Proposal

CITY OF LANCASTER

Materials Recovery Facility/Anaerobic Digester Facility Environmental Impact Report

Prepared for
City of Lancaster

March 16, 2012

ESA

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March 16, 2012

Jocelyn Swain, Associate Planner
City of Lancaster
Planning Department
44933 Fern Avenue
Lancaster, CA 93534
661.723.6249
jswain@cityoflancasterca.org

Subject: Proposal to Prepare and Environmental Impact Report for the City of Lancaster Proposed Materials Recovery and Conversion Facility

Dear Ms. Swain:

Environmental Science Associates (ESA) is pleased to submit our proposal to prepare an Environmental Impact Report for the construction and operation of a materials recovery and conversion facility for the City of Lancaster.

For over 42 years, ESA has been a leader in innovative and cost-effective solutions to environmental issues on projects ranging from small, focused studies to large, complex analyses. We provide multi-disciplinary technical credibility coupled with a strong understanding of planning and regulatory processes and strategic vision to help the City effectively manage environmental issues and fulfill the project goals.

We have supplemented our capabilities with two subcontractors that are experts in their fields, and have a history of working with us or our other team members on a variety of projects. **KOA Corporation** and **Lois Clarke** have each worked with ESA on numerous projects and they will complement our in-house expertise and provide you with the necessary resources and specialized expertise to successfully complete the environmental compliance process for this project.

ESA has been a leader in California in preparing EIRs for anaerobic digestion facilities, recently completing EIRs for two important digester projects. In 2010 ESA completed the EIR for Dairy Manure Digester and Co-Digester Facilities, which analyzed proposed waste discharge requirements for new anaerobic digester facilities at dairies for the California Regional Water Quality Control Board, Central Valley Region. In 2011 ESA completed the EIR for Statewide Anaerobic Digester Facilities for the Treatment of Municipal Organic Solid Waste (MSW); an effort by CalRecycle to understand program level impacts of MSW anaerobic digesters.

Thank you for the opportunity to present our proposal. Our submittal is fully authorized and valid for a minimum of 365 days. Should you need additional information or have any questions, please do not hesitate to contact Paul Miller at (916) 564-4500, or pmiller@esassoc.com.

Sincerely,

Paul Miller
Senior Project Manager
ESA | Central Valley/Sierra Region

Deanna Hansen
VP/Director of Community Development
ESA | Southern California Region

CONTENTS

City of Lancaster Materials Recovery and Conversion Facility

SECTION 1
Scope of Work

This section describes ESA's proposed scope of work for the project, which follows the Project Description provided by the City of Lancaster in its request for a scope of work for the proposed Materials Recovery and Conversion Facility project.

Tasks

Task 1: Project Kickoff Meeting

ESA proposes to initiate CEQA work with a start-up meeting with the City project manager and ESA's project management team. The purpose of this meeting will be to review the proposed approach and scope of work and to determine whether any modifications to the CEQA work plan are necessary. This meeting will also provide an opportunity to confirm assumptions regarding the proposed team member roles and responsibilities, and to discuss the City's overall goals for the environmental review process and baseline assumptions. A field visit to the project site will be part of the project familiarization, and procedures for site access by the project team will be established.

Following the meeting, ESA will prepare a data request for information to support preparation of the EIR. ESA envisions the submittal of data requests for additional information (throughout the CEQA process) as the need for such information is identified by ESA team members. Due to the aggressive schedule, ESA will continue working on all portions of the EIR while waiting for the responses to on-going data requests. ESA will not have the option of waiting until we receive all responses to the data requests.

Task 2: Notice of Preparation

ESA will prepare a Notice of Preparation (NOP), as required by CEQA Guidelines Section 15082 for review by the City, then amend the NOP based on comments received from City staff in redline/strikeout format. ESA will distribute the NOP to the State Clearinghouse for required postings. This scope assumes that the City will distribute the NOP to other interested agencies and neighbors. The NOP will initiate a 30-day review period for agencies to provide specific comments about the scope and content of the environmental information related to the responsible agency's area of statutory responsibility which must be included in the Draft EIR (CEQA Guidelines, Section 15082). No Initial Study will be prepared.

Task 3: Public Scoping Meeting

ESA will attend and/or present materials on the proposed EIR analyses at the Public Scoping Meeting. ESA will be prepared to provide an overview of the solid waste goals and operation of the Material Recovery Facility (MRF) and associated anaerobic digester. The project will aggressively recycle a variety of high value commodity streams in the MRF. For anaerobic digestion, an Induced Bed Reactor (IBR) will be used to convert organics to biogas and compost. ESA will arrange for a court reporter at the scoping meeting so that all comments are accurately captured at the scoping meeting. On the basis of the results of the public comments received on the NOP (including the scoping meeting), preliminary review of any additional Project-related information, and preliminary agency consultations, ESA will identify any remaining data needs and request that information from the City or applicant, as appropriate.

ESA assumes the City will perform all mailing and distribution of notices, and forward all scoping comments to ESA for determination of the review and analyses necessary for the EIR.

Task 4: Prepare Screencheck Draft EIR

Subtask 4.1: Prepare Project Description

In consultation with City staff and information provided by the applicant, ESA will prepare the project description as early in the process as possible and, following review by City staff, will incorporate comments and clarifications from staff to ensure a complete, consistent and accurate project description that will be sufficient to serve as the basis for impact analysis. As required by CEQA Guidelines Section 15124, the project description will include the project location and site plan maps; a statement of project objectives; a general description of the project's technical, environmental and economic characteristics; and a statement of the anticipated uses of the environmental documents, including required permits, approvals, and agency review requirements. Project objectives will be determined in consultation with City staff and the applicant.

