitted on 16 July, 2015

Contact:

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Principal Architect

NorthWind Architects

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Introduction

Selection Committee,

NorthWind Architects (NWA) is pleased to offer this proposal for design services for the demolition of the Gastineau Apartment Building including site stabilization and site preparation for potential future development. This proposal is unconventional, suggesting alternate approaches we believe will greatly increase the chances of successfully completing the work within a preferred schedule, anticipated budget, and without incident. We strongly suggest, regardless of who is awarded the work, that the project be approached in a manner as similar as possible to a Design-Build approach, with the understanding that this is not a Design-Build project. We appreciate your consideration.

Having conducted a detailed condition assessment and temporary protection plan for the property Owner in 2013, we are very familiar with the structure. As you know, the plan, which was developed with Chris Gilberto, then with North Pacific Erectors, was never executed. Left unprotected for over two years, little is salvageable leaving the most efficient path forward to raze the building. This will also offer a future developer the most flexibility, increasing the chances that the site will in fact be developed. That said, NWA's, JYL's and R and M's condition assessments of the building all concluded that it could be feasible to salvage the building's primary structure, and NorthWind also began work on a proposal in 2013 to do just that. The demolition cost associated with this approach is notably less than fully razing the structure. We understand the intent of the RFP is to solicit proposals to raze the building, however should that change, our team is prepared to pivot.

We are also very familiar with the adjacent historic Elk's Building and have an ongoing working relationship with its Owners. This property will be the most vulnerable during demolition and will require careful consideration during design and execution of the project. Recent work on it revealed that components of its plumbing system are shared with the Gastineau Apartment Building. There is also concern that the stability of its south foundation may rely, in part, on the Gastineau Apartment foundation. This property also includes a parking area at an elevation approximately half-way between Franklin Street and Gastineau Avenue, directly adjacent to the Gastineau Apartment property. This lot is typically leased out on an annual basis but may be available on a lease basis for this project with adequate planning. Our relationship with the Owners of the Elk's Building and their cooperation with and support for the project will benefit it.

A successful demolition plan will be that which most quickly and efficiently removes the building with the least impact on adjacent properties and the day-to-day business of downtown - emphasis on "quickly". The project schedule is very aggressive. Successful demolition plans rely almost exclusively on advance knowledge of the demolition contractor's means, methods and sequencing. Particularly for structures with significant access and site challenges they are typically developed by the contractor in consultation with an architect and/or engineer specializing in demolition. Essentially, they are design-build projects. The City and Borough's contracting rules don't allow for this, but the team whose approach most closely resembles the design-build model, regardless of who is awarded the project, will have the greatest chance of meeting the project goal of having the building demolished in November of this year. The pure design-bid-build process leaves too many unknowns on the table at bid-time, and the construction process nearly always is protracted as a result. NorthWind's key consultants are Chris Gilberto of Dawson Construction - a firm very familiar with the challenges of demolition and construction in downtown Juneau, and Joe Farre, PE of Sigma Engineering Solutions - an engineering firm specializing in demolition whose projects largely consist of the removal of mid and high-rise structures in dense urban centers such as Seattle. Mr. Farre notes that, with the correct equipment, staging and sequencing, the primary and secondary structures can be down and removed from site in as little as ten days.



The potential that the desired schedule can't be met should also be considered. Removal of the structure in mid-autumn when Juneau receives much of its rain places additional burdens on the plan and its execution. Hillside retention and stabilization may be more difficult. Whether significant rain fall is experienced or not, a conservative storm/ground water management/erosion control plan must be developed and implemented. Furthermore, a conservative Storm Water Pollution Prevention Plan (SWPPP) must also be developed to assure that no contaminated storm water is allowed to discharge onto Franklin Street or adjacent properties. The Elk's Building, despite being uphill, has flooded as a result of flooding originating in the Gastineau Apartment Building. These challenges could be mitigated if demolition occurred in two stages: first, with removal of all debris and the secondary wood structure as scheduled, and second, with removal of the primary concrete structure in April, when Juneau experiences some of its driest weather, but before the tourist season begins. We believe our team has the best chance of developing and implementing a plan that actually meets the CBJ's schedule and other needs, however success can't be guaranteed. It would be prudent to consider an alternative schedule which would meet the goal of clearly demonstrating the project's inevitability in November, but which is finally completed in April, 2016. Our team is also prepared to pivot in this way should the CBJ consider this alternative.

