

# BSK ASSOCIATES



## Statement of Qualifications

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**Engineering and Analytical Services**

# Corporate Summary



BSK provides consulting engineering and testing for clients with projects ranging in size from small to complex, in both natural and built environments.

Celebrating 50 years, BSK is employee-owned, and has grown to a staff of nearly 200 with offices, laboratories, and sample drop-off locations throughout California and the West Coast (Livermore, Sacramento, Fresno, Visalia, Bakersfield, San Bernardino and Vancouver WA)

## SERVICES:

- Civil and geotechnical engineering
- Hydrogeology services
- Geospatial services
- Environmental engineering
- Construction observation and materials testing
- Ecological/Biological consulting
- CEQA and NEPA consulting
- Engineering geology
- Brownfields consulting
- Land reuse and redevelopment planning
- Water resources management
- Analytical chemistry

## MARKETS SERVED

Transportation	Energy	Water	Commercial/Retail
Agriculture	Wineries	Healthcare	Higher Education
Telecommunications	Government	Aggregate/Mining	Industrial
Redevelopment	Brownfields	Land Use Planning	K-12

## OUR COMPANY VALUES

*Service* – We believe in meeting our commitments to our clients and our colleagues, and achieving quality in performance, communication, comportment and project deliverables.

*Professionalism* – We believe in acting in the best interest of our client and the company with complete honesty and respect. We value competency in the performance of our services and integrity in our opinions and advice.

*Employee Development* – We value professional development and personal achievement through coaching, mentoring, and a balance between a challenging and rewarding work environment and quality of life with family and friends.

*Personal Accountability* – We value personal commitment to execution, follow-through and ownership of every task and process.

*Teamwork* – We value collaborative effort consisting of individual participation, open communication, mutual respect and shared success.

*Safety* – We believe in living safely daily. We make conscious decisions about safety, are actively seeking to be safe and understand the impact of injuries on ourselves, our peers and our families.

[www.bskassociates.com](http://www.bskassociates.com)

# Service Overview

## **ANALYTICAL LABORATORIES**

BSK analytical laboratories is a full-service, California Department of Health Services-certified laboratory offering a wide range of organic and inorganic analyses for wastewater, drinking water, soil, hazardous materials. We are certified under both the California Environmental Laboratory Accreditation Program (ELAP) and California NELAP programs. We are also certified in the states of Nevada, New Mexico, Washington and Oregon and are one of the few firms in the United States approved by the EPA to perform all methods required by the UCMRI, UCMRII, and UCMRIII programs.

## **ENVIRONMENTAL ENGINEERING, ECOLOGICAL SERVICES, WATER RESOURCES**

BSK environmental consulting services range from due diligence Phase I & II, biological & ecological studies, CEQA/NEPA support, Brownfields, feasibility studies, and water supply assessments at site selection, to assessment, remediation, waste characterization, and treatment design. We routinely provide environmental site investigations, groundwater monitoring and remediation, site closure planning and implementation, risk assessments, reclamation programs, natural resource planning and auditing for regulatory compliance.

## **GEOTECHNICAL ENGINEERING, ENGINEERING GEOLOGY**

BSK has provided geotechnical services for more than 50 years and offers in-depth knowledge and experience relative to earth pressures and their impacts on foundations, pavements, retaining walls, pipelines, and structures. Our geotechnical capabilities include feasibility studies, site evaluations, soil stabilization studies, construction engineering, foundation designs, rippability and grading recommendations, excavation and dewatering consulting, seismic hazards investigations and earthwork observations during construction.

## **MATERIALS TESTING AND CONSTRUCTION OBSERVATION**

BSK construction services group provides quality assurance/quality control observation, monitoring and testing of construction materials in accordance with International Code Council (ICC) and California Building Code (CBC) Section 1704A.1.1. We are knowledgeable of construction materials including aggregates, asphalt, reinforced steel, structural steel, concrete, masonry, fireproofing, and are familiar with construction processes and methods. Our project experience has ranged in complexity and size, and throughout California.



# Analytical Services

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Analytical laboratory test results are the underlying foundation for all regulations that protect our health and our environment. Without these results, there would be no information to ascertain the safety of our water, soil and air and its influence on the world around us. Given the inherent importance of reliable test results, these methodologies must be performed by educated, experience professionals using the latest equipment and following industry standards for technical competence.



