PROFESSIONAL PROFILE

CONTACT INFORMATION
Main: (415) 967-6000
Direct: (415) 967-6021
Email: bwespestad@rouxinc.com
Website: www.rouxinc.com

555 12th Street, Suite 250
Oakland, CA 94607

EDUCATION
BS, Civil and Environmental Engineering, Rowan University, 2006

PROFESSIONAL LICENSES
California Civil Engineer (PE), Number C82910

Bjorn Wespestad, PE

Principal Engineer

EXPERIENCE SUMMARY
Eighteen years of experience: Principal Engineer with Roux, California & New York Offices. Staff Engineer with Canger Engineering Associates, Fair Lawn, New Jersey.

TECHNICAL SPECIALTIES
Mr. Wespestad is licensed Professional Engineer in the State of California and practices within Roux Associates' Industrial, Litigation Support, Insurance, Petroleum and Brownfields Practice Groups. Mr. Wespestad has eighteen years of experience performing environmental site investigations, fate and transport analyses, and implementing effective remedial and mitigative measures at complex site in the State of California and New York. His experience also includes providing expert litigation support, environmental insurance claim analysis, and design and implementation of remedial and mitigative measures for former industrial and brownfields sites.

REPRESENTATIVE PROJECTS

Brownfields Development Projects

- **Active Sub-Slab Depressurization System (SSDS) Design, Oversight, and O&M for Four Residential Apartment Buildings in Sunnyvale, California. Oversight Agency: RWQCB and BAAQMD.** Designed an active sub-slab depressurization system (SSDS) and a spray-applied vapor barrier (EPro) for four (4) residential apartment complexes in Santa Clara, California to mitigate any potential vapor intrusion from a PCE and TCE groundwater plume (emanating from an off-site source) beneath the Site. Project tasks included preparation of design drawings and construction details, and technical specifications associated with the design of the SSDS and vapor barrier. Additional project tasks included the preparation and implementation of a Construction Quality Assurance Plan for construction of the SSDS and vapor barrier, permitting with the Bay Area Air Quality Management District (BAAQMD), pre-occupancy sampling, and operation and maintenance of the active SSDS.

- **Active Sub-Slab Ventilation System (SSVS) Design, Oversight, and O&M for a Residential Apartment Buildings in Oakland, California. Oversight Agency: Alameda County Department of Environmental Health (ACDEH).** Designed a passive sub-slab ventilation system (SSDS) and a spray-applied vapor barrier (EPro) for a residential apartment complex in Oakland, California to mitigate any potential vapor intrusion associated with historical soil, soil vapor, and groundwater impacts beneath the Site. Project tasks included preparation of design drawings and construction details, and technical specifications associated with the design of the SSVS and vapor barrier. Additional project tasks included the preparation and implementation of a Construction Quality Assurance Plan for construction of the SSVS and vapor barrier, permitting with the Bay Area Air Quality Management District (BAAQMD), pre-occupancy performance verification system sampling and long-term operation and maintenance of the passive SSVS.

- **Active Sub-Slab Depressurization System (SSDS) Design for a Residential Apartment Buildings in Oakland, California. Oversight Agency: Alameda County Department of Environmental Health (ACDEH).** Designed a passive sub-slab ventilation system (SSDS) and a spray-applied vapor barrier (EPro) for a residential apartment complex in Oakland, California to mitigate any potential vapor intrusion associated with historical soil, soil vapor, and groundwater impacts beneath the Site. Project tasks included preparation of design drawings and construction details, and technical specifications associated with the design of the SSDS and vapor barrier.