Regardless of the preferred project schedule, but particularly so if the rigorous schedule is maintained, the project will also require strong firm representation throughout the demolition process itself in order to assure it proceeds smoothly. Having been responsible for contract administration on a number of large downtown projects, we realize that the scope of services during this phase may include assistance with traffic control plans, drafting and distributing appropriate PSA, and most important, public relations in general. We are the only design team locally with a dedicated construction phase services department with specific and extensive construction, contract administration and public relations experience.

Proposed Method to Accomplish the Project

Schematic Design

22 July – 14 August

NWA and its key consultants Dawson and Sigma, as well as Carson Dorn and R and M Engineering are already very familiar with the building and the challenges its demolition presents, however our first step will be to bring Mr. Farre together with all consultants on-site within a week of the NTP to investigate broad-stroke strategies to maximize efficiency and safety of the demolition process. As stated above, these strategies will necessarily have to do with anticipated means and methods and will include but not be limited to:

- Staging use, protection and subsequent (if required) restoration of Gunakadeit Park
- Staging use, protection and subsequent restoration of the Elk's Building parking lot
- Potential for bulk as opposed to selective haz-mat abatement and disposal
- Potential for encapsulation and complete-assembly boiler removal for off-site abatement
- Specialty equipment identification for direct overhead deconstruction and waste removal
- Shoring and salvage of existing up-hill retaining structure for incorporation into permanent retaining structure
- On-site concrete waste processing for use as structural fill

Strategies vetted and found acceptable will become the foundation of the demolition plan. The detailed design solutions to the design problems noted below will be developed schematically with respect to this foundation.



A demolition plan simply identifies problems, and design solutions to each, then coordinates the action required to implement the solutions with respect to space and schedule constraints in a way that emphasizes safety and efficiency. The problems inherent in this project can be categorized as follows:

- Safety
 - Protection of pedestrians and vehicles
 - Protection of adjacent properties and their operations
 - Site security for protection of would-be trespassers
 - Temporary shoring and fall protection for protection of workers
- Access
 - Franklin Street – an alternate route may be developed
 - Gastineau Avenue – will need to remain open, but may be needed for up-hill storm/retaining work
 - Staging, in Gunakadeit Park and/or Elk's building lot. Salvage and protection measures will also be required
 - Traffic control, essential particularly during waste removal operations with multiple rotating trucks
- Storm and groundwater
 - Control and routing for erosion control/soil stability
 - Control and routing to avoid affecting adjacent properties
 - SWPPP
- Hazardous materials
 - Extent not fully known
 - Existing boiler lining likely ACM, yet inaccessible pre-demolition
 - Encapsulation during abatement
 - Encapsulation and handling during removal
 - Testing
- Demolition
 - Temporary shoring as required for structural stability during demolition
 - Existing utility location, capping and protection
 - Waste material control and containment during demolition operations with minimal staging area
 - Waste processing
 - Waste removal and disposal
- Soil stabilization and retaining
 - Uphill soils – temporary and permanent retaining including ground water control
 - Adjacent property soils and foundation
- Site prep for construction ready condition
 - Existing utility protection and prep for future connection
 - Temporary fill and grading
 - Semi-permanent storm water management
 - Semi-permanent site security
 - Adjacent property restoration as required

We now develop specific outcome criteria for the successful solution to each problem then develop the solutions themselves. Each proposed solution will be described with narratives and illustrative drawings and combined in report form for the PM's use – though we understand the intent is to fast-track this process, we assume the schematic plan may ultimately be subject to review and comment by stakeholders: Engineering, Streets, Parks and Recreation, the Assembly and by adjacent and in-area property and business owners. The schematic plan will be developed in consideration of this.