Subtask 4.2: Develop Project Alternatives

From a CEQA perspective, alternatives should be designed to minimize impacts of the proposed project. CEQA requires analysis of the No-Project Alternative and this scope assumes that three other alternatives will be reviewed in the EIR. Other alternatives could include one or more off-site alternatives, a more aggressive recycling alternative, a smaller facility alternative, an alternative that analyzes alternative uses of the biogas, or perhaps an alternative that considers a conversion technology other than anaerobic digestion.

Subtask 4.3. Complete Environmental Analyses

ESA will prepare environmental analyses to determine the potential impacts of the proposed project and to identify appropriate feasible mitigation measures. The completion of the environmental investigations will include the review of available data and information from the data requests to the City. Conclusions identified in the environmental investigations will be developed from independent analyses prepared by ESA, or based on available data provided by the City or other agencies and verified by ESA.

The EIR will present the setting, impacts, and mitigation discussions for all of the CEQA Appendix G Checklist resource areas (except for agricultural/forestry resources and mineral resources). Detailed scopes of work for each of the resource areas have been identified for each of the three potential sites and are presented in the Detailed Scope of Work in Appendices A,B and C.

Subtask 4.4 Other CEQA Sections

ESA will prepare all other CEQA sections (Areas of Controversy, Significant and Unavoidable Impacts, List of Persons and Agencies Consulted, etc.), as required by Section 15120 et seq. of the CEQA Guidelines.

The following resource areas are not expect to be affected by the project and will be identified in the NOP as not requiring further analysis in the EIR.

- Agricultural Resources
- Mineral Resources

Task 4 Deliverables: ESA will deliver three hard copies (recycled-content paper) and one electronic copy of the Administrative Draft EIR.

Task 5: Prepare Draft EIR

ESA will revise the Administrative Draft EIR based on City comments and provide a final Screencheck Draft EIR for review to the City staff. Upon approval of the Screencheck Draft EIR, ESA will print copies for distribution.

Task 5 Deliverables: ESA will provide one copy of the Screencheck Draft EIR for review to the City.

ESA will print 40 copies of the Draft EIR plus attachments; and 30 CDs in Adobe Acrobat (.pdf) format containing the Draft EIR. Prior to preparing the CDs, ESA will coordinate with City staff to ensure that electronic information is consistent with the City's format.

Task 6: Respond to Comments and Prepare Final EIR

ESA will prepare an Administrative Final EIR, which will consist of the written corrections to the Draft EIR, a summary of verbal comments received at hearings on the Draft EIR, responses to all written comments received during the Draft EIR public review period, as required by the CEQA Guidelines, and any appropriate revisions to the text of the Draft EIR. All written comments will be numbered and all changes to the text of the Draft EIR and will be highlighted, and responses keyed to the appropriate comment numbers. As we do on many of our EIRs, ESA proposes to present these changes in a chapter called "Text Changes to the Environmental Impact Report". All text changes to the Draft EIR will be "collected" in one chapter of the Final EIR, and ordered by the page number that the changes appeared in the Draft EIR. In this manner the reader can quickly determine how any of the pages in the Draft EIR are changed by information in the Final EIR. Additions will be shown in underline text. Deletions will be shown in strikeout (~~strikeout~~) text. This process fully complies with the requirements of CEQA and saves paper, time, and money, when compared to reprinting the entire Draft EIR showing text changes.

In response to one set of comments by the City on the Administrative Final EIR, ESA will revise the Administrative Draft Final EIR as necessary and prepare a Final EIR for distribution. It is assumed that the City will distribute all copies of the Final EIR.

Task 6 Deliverables: ESA will provide three hard copies (recycled-content paper) and one electronic copy of the Administrative Final EIR and Mitigation Monitoring Plan.

ESA will provide one screencheck copy of the Final EIR. ESA will provide 30 copies of the Final EIR plus attachments, 30 CDs in Adobe Acrobat (.pdf) format (compatible with the City format) containing the Final EIR.

Task 7: Prepare Mitigation Monitoring Plan (MMP)

ESA will prepare an MMRP in compliance with Public Resources Code Section 21081.6. For any significant impact identified in the EIR, the MMRP will describe the required mitigation, and the responsible parties, tasks, and schedule necessary for monitoring mitigation compliance.

Task 7 Deliverables: ESA will submit the MMRP to the City with the Administrative Final EIR. ESA will respond to City comments on the draft MMRP, and will prepare a screencheck and final MMRP for submission to the City.

Task 8: Prepare Draft Findings and Possible Statement of Overriding Considerations

As directed by the City, ESA would prepare draft written findings of fact for each significant impact identified in the EIR, pursuant to *CEQA Guidelines* Section 15091 and 15096(h). The findings will explain how the City will deal with each significant impact and alternative

in the EIR. The findings will contain a conclusion regarding each significant impact, and an explanation of how the substantial evidence supports the conclusion. If the EIR concludes that the project would have significant and avoidable environmental effects, ESA will also prepare draft statement of overriding considerations as required by Public Resources Code Section 21081 and CEQA Guidelines, Section 15093.

Task 8 Deliverables: ESA will prepare the first draft Facts/Findings and possible Statement of Overriding Considerations for the City.