BSK Associates' Laboratory Service Division (BSK Labs) was established in 1967 as a support service for our Engineering Division. However, BSK Labs has grown in its own right to become one of the top analytical testing laboratories in the State of California. BSK Labs employs over 55 technical professionals with degrees in chemistry, biology and microbiology. Our staff understands and appreciates the significance of the results they produce, recognizing their importance to the environment in which we live.



BSK Labs provides a broad range of testing services to a variety of markets. BSK specializes in potable water quality chemistry, wastewater compliance and solid waste characterization. We also offer fuel characterization services to the biomass energy industry and have provided specialty analytical services on a variety of complex, forensic investigations where standardized methodologies may not apply.

BSK labs have provided our testing solutions to:

- Public and private drinking water systems
- Wastewater treatment facilities
- Irrigation, reclamation and conservation districts
- Water banking and storage agencies
- Environmental engineers
- Hazardous materials treatment, storage & disposal operations
- Biomass energy production plants
- Food processing facilities
- Mining operations

# Brownfields Revitalization Consulting



*Abandoned Brownfields in every community impacts economic development.*



*BSK performed complex environmental engineering services turning this former Brownfields site into 3,000,000 square feet of developed land.*

Returning abandoned Brownfields properties to vital real estate can be a daunting task. BSK's emphasis on obtaining and using Brownfields funding tools can convert blighted areas into areas of economic opportunity. Our team is nationally recognized for their contributions to Brownfields development practices. We have been supporting clients for over ten years by obtaining funds, developing technical solutions, creating reuse planning, and addressing legal and regulatory concerns.

Our team niche for writing award winning U.S. Environmental Protection Agency grants has resulted in over \$2.5 million for California communities to leverage additional funds and private sector interest. We focus results in:

- Award winning grant applications
- Grant management and reporting
- Effective community outreach and planning
- Inventory and priority of sites in GIS format
- Comprehensive Phase I and Phase II investigations
- CEQA/NEPA and other environmental analysis
- Cleanup planning integrating with Best Reuse Plans
- Cost saving cleanup actions

We work with communities, owners, developers, and regulators to identify the critical path to achieve site closure by crafting reuse plans to properly prioritize tasks, reduce costs, and shorten scheduled. We rely on innovative technologies and the highest quality data in approaching investigations and remediation. As collaborative partners, we count on BSK's laboratory scientist to craft data quality objectives and present timely and usable results.

Involving our ecological services, geotechnical engineers and legal associates provides a full picture for future reuse. With the demise of California's Redevelopment Agencies, local municipalities rely more than ever on the private public partnership to see projects to their end.

# CEQA/NEPA & Permitting Services



## **STREAMLINED SUPPORT**

The BSK California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) team works closely with lead/trustee/responsible agencies, project proponents, regulators, and stakeholders to achieve timely and cost-effective project approvals.

BSK's team of planners, engineers, ecologists, facilitators, environmental and earth scientists carefully assesses each project to identify the most streamlined approach to achieve the project purpose, including exemptions, exclusions, addenda, or tiering.

## **SEAMLESS PERMITTING**

BSK's team provides a seamless, integrated approach, depending on each project's need, from initial Phase I Site Assessments, ecological reconnaissance, and relevant special studies to inform the CEQA and/or NEPA analysis.

BSK prepares DFW 1600 series permits, RWQCB 401 certification, USACE delineation, 404/408 permits, USFWS and NOAA-NMFS biological assessments, Section 7 and 10 coordination, and other permitting documents, mitigation and monitoring compliance, and WEAPs.

BSK specializes in defensible project findings, as well as carefully designed mitigation for project impacts which reduce litigation exposure.

## **LITIGATION SUPPORT**

At times, litigation support is required to defend projects from petitioner's claims, or to address potential project impacts from the petitioner's perspective. BSK has experience with both approaches.



# Construction Inspection & Materials Testing



## LICENSED & CERTIFIED TECHNICIANS PROVIDE FLEXIBILITY AND CONSTRUCTION SAVINGS

With our commitment to excellence and continuing pursuit of technological advancement, BSK provides our clients quality construction inspection and materials testing. BSK's diversified personnel, backed by our certified testing laboratories, provide an inspection and testing program for all project requirements.