**Construction Documents****14 August – 28 August**

Once the conceptual approach is approved and/or revised as necessary, its constituent parts will be developed by respective disciplines. NWA with Dawson and Sigma will develop the staging and sequencing plan as well as the demolition schedule. Carson Dorn will develop the abatement plan and R and M Engineering will design the storm water management plan, the shoring and temporary and permanent retaining systems, the site fill and grading plan, and the final site plan inclusive of safety and security measures. Each discipline will develop their respective specifications. NWA will coordinate, review for quality control and produce the completed construction documents. Though referred to as 95% complete at this stage, the documents will be 100% complete leaving the following days available to respond to stakeholder feedback.

Bid-Ready Construction Documents**28 August – 31 August**

We anticipate some feedback from stakeholders which may affect the design, but will be relying on the PM to assure that feedback is largely minimal so that revisions will be limited and the schedule can be maintained. Bid ready documents will be available on or before 31 August.

Bid and Award Phase

The NorthWind Team will be available to participate as necessary during this phase, prepared to quickly provide clarifications, answer questions and prepare addenda as required.

Demolition Phase Services and Contract Administration

Contract Administration may not be awarded to the successful proposer for the project's design, however continued vigilant attention must be paid to the project by the design team as it proceeds through its execution phase. A fast-paced demolition process on a confined site with a low-bid contractor will inevitably reveal and/or create many unforeseen conditions requiring immediate design team analysis and input no matter how well we plan. All members of the team will be available 100% of the time during demolition to quickly address issues as they arise.

Organization and Capacity of Firm

Dave Hurley, AIA will lead the NorthWind team, assuming responsibility for project management, consultant scope, quality of work, coordination and contract and construction administration. As a design-build contractor in Oregon, he was personally responsible for the design *and execution* of similar demolition (and reconstruction) projects in downtown Portland, OR, and has been responsible for design, demolition and construction work both as designer and contract administrator for large projects throughout the City and Borough, with a focus on downtown Juneau. 100% of his time will be committed to the project during both its design and execution phases. His current work load is minimal as major projects locally near completion of construction, and new projects slated for fall-winter design and spring bidding have not yet begun.

Mr. Hurley, AIA (Reg. A-12896) is an Alaska Registered Architect with over 20 years of experience in design and construction management. As a Design-Build General Contractor for over a decade and now as the principal in-charge for all of NorthWinds's construction phase services, Mr. Hurley's area of expertise is construction phase delivery, acting as the primary construction contract administrator, negotiating the fast paced troubleshooting and problem solving demands of the construction process. Mr. Hurley's experience also includes construction inspection of conventionally and post-tensioned reinforced concrete, and steel and timber structures. He is a certified inspector in these areas. The majority of the projects for which he has been responsible have been major renovations of public buildings which have included extensive abatement and demolition work. As a Design-Build Contractor Dave not only prepared contract documents for, but also executed the subject work.



Joe Farre, PE will consult during schematic design. Joe will be able to identify the safest and most efficient method of demolition and waste removal/disposal and offer specific details and methods for staging, access, temporary shoring and adjacent property protection. Joe will be committed to the project 100% of the time throughout schematic design, and as-needed during development of the construction documents and bid and execution phases.

Mr. Farre, PE is the founder of Sigma Engineering Solutions, Inc., and has extensive experience in conventional, explosive and implosive demolition practices gained from over 20 years in the public and private engineering sectors. Mr. Farre's demolition experience spans a wide range of structure types, locations and demolition practices including work on energy and power facilities, high-rise buildings, bridges, viaducts, chimneys, nuclear facilities, chemical facilities and tunnels. Mr. Farre has applied his past experience in advanced design and seismic analysis to lead the demolition industry in the development of new engineering analysis and demolition techniques to improve the level of safety and productivity of numerous demolition projects. Because Mr. Farre is likely unfamiliar to the selection committee, his full resume is attached to this proposal.

Mr. Farre's ideas will be tested by Dawson Construction (DCI) represented by Chris Gilberto, PM during schematic design. A successful demolition plan will fully consider the limits and opportunities of working in downtown Juneau with respect to constructability and de-constructability from a local contractor's point of view. With Dawson's help, we can reasonably anticipate the possible means and methods necessary to deliver the project on time, with little disruption to the downtown community. They have up-to-date information on material and equipment availability, cost and shipping and extensive knowledge regarding staging and working in downtown. Dawson will be committed to the project 100% of the time throughout schematic design, and as-needed during development of the construction documents and bid and execution phases.