Task 9: Public Hearings/Meetings

At a minimum, ESA will have up to three key staff available at three public hearings and three key staff members at three meetings between ESA and the City. The kick-off meeting (Task 1) is included as one of the three meetings between ESA and the City.

Task 9 Deliverables: ESA will prepare a PowerPoint Presentation for public hearings.

Task 10: Weekly Management Conference Call

ESA proposes a weekly management conference call between the ESA project manager and the City project manager to continuously coordinate the project details and schedule. Other key staff can be asked to join as necessary. This scope assumes an average of two ESA staff will participate each call.

SECTION 2
Consultant Team

For more than 42 years, ESA has been a national leader in innovative and cost-effective solutions to environmental issues for projects ranging from small, focused studies to large, complex analyses. We provide multi-disciplinary technical credibility coupled with a strong understanding of planning and regulatory processes and strategic vision to help the City effectively manage environmental issues and fulfill project goals.

ESA was founded in 1969 and is an employee-owned corporation with approximately 350 environmental professionals our proposed management team can draw upon to assist the City in satisfying environmental regulatory and permitting requirements. In addition, ESA has established a Renewable Resources Group that is staffed with technical experts and project managers who are dedicated to providing full service environmental planning, compliance, and resource management primarily for solid waste management projects within California.

ESA's Renewable Resources Group prepares CEQA documents for new and expanding facilities; evaluates the performance of existing facilities; and implements waste reduction, recycling, and composting programs to meet the state, regional, and local government goals and requirements. We've helped to divert more than 3.5 million pounds of waste from landfills, started more than 20 recycling and compost programs, and partnered with 13 agencies to provide ongoing community education.

ESA has been a leader in California in preparing EIRs for anaerobic digestion facilities, recently completing EIRs for two important digester projects. In 2010 ESA completed the EIR for Dairy Manure Digester and Co-Digester Facilities, which analyzed proposed waste discharge requirements for new anaerobic digester facilities at dairies for the California Regional Water Quality Control Board, Central Valley Region. In 2011 ESA completed the EIR for Statewide Anaerobic Digester Facilities for the Treatment of Municipal Organic Solid Waste (MSW); an effort by CalRecycle to understand program level impacts of MSW anaerobic digesters.

In addition to our in-house team of professionals, we have enlisted the support of two additional firms with specific knowledge to address potential traffic and solid waste management issues.

KOA Corporation (KOA) is one of the leading traffic engineering and transportation planning and design firms in California, providing consulting services to both public and private sectors with six offices to serve our California clients. The KOA staff includes certified transportation planners and California registered civil and traffic engineers. KOA has provided engineering services for many of the largest public works and transportation planning projects in California.

Lois Clarke will supplement the CEQA project description and development of CEQA alternatives. Since 2006, she has been an independent consultant analyzing and preparing reports for air quality, greenhouse gas, and noise impacts and mitigations for over 40 CEQA documents, and conducting financial analyses and developing rate models for solid waste projects.

ESA has worked with each of these firms on previous projects and we are confident that they will complement our in-house expertise and provide the City with the necessary resources and specialized expertise to successfully complete the environmental compliance process for this important project.

Primary Contact

The primary contact for this project will be Paul Miller who will serve as project manager.

Paul Miller, REA
2600 Capitol Avenue, Suite 200
Sacramento, CA 95816
916.564.4500
pmiller@esassoc.com

Team Organization

Figure 2-1 illustrates ESA's key staff and management team that bring extensive expertise and experience with similar projects and will work with the City of Lancaster to successfully achieve the objectives and goals of the proposed materials recovery and conversion facility CEQA environmental review. **Table 2-1** presents a summary of our staff's qualifications. As requested, we have also included resumes for our proposed staff in the attached Appendix D.

FIGURE 2-1: Organization Chart

TABLE 2-1: Key Team Member's Years of Experience/Education/Qualifications

	Name/Role/Firm Years Experience	Education and Certifications	Qualifications and Selected Relevant Project Experience
Project Management	**Deanna Hansen** *Project Director* **ESA** ***20 Years Experience***	B.F.A., Graphics, California State University, Fullerton	• Experience in environmental consulting and has contributed to a wide variety of residential, commercial, and industrial projects. • Has developed a well-balanced expertise in environmental compliance for development projects, specializing in CEQA/NEPA compliance. • Bailard Landfill Permit Extension EIR, Ventura County, CA. *Assistant Project Manager*. • El Sobrante Landfill EIR, Riverside, CA. *Technical Analyst.* • Toland Road Landfill EIR, Ventura, CA. *Scientist.*
	Paul Miller, REA *Project Manager* **ESA** ***26 Years Experience***	M.S., Zoology & Entomology, Colorado State University B.A., Zoology, Miami University California Registered Environmental Assessor REA#00926 Certificate of Integrated Waste Management, San Francisco State University	• West Coast Coordinator for ESA's Air Quality and Noise Programs with technical expertise in energy, integrated waste management, air quality and noise analyses. • Extensive experience in CEQA and NEPA EAs and has been integral in the preparation of over 250 CEQA and NEPA environmental documents, including project manager for over 18 major EIRs. • Bay Area Regional BioSolids Processing Program Facility Plan and EIR. *Senior Air Quality and Noise Analyst.* • CalRecycle (formerly the California Integrated Waste Management Board), Statewide Program EIR for Anaerobic Digestion Facilities. *Project Manager.* • The Central Valley Regional Water Quality Control Board (Central Valley Water Board) - Dairy Manure Digester and Manure Co-digester Program EIR. *Project Manager.* • Sonoma County Waste Management Agency (SCWMA), Amendments to the Sonoma Countywide Integrated Waste Management Plan, Sonoma County, CA. *Project Director.*
	Jason Ricks *Deputy Project Manager* **ESA** ***15 Years Experience***	M.S., Environmental Public Health, Tulane University, New Orleans, LA B.S., Biology, Alma College, Alma, MI	• Environmental health and science experience, with an emphasis on preparation of environmental documents in compliance with NEPA, CEQA, and environmental permitting requirements for the California Energy Commission and California Public Utilities Commission. • Has managed Environmental Impact Reports and Statements for a variety of public clients and project types. • Technical background in hazards and hazardous materials, his experience has focused primarily on electrical energy generation, transmission, and distribution projects, including several renewable energy projects for government agencies. • Separate EIRs for the Kern County Planning & Community Development Department for the Alta-Oak Creek Mojave Project, Pacific Wind Energy Project, Alta Infill 2 Project, and the North Sky River Wind Energy Project Kern County, CA. *Project Manager.* • Port of Los Angeles Channel Deepening Project Supplemental EIR/EIS EIRs for the Alta-Oak Creek Mojave Project, Pacific Wind Energy Project, Alta Infill 2 Project, and the North Sky River Wind Energy Project Kern County, CA. *Project Manager.* • Los Angeles Department of Water and Power, Distribution Station #144 IS/MND, Los Angeles, CA. *Project Manager.*