- **Passive Sub-Slab Depressurization System (SSDS) Design and Oversight for Four Residential Apartment Buildings in Santa Clara, California. Oversight Agency: BAAQMD.** Designed a passive sub-slab depressurization system (SSDS) and a spray-applied vapor barrier (Liquid Boot) for four (4) residential apartment complexes in Santa Clara, California to mitigate any potential vapor intrusion from historical contamination within the vicinity of the Site. Project tasks included preparation of design drawings and construction details, and technical specifications associated with the design of the SSDS and vapor barrier. Additional project tasks included the preparation and implementation of a Construction Quality Assurance Plan for construction of the SSDS and vapor barrier and permitting with the Bay Area Air Quality Management District (BAAQMD).
- **Active SSDS Design, Oversight for Two Residential Apartment Complexes in San Jose, California. Oversight Agency: BAAQMD.** Designed an active sub-slab depressurization (SSDS) and a spray-applied vapor barrier (E-Pro System III) for two (2) residential apartment complexes in San Jose, California (approximately 150,000 square feet) to mitigate any potential vapor intrusion from historical groundwater contamination at the Site. Project tasks included preparation of design drawings and construction details, technical specification, and engineering calculations to design the active SSDS. Additional project tasks included the preparation and implementation of a Construction Quality Assurance Plan for construction of the vapor barrier and vapor extraction system. Additional activities included the operation and maintenance of an active SSDS in San Jose, California. Project tasks include the collection of air emission samples, reporting of results, monitoring the performance of the SSDS, and interacting with the BAAQMD.
- **Underground Storage Tank (UST) Removal for Future Development Activities at 1540 Market Street, San Francisco, California. Oversight Agency: San Francisco Department of Public Health (SFDPH).** Oversight of the removal of a 1,500- gallon underground storage tank (UST) in San Francisco, California. Project tasks included the contractor oversight, soil and groundwater sampling and analysis, and reporting activities. Project tasks also included interactions with the San Francisco Department of Public Health (SFDPH).
- **Soil Management Plan for the Redevelopment of a Former Steel Factory in South San Francisco, California. Oversight Agency: RWQCB.** Preparation of a soil management plan for the redevelopment of a former US steel factory into a Life Science Campus. Project tasks included the preparation of soil management plan to manage onsite soil during redevelopment activities. Additional tasks included the specification of import fill testing requirements and the preparation of a site-specific health and safety plan to mitigate construction worker exposure and risk from chemicals of concern at the Site.
- **Subsurface Investigations for the Development of Two Residential Apartment Complexes in San Francisco, California. Oversight Agency: SFDPH.** Oversight of multiple soil and groundwater investigations within San Francisco, California for compliance with the Maher Ordinance (San Francisco Health Code Article 22A). Project tasks include overall project management, analysis of sampling data to assess subsurface site conditions for residential development and reporting. Additional activities included the characterization of soils for off-site transport and disposal and interactions with the SFDPH.

Dry Cleaners Sites

- **Source, Timing, and Contribution Analysis, Former Dry Cleaner Facility in San Rafael, California (Expert Witness).** Developed an expert report and provided trial testimony regarding the source, timing, and contribution from multiple potentially responsible parties to chlorinated solvent impacts in soil, soil vapor, and groundwater impacts beneath, and emanating from, a former dry cleaner facility.
- **Source and Timing Analysis, Former Dry Cleaner Facility in Brentwood, California (Expert Witness).** Developed an Expert Declaration regarding the source and timing of PCE beneath a former dry cleaner facility.
- **Design of Groundwater and Indoor Air Mitigation Programs at a Former Dry Cleaner Facility in Redwood City, California. Oversight Agency: Regional Water Quality Control Board (RWQCB).** Enhanced Reductive Dechlorination (ERD) injection program for the remediation of groundwater containing chlorinated volatile organic compounds (VOCs) at a former dry-cleaning facility in Fremont, California. Project tasks included the design of an emulsified oil and sodium lactate substrate injection scheme, subcontractor coordination, the implementation of the injection activities in the field, and ERD performance monitoring and reporting. Additional project tasks included the development of indoor air mitigation plan to address indoor air impacts within the Site Building. Mitigation plan activities included the application of a Retro-Coat vapor barrier system and modifications to the building ventilation system.
- **Design of Groundwater and Soil Vapor Remediation Programs at a Former Dry Cleaner Facility in Fremont, California. Oversight Agency: RWQCB/Alameda County Water District (ACWD).** Enhanced Reductive Dechlorination (ERD) injection program for the remediation of groundwater containing chlorinated volatile organic compounds (VOCs) at a former dry-cleaning facility in Fremont, California. Project tasks included the design of an emulsified oil and sodium lactate

substrate injection scheme, subcontractor coordination, the implementation of the injection activities in the field, and ERD performance monitoring and reporting. Additional project tasks included the development of a soil vapor extraction (SVE) pilot test workplan to address soil vapor impacts within the vadose zone as well as sub-slab soil vapor, implementation of the pilot test, analysis of results, and the development of recommendations for a full-scale SVE system and additional pilot testing activities.