DCI has served communities throughout Southeast Alaska each with their own unique logistical, weather and site conditions. Knowing the project location and constraints, understanding the community and the defined features of work for each project are key factors to their success. Their experience and familiarity of working in urban settings, provides them with the knowledge of how to work productively and safely within a constrained site.

Recent examples of DCI's experience working in an urban setting on a constrained site include the Walter Soboleff Center and Alaska State Capitol Seismic Retrofit. Both of these buildings are located in the heart of downtown Juneau where spatial constraints are significant. The keystone of their success on these projects is their comprehensive safety and quality control plans, developed onsite for each project. The plans considers all elements of the project including but not limited to location, exposure to vehicular, pedestrian traffic, adjacent structures, overhead and underground utilities and topography. By thoroughly evaluating all elements of the work in the planning phase, they have maintained excellent safety and quality record on these projects similar to the Gastineau Apartments Demolition.

Sigrid Dahlberg of Carson Dorn will also test Mr. Farre's ideas, which may include alternative abatement methods proposed to maximize efficiency. Ms. Dahlberg will be responsible for the final abatement plan as well as for confirmation testing throughout the abatement process. She will be committed to the project 100% of the time throughout schematic design and construction document development, and as-needed throughout the bid and execution phases.

Ms. Dahlberg, PE (Reg. AELC1103) is an Environmental Engineer at Carson Dorn's engineering office in Juneau. Her responsibilities include project management, construction inspection, asbestos and



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hazardous materials surveys, asbestos and lead-based paint abatement project design, environmental sampling for airborne asbestos, lead, mold, and other hazardous materials; water quality monitoring, and QA/QC of laboratory analytical data. Her construction inspection background includes water and wastewater systems, road and parking lot construction, structural concrete, and building construction. She is able to establish effective working relationships with contractors and regulators and is an experienced technical report writer. She is a versatile professional, equally at home in the field and in the office.

Mike Story, PE and Mark Pusich, PE of R and M Engineering will be responsible for all needed civil, structural, storm water management and erosion control design. Their work will include final engineering design and analysis for systems proposed by Joe Farre, as well as for the permanent retaining structure which will be required as demolition is completed. Both Mike and Mark will be committed 100% of the time during schematic design and construction document development, and as-needed throughout the bid and execution phases.

Mr. Story, PE (Reg. AELC6887) is the president of R and M Engineering; where he is in direct charge of all geotechnical and structural work of the firm. Mr. Story's background includes work in San Diego, CA where he concentrated exclusively on seismic loading in structural building design. Mr. Story, with R and M has worked on a variety of civil, geotechnical and structural engineering projects throughout Southeast Alaska since 1990.

Mr. Pusich, PE (Reg. AELC8152) is Vice President of R&M Engineering, Inc. and has over 28 years of civil engineering design and construction management experience in Southeast Alaska. Mr. Pusich has been with the firm since 1985 and has been a "working" principal since 1993. His experience includes preparing bid ready construction documents, construction cost estimates, construction administration and project administration for government and private sector clients. He has designed rural, urban and municipality street and utility projects including pavement design, retaining walls, sanitary sewer systems, water distribution systems, storm drainage collection system, utility services, and site grading and site development plans.

Firm's Representation and Hourly Rates

Northwind Architects

Dave Hurley, AIA is a principal of the firm and point of contact for this project and is readily available throughout its proposed schedule. Mr. Hurley is responsible for the performance of all contract and project management as well as construction administration duties.

Rate: \$120/hr

Joe Grieser is NorthWind's construction services phase manager and will assist Mr. Hurley with drafting, contract document quality control and coordination, and construction administration duties.

Rate: \$85/hr

Sigma Engineering Solutions

Joe Farre, PE is the President of the firm and a demolition expert and will be readily available *locally* throughout the schematic design phase of the project, and remotely throughout development of construction documents and demolition.