TABLE 2-1: Key Team Member's Years of Experience/Education/Qualifications

Technical Staff

Name/Role/Firm Years Experience	Education and Certifications	Qualifications and Selected Relevant Project Experience
Poonam Boparai *Air Quality and Greenhouse Gas Emissions* **ESA** ***6 Years Experience***	M.S., Environmental Engineering (Focus: Air Quality Engineering and Science), University of Illinois, Urbana-Champaign Bachelor of Engineering, Chemical Engineering, Birla Institute of Technology and Science, Pilani, India	• Senior air quality and climate change specialist with particular expertise in air quality and greenhouse gas (GHG) assessments for land use planning, transportation, energy, and infrastructure projects. • Proficient in conducting emissions inventories and dispersion modeling using a variety of U.S. Environmental Protection Agency (EPA) and California Air Resources Board (ARB)-approved models (e.g., CalEEMod, URBEMIS, EMFAC, Off-Road,AERMOD and Cal3QHC). She also possesses a solid understanding of air quality and GHG protocols promulgated by ARB, the California Climate Action Registry (CCAR), and California air districts. • City of West Hollywood, General Plan EIR and Climate Action Plan, West Hollywood, CA. *Air Quality and Climate Change Specialist.* • City of San Marcos, General Plan, Zoning Ordinance, and EIR, San Marcos, CA. *Air Quality and Climate Change Specialist.* • San Diego Association of Governments, RTP/SCS EIR, San Diego, CA. *Air Quality and Climate Change Specialist.*
Madeleine Bray *Cultural Resources* **ESA** ***10 Years Experience***	M.A., Archaeology, University of California, Los Angeles B.A., Classical Archaeology, Macalester College, Saint Paul, Minnesota	• An archaeologist and cultural resources project manager with 10 years of survey, excavation and mapping experience related to historically significant sites. • Has managed numerous projects in California in compliance with CEQA and with Section 106 of the National Historic Preservation Act, including Phase I surveys, site significance testing and evaluation, mitigation recommendations, and archaeological construction monitoring. • Has worked extensively throughout southern California, with particular experience in the context of the Mojave and California deserts, historic mining sites, and historic artifacts. • City of Los Angeles Recreation and Parks Hansen Dam Skate Park Project, Los Angeles County, CA. *Archaeologist*. • California Public Utilities Commission, Presidential Substation Project, Ventura County, CA. *Cultural Resources Project Manager*. • Red Mountain Ridge Wind Project, Kern County, CA *Cultural Resources Project Manager.*
Michael Burns *Geology and Soils, Hazards and Hazardous Materials* **ESA** ***30+ Years Experience***	B.S., Geology, San Jose State University **Certifications / Registrations** Certified Hydrogeologist (CHG), No.280, CA, 1995 Certified Engineering Geologist (CEG), No.1846, CA, 1993 Professional Geologist (PG), No.4532, CA, 1989 Registered Environmental Assessor I (REA I), No.570, CA, 1988	• Effective project manager with over 30 years of experience in the environmental and geological sciences. • Provides expert services in planning and permitting, site characterization, Superfund sites, Remedial Investigation/Feasibility Studies (RI/FS), waste management, litigation support, property assessments, development and redevelopment, soil and groundwater remediation, groundwater banking, and water rights. • Recent projects include municipal and regional water supply, industrial and manufacturing facilities, airports, levees, landfills, refineries, research and development facilities, hazardous waste management, vineyards, and commercial properties. • Lewis Road Landfill, Watsonville, California. *Project Manager.* • Cummings Road Landfill, Eureka, California. *Project Manager.* • Burlingame Landfill, Burlingame, California. *Project Manager.* • Closure of Winton Avenue Landfill, Hayward, California. *Project Manager.*