Members of our technical staff work under the supervision of Professional Engineers and are certified in various disciplines by the following agencies:

- American Concrete Institute (ACI)
- American Welding Society (AWS)
- California Department of Transportation (Caltrans)
- Division of the State Architect (DSA)
- International Code Council (ICC)
- National Institute for Certification in Engineering Technologies (NICET).



*Our inspection personnel are selected for multi-disciplined knowledge and abilities. These qualifications allow them to perform multiple inspections concurrently – resulting in cost savings to our clients and projects.*

Our experienced technical personnel have provided special inspections for schools, public buildings, hospitals, and medical buildings on behalf of following organizations:

- Division of the State Architect
- Office of Statewide Health Planning and Development
- U.S. Bureau of Reclamation
- U.S. Department of the Interior

In addition to providing quality assurance in accordance with the California Building Code, Section 1701, we have also developed quality control plans and work plans for states, the U.S. Navy, and the U.S. Army Corps of Engineers.

BSK has provided services to the following markets:

- Transportation
- Water
- Commercial/Retail
- Healthcare
- Education
- Telecommunications
- State & Local Governments





*BSK materials testing laboratories are inspected by the Cement and Concrete Reference Laboratory (CCRL), AASHTO Materials Reference Laboratory (AMRL), the California Department of Transportation (Caltrans), and the U.S. Army Corps of Engineers. Our laboratories are also approved by the Division of State Architect under Testing Inspection Agency Evaluation and Acceptance process for compliance with ASTM E-329.*



*BSK's material testing laboratories, in conjunction with our civil engineers, provide concrete mix design, development, and testing; asphalt mix design, development, and testing; and welding procedure development testing.*

BSK has multiple materials testing laboratories with capabilities to perform applicable tests. Our field and laboratory crews routinely use destructive and non-destructive testing equipment for testing of:

- Concrete
- Shotcrete
- Structural steel
- Asphalt concrete
- Structural masonry
- Soils and aggregates
- High strength bolts
- Structural steel welding
- Floor flatness
- Reinforcing steel
- Built-up roofing
- Proof loads
- Soil compaction
- Permeability of soil, concrete and rock cores
- Non-destructive reinforcing steel location

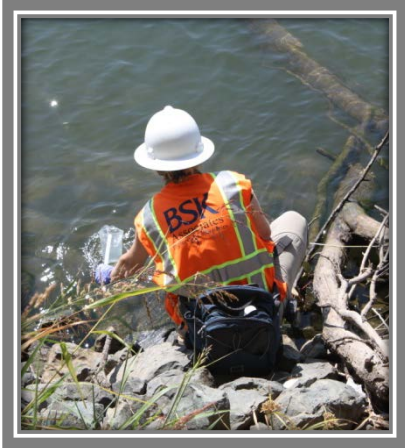
## **ENGINEERS WITH DIVERSE EXPERIENCE PROVIDE FAILURE AND DAMAGE CLAIM INVESTIGATIONS**

BSK's civil and geotechnical engineers combine professional training with construction consultation experience to evaluate a broad range of failures and damage and injury claims. BSK provides field investigations, testing laboratory services, professional reports, deposition statements and/or deposition consultation and expert testimony. BSK's forensic investigation clients include:

- Insurance and finance
- Government agencies
- Developers
- Attorneys
- School districts
- Contractors



# Construction Storm Water Services



Developers and contractors can be challenged by the abundance and complexity of storm water regulations mandated by federal and state agencies. BSK provides turnkey professional industrial and construction Storm Water Pollution Prevention Plan (SWPPP) assistance to our clients throughout California. BSK's storm water services compliment our engineering services by providing clients with a team of specialists that take your project from planning through post-construction.

Our construction storm water staff are Qualified SWPPP Developers (QSDs) and Qualified SWPPP Practitioners (QSPs), as required by the current state construction permit. Our QSDs and QSPs are fully trained and qualified to assist you on Risk Level 1, 2, and 3 traditional projects, as well as Type 1, 2, and 3 linear underground projects.

**Permitting and SWPPP Preparation Services:** Our SWPPP services include:

- Preparation and submittal of the notice of intent and related permit registration documents.
- Evaluate projects with regard to current storm water regulations and prepare a site-specific SWPPP.
- SWPPP awareness and field training.