Rate: \$225/hr



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Sigma Engineer 1 will be responsible for any design development and drafting support, however we anticipate all civil and structural design development and drafting will be executed by R and M engineering.

Rate: \$110/hr

Dawson Construction

Chris Gilberto is a Project Manager with the firm and will be readily available throughout the project schedule.

Rate: \$110/hr

Carson Dorn

Sigrid Dahlberg, PE is an Environmental Engineer with the firm and will be readily available throughout the project schedule.

Rate: \$121/hr

R and M Engineering

Mike Story, PE and Mark Pusich, PE are principals of their firm and will be readily available throughout the project schedule.

Rate: \$165/hr

R and M Engineer 1 will be responsible for design development

Rate: \$135/hr

R and M AutoCad technician will be responsible for drafting

Rate: \$95/hr

Reimbursable Expenses

All reimbursable expenses for the project will be at-cost.

Firm's Experience with Similar Projects

Below is a list of projects similar to the Gastineau Apartment Demolition project executed by members of the NorthWind team:

McGuire Building – Seattle, Washington

Mr. Farre served as the lead engineer for the design and implementation of the conventional demolition plan for a 26-story concrete building with elevated post-tension floors in Seattle, Washington. Mr. Farre and the Sigma team had to consider construction defects and the close proximity of the building to other properties when devising the plan. The plan set included three-dimensional renderings of step-by-step removal of key structural elements.

745 Thurlow Street Demolition – Vancouver, BC

Mr. Farre provided consulting engineered demolition services for a conventionally reinforced concrete parking garage located in Vancouver, BC to facilitate improved safety and schedule accelerations for demolition work within the tight confines of the restricted project site.

1626 Elizabeth Street – Portland, OR

Mr. Hurley designed and managed construction for the demolition and replacement of a secondary retaining system serving the primary retaining system in a dense downtown neighborhood on a steep hillside where mudslides are common. A 50 foot section of the concrete toe wall retaining the bearing soil for a 300' x 30' double shell concrete



retaining wall failed in a major freeze-thaw and rain event, overturning. Erosion began immediately, compromising the primary system. Temporary shoring and weather protection along with hourly inspections to monitor soil attrition were implemented. All work to demolish and replace was done with light equipment and significant measures to protect adjacent properties was a priority as the site was completely constrained by existing buildings. Design, demolition and construction work were fast-tracked due to the urgency of the project which was successfully completed within three weeks of the weather event.

Douglas Island Building Renovation – Douglas, AK

Mr. Hurley of NorthWind with Carson Dorn and R and M Engineering designed and oversaw the selective demolition and reconstruction of this 40,000 sf building. Demolition work included full abatement and complete removal of the building's existing cladding. Reconstruction included re-supporting the existing foundation with a hollow-bar micro-pile system. The site is subject to significant ground water and access in areas is limited due to proximity of adjacent buildings.

Alaska State Capitol Seismic Retrofit – Juneau, AK

Dawson Construction executed the exterior renovation of the State Capitol demolishing the exterior building envelope inclusive of masonry, precast concrete, windows, doors and perimeter interior walls down to the existing concrete structure. The concrete structure was then upgraded for seismic integrity by addition of concrete and reinforcing infill. All work is contained on a steep and constrained site with major public safety and traffic control concerns.

Peace Health Medical Center – Ketchikan, AK

Dawson Construction, working jointly with Layton Construction, executed this project inclusive of demolition of existing buildings, redevelopment of the site, and an 80,000 square foot, 4-story addition. Although the client was the City of Ketchikan, close coordination with Peace Health was required in order not impact hospital operations.

Licenses

All required corporate, professional occupational and all other necessary licenses/certifications are currently held and are listed for each team member under Organization and Capacity of the Firm above. Mr. Farre is a registered Professional Civil Engineer in fourteen states, however is not registered in Alaska. His role will be advisory. All design and analytic work will be executed and sealed by an Alaska registered member of the team.

Acknowledgement of Receipt of All Addenda

We acknowledge receipt of addenda One and Two.

Juneau Proposer

NorthWind Architects, LLC is a Juneau based firm meeting the criteria of Purchasing Ordinance 53.50, Section 53.50.101.