TABLE 2-1: Key Team Member's Years of Experience/Education/Qualifications

Name/Role/Firm Years Experience	Education and Certifications	Qualifications and Selected Relevant Project Experience
Lois Clarke *Project Description* *Alternatives* **Lois Clarke** ***20 Years Experience***	B.S., Mechanical Engineering, University of California, Berkeley, 1988 B.A., Environmental Studies, University of California, Santa Cruz, 1988	• Experience in the environmental field as a project manager and analyst with a focus on environmental impact reports, integrated waste management, and green building. • Since 2006, she has been an independent consultant analyzing and preparing reports for air quality, greenhouse gas, and noise impacts and mitigation for over 40 CEQA documents, and conducting financial analyses and developing rate models for solid waste projects. • Analytical work for air quality and greenhouse gas sections includes review of background air quality data (from the CARB ADAM database), estimates of construction and operation emissions, and development of mitigation measures. She uses several modeling tools to predict emissions and resultant concentrations; including CALINE4, URBEMIS2007 and EMFAC emission estimates. • Analytical work for solid waste projects includes analyses of financial data, development of rate models, and calculations of greenhouse gas emissions..
Robert Eckard *Hydrology and Water Quality* **ESA** ***10 Years Experience***	Currently Completing Ph.D. in Water Quality, University of California, Davis B.A., Biology, University of California, Santa Barbara	• Hydrologic resources/water quality specialist in support of CEQA and project permitting; also provides hazards identification support. • Has provided technical and CEQA/NEPA analysis for wastewater treatment facilities, wastewater discharges including NPDES permitting, groundwater banking, and water supply/storage infrastructure throughout the state, and is currently working closely with the Regional Board on a number of water quality permitting projects. • Plasco Plasma Arc Gasification Facility, Salinas Valley Solid Waste Authority, CA. *Water Resources Specialist.* • The Central Valley Regional Water Quality Control Board (Central Valley Water Board) - Dairy Manure Digester and Manure Co-digester Program EIR. *Hydrology and Water Quality Specialist.* • Yuba Sutter Disposal Inc. MND. *Water Quality Specialist.*
Joel Falter *Traffic* **KOA** ***33 Years Experience***	M.S., Transportation Engineering, UC Berkeley, Berkeley, California 1980 B.S., Transportation and Regional Planning, SUNY Buffalo, Buffalo, New York 1979	• Has prepared a wide variety of transportation planning and traffic engineering studies as well as parking, neighborhood circulation, and pedestrian studies for cities, counties, and private development projects. • Has also developed and applied a wide range of travel forecasting models on traffic engineering and planning studies. • Azusa Landfill Materials Recovery Facility (MRF) Traffic Impact Study. *Principal In Charge.* • Lancaster 60th & K Shopping Center EIR. *Principal In Charge.* • Florence Avenue (Streetscape and Pedestrian Safety Enhancement Project in unincorporated Los Angeles County, California. *Principal Planner.*
Brian Grattidge *CEQA Alternatives / Other CEQA Considerations / Mitigation Monitoring or Reporting* **ESA** ***15 Years Experience***	M.A., Political Science, University of California, Davis B.A., International Relations, University of California, Davis	• In addition to his CEQA expertise, he has experience with general plans, specific plans, and processing individual development projects. • As a former member of the Governor's Office of Planning and Research, he prepared the 2003 update of the *General Plan Guidelines*, worked on the 2003 CEQA Guideline Amendments, and coordinated state review of environmental documents. • Jackson Valley Quarry Expansion and Reclamation EIR and Mitigation Monitoring Program, Amador County, CA. *Project Manager*. • Munn & Perkins Quarry Excavation Permit Amendment EIR, San Joaquin County, CA. *Project Manager.* • Kunzler Terrace Mine Use Permit, Ukiah Valley, CA. *Project Manager.*

TABLE 2-1: Key Team Member's Years of Experience/Education/Qualifications

Name/Role/Firm Years Experience	Education and Certifications	Qualifications and Selected Relevant Project Experience
Aaron Hecock, AICP *Utilities and Services Systems/Public Services, Aesthetics, Recreation, Population and Housing* **ESA** ***5 Years Experience***	Masters in City and Regional Planning, California Polytechnic State University, San Luis Obispo Graduated with Honors B.A., Political Science, Minor in Communications, University of Arizona American Institute of Certified Planners (AICP)	• A land use and environmental planner with expertise in assisting public and private clients comply with local planning requirements. • Has worked on a variety of projects including Initial Studies, Mitigated Negative Declarations, EIRs, joint CEQA/NEPA documents, and more. • Brings inside knowledge into the processes and methodologies of local and regional planners. • Yuba Sutter Disposal Inc. CEQA. *Environmental Planner.* • North Bay Aqueduct Alternate Intake Project EIR, DWR, Sacramento, Yolo, Solano and Napa Counties, CA. EIR. *Environmental Planner.* • Revised Alameda Landing Land Use Plan SEIR Addendum, Alameda, CA. *Project Coordinator.*
Rosanne Humphrey *Biological Resources* **ESA** ***15 Years Experience***	M. S., Zoology, University of Oklahoma, Candidate B.S., Biology, magna cum laude, University of New Mexico Parabotanist training, San Diego Natural History Museum Plant Atlas Project, Dr. John Rebman Taxonomy of California Plants, San Diego State University, Dr. Michael Simpson Birding by Ear, Natural History Museum, Claude Edwards	• An ecologist specializing in biological resources management and assessment. • Expertise includes developing land management plans and open space planning issue papers; conducting sensitive species surveys using scientific sampling methods; assisting with habitat restoration and erosion control planning and implementation; working with MSCP planning documents for San Diego County; conducting and writing biological assessments, biological resources technical reports, impacts analyses, mitigation recommendations, and managing projects for mainly public sector clients. • County of San Diego Department of Parks and Recreation, Santa Ysabel Open Space Preserve East Spotted Owl Survey and Monitoring. San Diego, CA. • Yuba Sutter Disposal Inc. CEQA. *Environmental Planner.* • County of San Diego Department of Public Works Gillespie Field Redevelopment Project.
Jack Hutchison *Traffic – Senior Review* **ESA** ***34 Years Experience***	M.Eng., Transportation Engineering, Pennsylvania State University (*as part of the Bureau of Highway Traffic program*) B.S., Civil Engineering, University of Connecticut	• A registered traffic engineer in the State of California with experience in a wide range of transportation analyses, from planning-level impact analyses to operations and design evaluations, as well as for a wide range of project types and locations. • Provides critical peer review of analyses conducted by other firms and third party analysis to ensure compliance with CEQA and NEPA requirements. • Brentwood Transfer Station Expansion Initial Study, *Transportation Analyst.* • Redwood Landfill Expansion Environmental Impact Report , San Rafael, Marin County, CA. *Transportation Analyst.* • Sonoma County Composting Facility Environmental Impact Report, *Transportation Analyst.*