- **Preparation of Expected Remediation Costs beneath and emanating from a former Dry- Cleaner Facility in San Jose, California.** Analysis of subsurface chemical impacts, development of a remedial approach and the preparation of a remedial cost estimate to address soil, soil vapor, and groundwater impacts in San Jose, California.
- **Preparation of Expected Remediation Costs beneath and emanating from a former Dry- Cleaner Facility in Santa Barbara, California.** Analysis of subsurface chemical impacts, development of a remedial approach and the preparation of a remedial cost estimate to address soil, soil vapor, and groundwater impacts for a large-scale VOC plume in Santa Barbara, California.
- **Evaluation of Past Environmental Activities at a former Dry-Cleaner Facility in Hawthorne, California.** Analysis of past environmental activities conducted by others and their associated investigative value in determining the timing of a chemical release(s) from a former dry-cleaner facility in Hawthorne, California. Project activities included an analysis of past investigation and remediation activities and an assessment of each activity to determine whether the activity or data generated from each activity could be used assess the timing of a chemical release from the dry-cleaning operations at the Site.
- **Evaluation and Categorization of Past Site Activities at a former Dry-Cleaner Facility in Foster City, California.** Analysis of subsurface chemical impacts at a former dry-cleaning facility in Foster City, an analysis of past environmental activities conducted at the site, and the categorization of past environmental activities as either investigative or remedial in nature.
- **Evaluation of Proposed Remediation Activities at a former Dry-Cleaner Facility in San Jose, California.** Analysis of subsurface chemical impacts and an evaluation of proposed remedial measures for a former dry cleaner facility in San Jose, California. Project activities included an assessment of chemical impacts at the Site, soil vapor extraction pilot testing results, and the proposed full-scale system to address chemical impacts at the Site. Additional activities included the transmission of modifications to the full-scale system to the client to enhance the effectiveness of the system to target chemical impacts at the Site.
- **Evaluation of Proposed Remediation Activities at a former Dry-Cleaner Facility in San Mateo, California.** Analysis of subsurface chemical impacts and an evaluation of proposed remedial measures for a former dry cleaner facility in San Mateo, California. Project activities included an assessment of chemical impacts at the Site, soil vapor extraction pilot testing results, and the proposed full-scale system to address chemical impacts at the Site.
- **Design of Groundwater and Soil Vapor Remediation Programs at a Former Dry Cleaner Facility in Fremont, California. Oversight Agency: RWQCB/Alameda County Water District (ACWD).** Enhanced Reductive Dechlorination (ERD) injection program for the remediation of groundwater containing chlorinated volatile organic compounds (VOCs) at a former dry-cleaning facility in Fremont, California. Project tasks included the design of an emulsified oil and sodium lactate substrate injection scheme, subcontractor coordination, the implementation of the injection activities in the field, and ERD performance monitoring and reporting. Additional project tasks included the development of a soil vapor extraction (SVE) pilot test workplan to address soil vapor impacts within the vadose zone as well as sub-slab soil vapor, implementation of the pilot test, analysis of results, and the development of recommendations for a full-scale SVE system and additional pilot testing activities.

PFAS Sites

- **Evaluation of Past Environmental Cleanup Activities and Costs and Potential Future Liabilities associated with Multiple Petroleum Tank Farm Fires and Responses in Northern California.** Analysis of environmental response activities and associated costs associated with the release of petroleum hydrocarbons resulting from a tank fire and associated aqueous film forming foam (AFFF) used to suppress fire at an active petroleum tank farm facility in Northern California. Specific activities included an evaluation of past response costs, potential future liabilities associated with the cleanup of petroleum hydrocarbons and PFAS impacts, and a forensic analysis of PFAS impacts attributable to historical releases and the recent tank fire response.
- **Evaluation of Potential Future Liabilities associated with PFAS impacts to a drinking water source in Northwestern Georgia and Northeastern Alabama.** Analysis of available documentation and available analytical data to assess the source(s) of PFAS impacts to a drinking source in northwestern Georgia and northeastern Alabama and a preliminary assessment of potential liabilities that may be attributable a possible responsible party.