Conclusion

This is a sensitive project with an aggressive schedule, high expectations and elevated risk to all stakeholders as a result. We have assembled a team fluent in projects of this nature and with specific demolition expertise. Our team offers the project its greatest chance of successfully meeting the expectations placed upon it. Thank you for your consideration.

E David Hurley, AIA
Principal Architect

Biography

Mr. Farré, the founder of Sigma Engineering Solutions, Inc., has extensive experience in conventional and explosive demolition practices gained from over 20 years in the public and private engineering sectors. Mr. Farré's demolition experience spans a wide range of structure types, locations and demolition practices including work on energy and power facilities, high-rise buildings, bridges, viaducts, chimneys, nuclear facilities, chemical facilities and tunnels. His experience includes extensive use of both conventional and implosive demolition techniques.

Mr. Farré has applied his past experience in advanced design and seismic analysis to lead the demolition industry in the development of new engineering analysis and demolition techniques to improve the level of safety and productivity of numerous demolition projects.

Mr. Farré also serves as a member of the Nevada Task Force 1, U.S. Urban Search and Rescue Team as a structural specialist. His understanding of structural behavior and emergency response techniques have aided in providing immediate response to unforeseen or catastrophic events within the demolition industry, providing a focused response and successful recovery to even the most demanding demolition challenges.

Recent Demolition Engineering Project Experience

McGuire Building – Seattle, Washington

Mr. Farré served as the lead engineer for the design and implementation of the conventional demolition plan for a 26-story concrete building with elevated post-tension floors in Seattle, Washington. Mr. Farré and the Sigma team had to consider construction defects and the close proximity of the building to other properties when devising the plan. The plan set included three-dimensional renderings of step-by-step removal of key structural elements. The Sigma team will provide on-site structural engineering service support for approximately twelve (12) months.

PEPCO Power Plant Demolition - Washington D.C.

Sigma provided demolition plans, engineering and written work plans for the demolition of boilers 13, 14, 15 and 16 as well as chimneys 13, 14 and the auxiliary stack chimney. For the demolition of this major power plant located in Washington D.C. Work included the preparation, design and planning for both implosive and conventional demolition of the existing power facilities.

Heco Power Plant Demolition - Honolulu, Hawaii

Sigma provided demolition engineering support and a design for the decommissioning and demolition of this environmentally sensitive power plant located in the heart of the Honolulu business district.

745 Thurlow Street Demolition - Vancouver, Canada

Mr. Farré provided consulting engineered demolition services for a conventionally reinforced concrete parking garage located in Vancouver, Canada, to facilitate improved safety and schedule acceleration within the tight confines of the restricted project site.

Holly Street Demolition - Austin, Texas

Mr. Farré provided conventional demolition design support for the demolition of steam units 1 through 4 at the highly sensitive project site located in Austin, Texas.

Awards

American Society of Civil Engineers
Southern Nevada Branch
“Engineer of the Year - Private Sector”
2003

Publications

“10 Things You Need to Know About Seismic Engineering” - P.E. Magazine, October 2010, sole author.

“Specialized Design of the US 95 Autoshow Drive Interchange South bound on Ramp Bridge in Henderson, Nevada” - with Jaime Chang, Yong Deng, and Percy Penafiel.

“Analysis and Design of Integral Abutment by LRFD Method” - with Yong Deng, Jaime Chang, and Percy Penafiel.

Wilshire Grand Hotel Demolition - Los Angeles, California

Mr. Farré provided a third party evaluation of a floor-by-floor demolition approach and procedure including the evaluation of the proposed bracing and shoring sequences, equipment and demolition sequence. Presently, Mr. Farré is providing demolition engineering for the on-going site demolition activities in Los Angeles, California.

Radio Network House Building - Christchurch, New Zealand

Mr. Farré provided a third party evaluation of the implosion demolition plan for a 12-story building that was damaged during the 2011 Christchurch earthquake.