TABLE 2-1: Key Team Member's Years of Experience/Education/Qualifications

Name/Role/Firm Years Experience	Education and Certifications	Qualifications and Selected Relevant Project Experience
Jonathan Louis, P.E. *Traffic* **KOA** ***15 Years Experience***	M.S., Transportation Engineering, UC Berkeley, Berkeley, California 1980 B.S., Transportation and Regional Planning, SUNY Buffalo, Buffalo, New York 1979 P.E., Traffic, CA #2415	• Has conducted traffic impact analyses, construction impact analyses, site access/circulation studies, parking studies and trip generation studies for numerous projects in the Southern California area. • Has developed and evaluated traffic simulation models for surface street and freeway arterials using advanced computer programs such as Synchro and FREQ12. • Extensive knowledge of local and regional reviewing agencies as well as CEQA/NEPA requirements. • NRG Alpine Solar Site Construction Impact Analysis, Lancaster, California. *Project Manager.* • Alameda Carson Truck Traffic Impact Study, City of Carson, California. *Project Manager.* • Northop Grumman Traffic Study, City of Azusa, California. *Project Manager.*
Brian Marchetti, AICP *Traffic* **KOA** **17 Years Experience**	B.S., Urban & Regional Planning, California State University, Pomona American Institute of Certified Planners, 2001, #016504	• Project experience ranges from major commercial developments, mixed-use projects, public utility construction projects, site redevelopment efforts, corridor streetscape and pedestrian access improvements, to public transit service/facility improvement projects. • Extensive experience with TRAFFIX and Synchro traffic analysis software packages and the requirements of a CEQA environmental analysis. • Azusa Landfill Materials Recovery Facility (MRF) Traffic Impact Study • Lancaster 60th & K Shopping Center EIR • All-American Asphalt Traffic Impact Analysis II, Los Angeles, California
Jason Mirise *Noise* **ESA** ***17 Years Experience***	M.Eng., Acoustics, The Pennsylvania State University B.S., Electrical Engineering, Loyola Marymount University	• Acoustics engineer/consultant with over 17 years of experience managing environmental and architectural acoustics projects. • Extensive experience in completing every element of a project from field data collection and analyses to document preparation and presentation. • Proficient with an array of acoustical modeling applications, including the FAA's Integrated Noise Model (INM), SoundPLAN, the FHWA's Traffic Noise Model (TNM), and the FHWA's Roadway Construction Noise Model (RCNM). • California Department of Water Resources (DWR), North Bay Aqueduct Intake Project (EIR), Yolo and Solano Counties, CA. • Lennar Urban, Amendments to the San Francisco Bay Conservation and Development Commission (BCDC) San Francisco Bay Plan, San Francisco, CA. *Acoustics Specialist.* • San Joaquin County, Munn & Perkins Quarry Excavation Permit (Extended Asphalt Plant Operating Hours), San Joaquin County, CA. *Acoustics Specialist.*