- **PFAS Treatment System Design and Cost Estimate Preparation.** Design of a multiple PFAS treatment system for a water utility company located in Southern California and preparation of a design and construction cost estimate for implementation of said treatment measures.

Sediment Sites

- **Development of Allocation Methodology for Apportioning Future Remediation Costs Associated with a Lower Duwamish Superfund Site, Washington.** Developed and recommended allocation methodologies for the apportionment of future remediation costs associated with PCB, carcinogenic polycyclic aromatic hydrocarbon (cPAH), metal and dioxin/furan impacts in sediment within a major navigable waterway in Washington.
- **Development of Allocation Methodology for Apportioning Future Remediation Costs and Contaminant Source and Timing Evaluation Associated with Portland Harbor Superfund Site, Oregon.** Developed and recommended allocation methodologies for the apportionment of future remediation costs associated with PCB, carcinogenic polycyclic aromatic hydrocarbon (cPAH), metal and dioxin/furan impacts in sediment within a sediment management are in the Portland Harbor Superfund Site. Additional project tasks included an evaluation of source and timing of sediment contamination, which included an analysis of the hydronamic and sediment transport modeling within the Willamette River.

Industrial Sites

- **Design and Implementation of Groundwater Remediation Program at a Former Printed Circuit Board Manufacturing Facility in Santa Rosa, California. Oversight Agency: Department of Toxic Substance Control (DTSC)/Regional Water Quality Control Board (RWQCB).** Enhanced Reductive Dechlorination (ERD) injection program for the remediation of groundwater containing chlorinated volatile organic compounds (CVOCs) at a former circuit-board manufacturing facility in Santa Rosa, California. Project tasks included the design of an emulsified oil and sodium lactate substrate injection scheme, subcontractor coordination, the implementation of the injection activities in the field, and ERD performance monitoring and reporting. Following the successful implementation of the ERD Program at the Site, a Groundwater Remedial Action Completion Report was prepared for Site certification and an Operation and Maintenance Plan were prepared for long-term groundwater monitoring at the Site. Additional activities conducted as part of the O&M Plan include monitoring and evaluation of sub-slab soil vapor and indoor air analytical data. Project tasks include the evaluation of chemicals used within the existing building and correlation analysis of constituents of concern.
- **Resource Conservation and Recovery Act (RCRA) Corrective Measure Study (CMS) for a Former Pesticide Manufacturer in San Jose, California. Oversight Agency: DTSC.** Preparation of a Corrective Measure Study (CMS) to address groundwater, soil, and soil vapor impacts at a former pesticide manufacturing facility in San Jose, CA. Project tasks included screening corrective measure technologies and developing and evaluating corrective measures alternatives for industrial and residential scenarios to manage risk for pesticide, metals, and VOC impacts to soil and groundwater.
- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Feasibility Study (FS) for a Former Pesticide Manufacturing Facility in San Jose, California. Oversight Agency: DTSC.** Preparation of a FS Report to address groundwater, soil, and soil vapor impacts at a former pesticide manufacturing facility in San Jose, CA. Project tasks included screening remedial technologies and developing and evaluating remedial alternatives for industrial and residential land use scenarios to manage risk associated with pesticide and VOC impacts to soil and groundwater.
- **Evaluation and Categorization of Past Site Activities and Costs for an Aerospace Parts Manufacturer in Torrance, California.** Evaluation of a multimillion-dollar environmental insurance claim for costs incurred at a aerospace manufacturing facility in Torrance, California. Project tasks included an analysis of environmental conditions at the site, the review of approximately 70 invoices, the preparation of an invoice database, the categorization of invoice costs, and an assessment of the reasonableness and appropriateness of the claimed costs. Additional project tasks included developing a remedial action plan and associated cost estimate to assess future environmental liabilities beneath, and emanating from, the Site.
- **Evaluation and Categorization of Past Site Activities and Costs for a Former Aerospace and Aviation Parts Manufacturing Facility in Chula Vista, California.** Evaluation of a multimillion-dollar environmental insurance claim for costs incurred at a former aerospace and aviation parts manufacturing facility in Chula Vista, California. Project tasks included the review of 68 invoices, the preparation of an invoice database, categorization of invoice costs, and an assessment of the reasonableness and appropriateness of the claimed costs.
- **Evaluation and Categorization of Past Site Activities and Costs for a landfill in Modesto, California.** Evaluation of a multimillion-dollar environmental insurance claim for costs incurred at a landfill in Stanislaus County, California in support of a mediation between the landfill owner and the insurer. Project tasks included the review of approximately 300

invoices, the preparation of an invoice database and the categorization of invoice costs.