O'Shea's Parking Garage Demolition - Las Vegas, Nevada

Mr. Farré prepared the demolition plan for a 7-story, 60,000 SF post tensioned concrete garage including an implosion plan and a conventional demolition plan for the separation by high reach excavator. Phase II of the project included the removal of the upper two decks of the structures to be used as part of the new casino site development project.

MD Anderson Cancer Center - Houston, Texas

Mr. Farré provided the engineering plan and support for the proposed implosion of this 20-story , steel framed hospital building located in Houston, Texas.

Santa Monica Parking Garage Demolition - Santa Monica, California

Mr. Farré prepared demolition plans and procedures for the demolition of a 5-story post tensioned concrete parking garage located in downtown Santa Monica, California.

UCLA CHS South Tower Seismic Renovation Demolition - Los Angeles, California

Mr. Farré provided structural calculations and other engineered demolition support for the demolition of the 10-story CHS South Tower located on the UCLA campus in Southern California.

Hunters Point Power Plant Engineered Demolition - San Francisco, California

Mr. Farré worked with team members from PG&E, LVI Services and CDI to develop and implement a controlled demolition plan for the demolition and removal of the three remaining boiler units and exhaust stack at the Hunters Point Power Plant. This work was performed directly adjacent to the environmentally sensitive San Francisco Bay. A successful implosion plan was developed in conjunction with all parties to provide the quick and safe removal of these major industrial structures.

NRG – El Segundo Steam Generation Plant, Units 1 & 2 Demolition - El Segundo, California

Sigma provided design and construction support for the first stage of demolition including removal of a perched 300-foot tall concrete chimney and phase II removal of two large scale boiler units. Sigma developed an innovative removal technique that allowed for removal of the chimney from the inside, progressing from top to bottom without the use of cranes or heavy equipment. Sigma's phase II demolition plan provided implosion demolition of both boiler units at one time, placing several thousand tons of steel on the ground for ground level processing. This work included coordination with city, state and federal agencies, including use of Coast Guard services for beach closures and shore protection during implosion operations.

Southern California Edison – Mountain View Generating Station– San Bernardino, California

Sigma provided the demolition plan and field support for the demolition and removal of two “peaker” power units at the Mountain View Generating Station. The demolition plan included the simultaneous implosion of two boiler units at one time.

Other Demolition Experience Includes:

Tropicana Resort – 3000 Wing Implosion – Las Vegas, Nevada
McCarran International Airport – Terminal 3 ATS Tunnel Demolition – Las Vegas, Nevada
Fontainebleau Garage Collapse – Emergency Demolition Plan – Las Vegas, Nevada
Sunroad Centrum Building – Partial Demolition Plan – San Diego, California
Terminal Separation Removal - San Francisco County, California
Nuclear Rocket Development Station (Test Cell E) Preliminary Demolition Strategy - Nevada Test Site
Casino Royale - Las Vegas, Nevada
MCA Amphitheater, Universal Studios - Hollywood, California
Olin Chemical Plant -Henderson, Nevada
Hanford Power Plant, - Hanford, California
Bills Gambling Hall - Las Vegas, Nevada

Safety Training

OSHA

- 10 Hour Construction Safety and Health (30-003127667)
- 1910.120 HAZ WOPER
- 1910.134 Respiratory Protection
- 1910.1030 Blood Borne Protection
- 1910.146 Confined Space Entrant

NFPA

- Confined Space Awareness Level
- Rope Rescue Awareness Level
- Water Rescue Awareness Level

Respirator Fit Tests

- SCOTT 1/2 Face Respirator (Fit Card)
- SCOTT M-120 Full Face Mask (Fit Card)

UPRR

- Contractor Orientation Course (US-NV-0310-02984)

Red Cross

- Standard First Aid Training
- CPR/ AED Adult Training

Department of Defense

- Anti-Terrorism Level 1 Awareness Training

FEMA

- IS-00800.b - National Response Framework
- IS-00100.a - Introduction to the Incident Command System
- IS-00200.a - ICS for Single Resource and Initial Action Incidents
- IS-00700.a - National Incident Management Systems

US Army Corps of Engineers

- Urban Search and Rescue
- Structures Specialist Training (STS-I)
- Advanced Structures Specialist Training (STS-II)