Our goal is to make the permitting process smooth and seamless so our clients can focus on their primary business concerns.

**SWPPP Implementation Services:** BSK provides qualified staff with the necessary certifications to implement and maintain your SWPPP. This includes:

- Updating BMP drawings, reviewing and amending the SWPPP as necessary, and conducting site inspections.
- Performing storm water sampling and laboratory analysis.
- Providing regular weather updates to alert you to any predicted rain event.
- Preparing rain event action plans.



# CPT Capabilities



BSK has acquired a Hogentogler & Co. Cone Penetration Testing (CPT) truck, equipped with a seismic-piezocone to characterize soil consistency, pore water pressure and shear wave velocities. The rig weighs approximately 9.5 tons and has a 20-ton hydraulic push capacity with side augers to provide additional reaction forces. The rig is equipped with 30 meters of rod length. A fully automatic 5-channel ESFCS data acquisition system records a near continuous measurement of cone tip resistance, sleeve friction, probe inclination, pore water pressure and shear wave velocities with depth. The CPT is also equipped with a soil sampler that can be used to retrieve soil samples at specific areas of interest for geotechnical observation and soil classification testing.



BSK clients will benefit from this in-house CPT technology by:

1) a nearly continuous record of the soil profile with depth that can be used directly for detailed design through well established and researched correlations or combined with borings and laboratory testing depending on the size and nature of the project

2) increased reliability and repeatability of the geotechnical data from electronic sensors that are routinely calibrated as compared to results that could vary from driller to driller depending on the drilling methods and energy efficiency of the hammers used, and

3) higher production rates than typical hollow-stem, solid-flight, or mud-rotary drilling which will ultimately result in cost savings for the project

We look forward to your interest in BSK's CPT capabilities and if requested, would be happy to evaluate the use of CPT for your project. Please contact BSK's Bakersfield office at **661.393.0671** for a quote; or to schedule a CPT presentation at your office or for a field demonstration.



# Ecological Services



## RESPONSE TO CLIENT NEEDS

The BSK ecological team (ecologists, biologists, and environmental scientists) works closely with our earth scientists (geologists, geotechnical engineers, hydrologists, and chemists) and provides a seamless, integrated response to initial site reconnaissance, special studies, CEQA, and permitting documents, and through to site build-out.



## POLICY AND STRATEGIC SUPPORT

BSK's ecological services include strategic support for legislative efforts and regional initiatives. Our team members have worked on state and federal projects ranging from Superfund (NPL), the recent California water legislation, to the Bay-Delta Mercury TMDL process.

## STUDIES AND PERMITTING

Inventories of flora and fauna are necessary to establish permitting requirements, and in some cases develop appropriate habitat. BSK provides a variety of ecological services which assist our clients in gaining regulatory agency approval for project implementation. Our services include:

- State and federal permitting
- Mitigation, restoration, and monitoring plans
- Wetland and ordinary high water mark mapping
- HEC and channel migration modeling
- Channel design
- Construction monitoring to ensure compliance with plans & permits
- Monitoring the success of the mitigation and restoration plans



## PROJECT AND PLANNING DUE DILIGENCE

BSK provides a wide variety of ecological services which assist our clients in gaining regulatory agency approval for project implementation. We offer creative solutions to land use assessment and planning issues. Ecological site screening for projects and development are often required for due diligence, and can save considerable time and money if the project moves forward.

# Environmental Services



## COMPREHENSIVE SOLUTIONS

Continuing concern for the environment has driven local, state, and federal governments to enact new and ever-changing laws and regulations. Our clients depend on BSK to help them through the maze of permitting and regulatory compliance requirements. The professional staff at BSK provides comprehensive solutions to environmental problems.



BSK has the ability to manage projects from initial site assessments through the design and implementation of cost-effective remediation systems. Restoring air, water, and soil quality to meet the objectives of our clients and achieving regulatory compliance is our number one goal. Our solutions often turn environmental liabilities into assets.