- **Evaluation and Categorization of Past Site Activities and Costs as well as a Future Cost Assessment for a Landfill Operator with multiple former landfills within a large superfund site in Southern California.** Analysis and allocation of potential future remedial costs to a former landfill operator for work activities related to a large groundwater pump and treat remediation project to address contaminated groundwater in North Hollywood, California. Project tasks included an analysis of technical documentation and the development of an allocation of future remedial costs between potentially responsible parties (PRPs) to address impacted groundwater at the site. Additional project tasks included the review of past cost invoices, the preparation of an invoice database, categorization of invoice costs, and an assessment of the reasonableness and appropriateness of the claimed costs.
- **Evaluation of Past and Future Site Activities and associated Future Costs for multiple former landfills within Arizona.** Analysis of subsurface environmental impacts at and emanating from two former landfills within Arizona and associated future remediation costs associated with impacts at, and emanating from, each landfill.
- **Drinking Water Well Facility Site Plan Preparation and Well Blowoff Management System for a Water Utility Company in San Jose, California.** Preparation of Site Plans for the development of a former vacant lot into a drinking water well facility in San Jose, CA. Specific Site Plans developed for the Site included a Grading and Drainage Plan, a Stormwater Control Plan (SCP), including the preparation of an on-site stormwater conveyance system to manage stormwater runoff from a 10-year, 24-hour storm. The Grading and Drainage and SCP were prepared in accordance with Santa Clara Valley Urban Runoff Pollution Prevention Program low impact development (LID) criteria. Additional Site Plans were prepared for the construction of an infiltration basin and off-site storm drain discharge line to the City storm drain to manage blowoff water as part of the operations at the Site.
- **Design of Improvements to an Existing Well Blowoff Water and Stormwater Management Sump at a Water Utility Company in San Jose, California.** Design of improvements to an existing blowoff water and stormwater runoff management system at a water utility company in San Jose, California. Improvements to the existing sump included the removal historical sump sediments to enhance blowoff water and stormwater infiltration at the Site. Additional activities included the installation of a Cultec chamber water distribution system, the placement of gravel media a Constructed Treatment Wetland (CTW) to provide treatment for stormwater runoff at the Site.
- **Design and Oversight of a Soil Cap Maintenance Project in Glen Cove, New York.** Preparation of a soil cap maintenance plan for a former municipal landfill in Glen Cove, New York. Project activities included the dewatering of two large, ponded areas formed on the surface of the soil cap, re- grading of earthwork and the implementation of drainage controls to address stormwater runoff. Performed field survey to create an existing conditions map and prepared a proposed grading plan with stormwater runoff drainage controls. Additional project tasks included the preparation of technical specifications, bid documents and a cost estimate. Field activities included construction oversight.
- **Design of Grading Plan at a Former Manufacturing Facility in Rensselaer, New York.** Preparation of a grading plan at former manufacturing plant in Rensselaer, New York with limited volume of stockpiled soil to address future site drainage.

Petroleum Sites

- **Gasoline Stations in Maryland.** Performed fate, transport, and degradation analysis to determine the timing of petroleum releases at 2 gasoline stations in Maryland.
- **Future Remediation Cost Evaluation for a former fuel storage and distribution facility in El Centro, California.** Analysis of future expenditures for remediation of soil and groundwater contamination from multiple leaking underground storage tanks (LUSTs) at a former storage and distribution facility in El Centro, California. Project tasks included an analysis of existing site conditions, the development of several remedial alternatives to address soil and groundwater contamination, and the preparation of cost estimates for each developed remedial alternative.
- **Remediation Design, Construction, Operation & Maintenance at a Large-Scale Petroleum Remediation Project in Brooklyn, New York. Oversight Agency: New York Department of Environmental Conservation (NYDEC).** Provided engineering services and operations and maintenance (O&M) management for two multi- phase (product and water) remediation systems and two groundwater treatment systems (1.1 MGD) addressing an 18 million-gallon release of petroleum hydrocarbon product from a former refinery and petroleum storage terminal in Brooklyn, New York for approximately 5 years. The operations and maintenance management involved the oversight of system technicians, compliance requirements, reporting activities with NYSDEC and the preparation of and Operation and Maintenance Manual for two groundwater treatment systems and twenty dual pump liquid extraction recovery well systems. Performed a three-month long waterflooding and pressure-pulsed waterflooding pilot studies