TABLE 2-1: Key Team Member's Years of Experience/Education/Qualifications

Name/Role/Firm Years Experience	Education and Certifications	Qualifications and Selected Relevant Project Experience
Matt Morales *Project Description, Air Quality and Greenhouse Gas Emissions* **ESA** ***7 Years Experience***	B.S., Environmental Toxicology, University of California, Davis	• Prepares technical analyses for numerous planning and environmental projects related to redevelopment, natural resource management, and facility expansion. • Trained in air quality, including greenhouse gas and climate change, as well as noise analysis, he is adept at applying noise and air quality models, such as Urban Emissions Model (URBEMIS) and the Federal Highway Administration (FHWA) Traffic Noise Prediction Model, to perform quantitative analyses for sections of National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) documents. • CalRecycle (formerly the California Integrated Waste Management Board), Statewide Program EIR for Anaerobic Digestion Facilities, Statewide, CA. *Air Quality, Greenhouse Gas and Climate Change Analyst.* • The Central Valley Regional Water Quality Control Board (Central Valley Water Board) - Dairy Manure Digester and Manure Co-digester Program EIR, Central Valley, CA. *Air Quality, Greenhouse Gas and Climate Change Analyst.* • Yuba-Sutter Disposal Inc. CEQA, Marysville, CA. *Air Quality and Noise Analyst.*
Eric Schniewind *Geology and Soils, Hazards and Hazardous Materials* **ESA** ***17 Years Experience***	B.A., Geological Sciences, UC Santa Barbara	• Experience as a geologist, hydrogeologist, hydrologist, and hazardous materials specialist in environmental consulting. • Technical background includes geotechnical engineering, soil and groundwater contamination investigations, environmental remediation planning and implementation, and pre-acquisition site assessments. • Fairfield-Suisun Sewer District (FSSD) Sewer System and Treatment Plant Master Plan EIR. *Geologist.* • Lawrence Berkeley National Laboratory Building 51 and Bevatron Demolition Project EIR/EA. *Geologist and Hydrologist.* • Santa Clara Station Area Plan EIR, Santa Clara, CA. *Geologist and Hydrologist.*
Daniel Sicular, Ph.D. *CEQA Alternatives/Other CEQA Considerations/Mitigation Monitoring or Reporting, Air Quality and Greenhouse Gas Emissions* **ESA** ***20 Years Experience***	Ph.D., Geography, University of California, Berkeley M.A., Geography, University of California, Berkeley B.A., Southeast Asian Studies, University of California	• Experience in waste management, recycling, waste prevention, and composting program planning, design, implementation, evaluation, and environmental review. • Broad experience working with governmental agencies and recycling organizations, and has managed numerous projects including environmental reviews, planning studies, waste characterization studies, surveys, program implementation and oversight, and program evaluations. • Author of numerous academic and professional papers on local, national, and international trends in the waste management industry; low-cost recycling and composting systems suitable for the third world; the history of recovery-based waste management systems in the United States; and the social geography of waste collectors and scavengers. • Acme Landfill Composting Facility Initial Study, Martinez, CA. *Project Manager.* • City of Berkeley Solid Waste Management Plan Update-75% Recycling Plan. *Project Manager.* • Berkeley Transfer Station Facility Environmental Engineering. *Project Director.*

TABLE 2-1: Key Team Member's Years of Experience/Education/Qualifications

Name/Role/Firm Years Experience	Education and Certifications	Qualifications and Selected Relevant Project Experience
Monica Strauss *Cultural Resources* **ESA** ***15 Years Experience***	M.A., Archaeology , California State University, Northridge B.A., Anthropology, California State University, Northridge AA, Humanities, Los Angeles Pierce College	• Experience in cultural resources management and has directed numerous archaeological investigations throughout Southern California and the Channel Islands. • Directs prehistoric and historic field and research projects for public agencies and private developers and is proficient in CEQA and Section 106 compliance. • Manages cultural resources specialists who conduct various types of compliance work including phase I surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. • Metropolitan Air Park. San Diego, CA. *Cultural Resources Principal Investigator*. • Cadiz Groundwater. San Bernardino County, CA. *Cultural Resources Principal Investigator.* • North San Pablo Bay Restoration and Reuse. Sonoma and Napa Counties, CA. *Cultural Resources Senior Oversight*.
Jon West *Biological Resources* ***4 Years Experience***	B.A., Environmental Studies and B.A., Writing, Ithaca College, Ithaca, NY	• Wide variety of experience in biology and resource management, including habitat assessments and focused surveys for rare and special-status plants and wildlife. • Has worked on numerous community development projects, solar and wind development, infrastructure, and water agency projects throughout Southern California and the southwest region. • Experience with GPS and ArcGIS software, and provides a variety of technical analysis functions in support of CEQA and NEPA compliance and documentation. • County of Kern, Aero Lower West Biota Surveys, Kern County, CA. *Deputy Project Manager, Technical Analyst, and Field Surveyor*. • California Department of Water Resources, Arroyo Toad Monitoring Plan, Los Padres National Forest, CA. *Biological Technician and Technical Analyst.* • California Department of Water Resources, Piru Creek Special Use Permit Renewal, Los Padres National Forest, Ventura County, CA. *Technical Analyst and Biological Technician.*

SECTION 3
Project Schedule

Figure 3-1 presents the proposed schedule in Microsoft Office Project.