BSK has environmental assessment and remediation experience including work at Superfund sites, landfills, underground storage tank sites, and metals and pesticide-contaminated sites. We have successfully performed environmental projects for clients such as:

- State & local agencies
- Oil & gas companies
- Solid waste facility operators
- Financial institutions
- Developers
- Farming & agricultural concerns
- Food processors & manufacturers
- Dry cleaners
- Wineries
- Aggregate & mining operations



Our services include:

- Permitting & regulatory compliance
- Natural resource assessments
- Phase I environmental site assessments
- Remediation system design & operation
- Environmental impact reports
- Water supply analysis
- Solid waste disposal sites analysis
- Land reuse planning
- CEQA/NEPA support
- Brownfields revitalization consulting



# Geospatial Services



## SOLUTIONS TO MULTI-DISCIPLINARY DATA

In today's data intensive environment, Geographic Information Systems (GIS), are the primary tools used by BSK for spatial data analysis. Use of GIS allows BSK to augment our other areas of investigation using advanced spatial tools and data sets.

GIS transforms the traditional engineering project by synthesizing environmental, geologic, geotechnical, water quality, and customer data. GIS provides a better means to visualizing data for forecasting and planning applications.

BSK applies GIS technology for projects that are multi-disciplinary requiring the collaboration of data from:

- Geotechnical soil classifications
- Seismic investigations
- Environmental monitoring
- Analytical test results
- Quality and quantity of water resources
- Lidar
- HEC-RAS



*BSK's value engineering and GIS helps you answer questions and solve problems by looking at your data in a way that is quickly understood and easily shared.*

# Geotechnical Engineering



## FOCUSED APPROACH PROVIDES COST SAVINGS

A detailed geotechnical investigation can provide the basis for cost savings in foundation design and long-term building maintenance. BSK produces studies with accurate understanding of soil conditions and engineering properties. Our objective is to provide clear and concise reports which accurately represent soil conditions, instead of overly conservative values resulting from insufficient test data.

Our geotechnical engineers, and engineering geology staff, have conducted studies for:

- Highways, airports, roads & bridges
- Water & wastewater treatment facilities
- Hospital & medical buildings
- Office & retail complexes
- Water storage and delivery systems
- Commercial and industrial developments
- Solid waste management facilities
- Schools
- Dams & levees
- Telecommunication towers & facilities
- Parks & recreation facilities



BSK's expertise is valued by our clients from the preliminary planning stages of a project through design and construction. Our involvement in geotechnical engineering and the construction support phases of the project, means changing conditions can be addressed in a timely fashion, reducing costly project delays. Quality and efficiency is heightened by providing a seamless transition from one phase of the project to the next.

Additionally, by providing geotechnical review during construction, field crews have direct access to the engineering staff, allowing for immediate action on any unexpected site conditions.

BSK's Geotechnical Engineering Services include:

- Geotechnical site evaluations
- Soil and foundation investigations
- Excavation dewatering
- Soil stabilization studies
- Rippability and grading feasibility studies
- Landfill liner and cover design
- Construction engineering
- Pavement design
- Construction inspection



## **IN-HOUSE SOIL TESTING IMPROVES RELIABILITY AND DECREASES TURNAROUND TIME**

To take continuity one step further, our engineering office contains a soils testing laboratory which enables our Geotechnical Engineers to direct, observe, and participate in the testing programs. This greatly improves the reliability of the laboratory test data. As an added benefit, our three conveniently located soils testing laboratories can respond quickly and efficiently, even with tight schedules.

Our laboratory capabilities include:

- Full range of strength tests
- Bearing ratio and R-value tests
- Expansion and consolidation testing
- Particle size analysis, sand equivalent, and plasticity determination.
- Permeability testing

# Hydrogeology Services



An understanding of hydrogeologic conditions is fundamental in evaluating the quality and quantity of water supply and for determining an adequate and appropriate solution for contaminated sites. BSK has completed a variety of surface water and groundwater hydrogeology projects, including water resource studies and contaminant investigations. Our experience includes projects in environments as hydrogeologically diverse as the soft muds of the San Francisco Bay Area and the dry, collapsing sands of California's Central Valley.



BSK has developed efficient investigative methods tailored to each site. Our staff designs infiltration basins for large-scale, long-term storm water detention studies. The design requirements take into consideration the specific soil types and groundwater conditions at the site. We use investigative methods, ranging from basic hydrogeological measurements to sophisticated computer modeling, using data collected during field investigations.