to enhance LNAPL recovery at a former refinery and petroleum storage terminal in Brooklyn, New York. Pilot Study tasks included the design of a water supply pipe network to feed injection wells and water supply manifolds at each injection well for monitoring and control of water supply. Field activities included injection well monitoring, monitoring well gauging, and recovery well monitoring to assess the effectiveness of the injected groundwater. Prepared summary report for submission to NYSDEC. Designed of sand filter backwash treatment system to be implemented within a groundwater treatment facility in Brooklyn, New York. Project tasks included the preparation of a NPDES modification package for submission to the NYSDEC. Additional project tasks also included the evaluation of several treatment technologies and preparation of feasibility report for submission to the NYSDEC and pilot testing of the selected treatment system. Designed a temporary groundwater treatment system and sampling plan for de-watering activities associated with a sanitary sewer construction project in Brooklyn, New York. Project tasks included the design and installation of two bag filtration systems, four liquid phase GAC units, an effluent tank, and a gravity effluent pipe. Field activities included construction oversight of the treatment system and management of the operations and maintenance of the treatment system. Operation and maintenance of a multi-year pretreatment system involving the reduction of elevated MTBE concentrations in groundwater from two recovery wells prior to being conveyed to the groundwater treatment facility for primary treatment. Field activities included system sampling and monitoring for breakthrough of MTBE. Additional activities included carbon sampling and characterization for transportation to an off-site facility. Construction oversight of ten dual pump liquid extraction recovery well systems to address the release of petroleum product in Brooklyn, New York. Field activities included engineering support, coordination between multiple contractors, soil waste characterization and disposal and preparation of as- built drawings. Construction oversight for the installation of 2,400 feet of groundwater and soil vapor force mains, free-product conveyance piping and signal conduits beneath New York City streets associated with recovery well system expansion activities to address the release of petroleum hydrocarbon product in Brooklyn, New York.

REPRESENTATIVE EXPERT RETENTIONS/APPEARANCES

Catholic Charities vs. Marinwood Plaza. LL, et al, Marinwood Plaza. LLC vs. Myung K Shin: et. Al. Superior Court of the State of California In and For the County of Marin Case No. CIV 1701875. Trial March 25, 2022 & April 4, 2022. Expert Report.

Daniel Souza and Joyce G. Souza, Co-Trustees of The Daniel Souza and Joyce G. Souza Family Trust, under Declaration of Living Trust, dated August 28, 1990 (a Revocable Living Trust); DJA Properties, LLC, v. Mid Valley Services, Inc., a California corporation, dba Mid Valley Financial; Earl Don Baker; Donald Richard Akins; Larry Charles Korth; Trina Louise Root; Garrett Gill; Roy Cordes; Adela Atoigue; and DOES 1-50, inclusive. Superior Court of the State of California, County of Fresno, Case No. 16CECG024l78. Expert Declaration.

PROFESSIONAL TRAININGS

40-Hour OSHA HAZWOPER

10-Hour OSHA Construction Safety and Health

LPS Awareness 8-Hour Certified

First Aid and CPR Trained

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers – member

PUBLICATIONS

Bjorn Wespestad, Joseph Adams, Chase Gerbig & Adam Love (2020): Dry Cleaner Releases and Forensic Considerations, Environmental Claims Journal, DOI: 10.1080/10406026.2020.1773078

PRESENTATIONS

Wespestad, Bjorn (2021) Forensic Considerations for Dry Cleaner Sites. AEHS 30th Annual International Conference on Soil, Water, Energy, and Air, Forensics Section. March 2021.