Our services include:

- Groundwater exploration
- Water quality investigations
- Water supply well design and construction
- Safe yield studies
- Aquifer testing
- Groundwater modeling
- Wellhead protection
- Aquifer recharge



BSK's water resources experience ranges from single-well projects to aquifer- and basin-wide evaluations. As part of our water resources experience, we have successfully designed and sited several water recharge basins and water supply systems throughout Central and Northern California.

BSK has conducted hydrogeologic investigations and characterized contamination at a wide variety of sites including commercial/industrial facilities, sanitary landfills, agricultural/agribusiness facilities, and service stations.

We have characterized shallow single aquifers to deep multiple-aquifer systems, evaluating the distribution of subsurface contaminants and determining cost-effective remediation options. Additionally, we have conducted wastewater/storm water infiltration studies to determine the feasibility of using sites for wastewater or storm water disposal.





# Water Resource Services

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BSK has 50 years of experience in water resources investigations related to hydrogeology, hydrology, and water quality. This expertise includes water resources investigations for agricultural concerns, proposed land developments, siting and expansion of facilities, and construction of infrastructure.



BSK's water resources, geochemistry, and geologic experience has been demonstrated by projects situated in a variety of Western physiographic settings including low and high desert, intermountain valleys, coastal, and mountainous terrains. The different geologic characteristics of each setting presents complex groundwater flow and water quality considerations.

BSK's broad range of water resources capabilities includes:

- Recycled water
- Salinity and nutrients characterization
- Surface water hydrology
- Watershed delineation
- Water resources planning
- Flood hazard mapping
- Water use efficiencies
- Automation
- Water policy
- Litigation support

BSK's wide range of water resources services also include CEQA/NEPA support, riparian and wetland ecology, wetlands mapping, and watershed restoration.



# Safety Overview

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BSK values the health and safety of our employees. The goal of our safety program is to provide a safe and injury-free workplace for our employees, to reduce risk and loss to the company and to be compliant with regulatory laws. We identify our safety program as a core component of our culture where safety comes first.

Our program is supported by all levels of management and is summarized by our President Richard Johnson's adopted safety message ... **"Safety First is Safety Always"**...

Our safety program is re-enforced through:

- Safety moments beginning every meeting.
- Daily & weekly field safety briefings.
- Monthly safety meetings at all offices
- Internal announcements regarding safety topics.
- Education programs on our safety program.

Our safety program promotes the health and well-being of our employees by preventing injuries and accidents in the workplace. The program involves active participation from all employees with the goal to create an environment where our employees are personally committed to workplace safety.

Our safety program includes the following elements, which are overseen by our full-time Director of Safety.

- Injury & illness protection program
- Hazard communication program
- Medical surveillance program
- Respiratory protection program
- Driver safety
- Hearing protection
- Forklift safety
- Radiation safety

The success of BSK is dependent on employees working safely and injury-free everyday, so we can provide excellent value, exceptional service and creative solutions to our clients.



# Representative Clients



Client	Environmental	Geotechnical	CoMET	Analytical
Berry Petroleum		•	•	
SunEdison	•	•	•	
Conergy		•	•	
AT&T			•	
DTE Energy		•	•	
San Joaquin Refinery	•	•		
OLAM	•			
Southern California Edison			•	
U.S Pipe	•			
Vintage Production California, LLC		•	•	
Safeway Inc.				•
PG&E	•			•
Land O' Lakes	•	•	•	•
University of California, Berkeley		•	•	
CEMEX U.S.A	•	•		
Vendo Company	•			
University of California, Davis			•	
Adventist Health		•		
Vulcan Materials Inc.	•	•		•
Dignity Health (Formerly CHW)		•	•	
Kaiser Permanente		•	•	
99 Cent Only Stores			•	
Sutter Health		•	•	
VA Medical Center		•	•	
Solano County Water Agency	•			•
Waste Management	•			•
Veolia Water Company	•			•
Constellation Wines	•			•
Granite Construction	•	•	•	•
Southwest Water				•
Parsons Technology		•	•	
California American Water				•
Metro PCS			•	
Lehigh Cement	•			
Foster Farms				•
AECOM		•	•	•
City of Fresno	•	•	•	•
AC Transit			•	
Quad Knopf Inc.	•	•	•	
City of Livermore	•	•	•	
County of Alameda		•		
Fresno County	•	•	•	•
Sacramento County				•
City of Pleasanton	•	•	•	