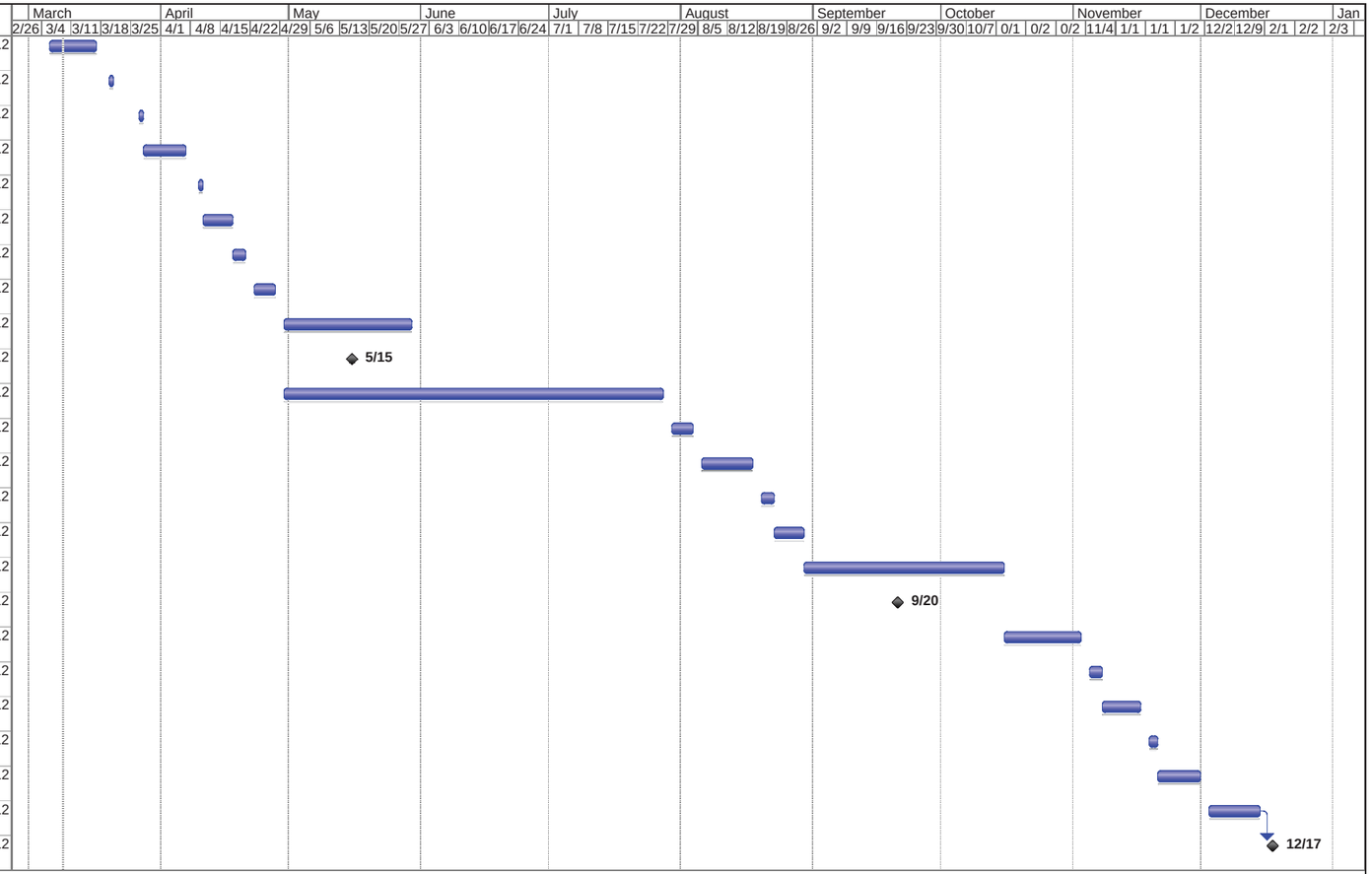
ESA Renewable Resources

Figure 3-1 PROJECT SCHEDULE

CITY OF LANCASTER

MATERIALS RECOVERY AND CONVERSION FACILITY

ID	Task #	Task Name	Start	Finish
1	2	Proposal covering all three locations submitted to City	Tue 3/6/12	Fri 3/16/12
2	3	Staff report due to City Clerk	Tue 3/20/12	Tue 3/20/12
3	4	Approval of contract by City Council	Tue 3/27/12	Tue 3/27/12
4	5	Signing of contracts, deposit of funds, insurance documents	Wed 3/28/12	Fri 4/6/12
5	6	Kickoff meeting with consultant	Tue 4/10/12	Tue 4/10/12
6	7	Consultant drafts Notice of Preparation (NOP)	Wed 4/11/12	Tue 4/17/12
7	8	City review of NOP	Wed 4/18/12	Fri 4/20/12
8	9	Revisions to NOP and distribution	Mon 4/23/12	Fri 4/27/12
9	10	NOP 30-day public comment period	Mon 4/30/12	Tue 5/29/12
10	10a	Scoping Meeting to occur during public comment period	Tue 5/15/12	Tue 5/15/12
11	11	Consultant prepares technical studies and Administrative Draft EIR	Mon 4/30/12	Fri 7/27/12
12	12	Staff and applicant review of EIR	Mon 7/30/12	Fri 8/3/12
13	13	Consultant incorporates revisions to EIR	Mon 8/6/12	Fri 8/17/12
14	14	Final City Review	Mon 8/20/12	Wed 8/22/12
15	15	Print/publish and distribute Draft EIR	Thu 8/23/12	Wed 8/29/12
16	16	45-day public review and comment period	Thu 8/30/12	Mon 10/15/12
17	16a	Take oral comments on Draft EIR during Planning Commission meeting	Thu 9/20/12	Thu 9/20/12
18	17	Consultant prepares final EIR	Tue 10/16/12	Fri 11/2/12
19	18	Staff reviews final EIR	Mon 11/5/12	Wed 11/7/12
20	19	Consultant incorporates revisions to Final EIR	Thu 11/8/12	Fri 11/16/12
21	20	Final staff check of document	Mon 11/19/12	Tue 11/20/12
22	21	Publish/release final EIR	Wed 11/21/12	Fri 11/30/12
23	22	Mandatory 10-day period prior to hearings	Mon 12/3/12	Fri 12/14/12
24	23	Hearing on project	Mon 12/17/12	Mon 12/17/12



Project: P120256 Schedule
Date: Fri 3/9/12

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

SECTION 4
Budget

ESA Renewable Resources

Table 1: City of Lancaster Materials Recovery Facility EIR Cost Estimate Detail (Site 1 - Avenue H and Trevor Avenue)

	Environmental Science Associates																													
	Labor Effort																									ESA Direct Costs				
ESA staff:	Deanna Hansen, Proj. Director	Paul Miller, Project Manager	Dan Sicular	Jason Ricks, Deputy PM	Brian Gratiidge	Jack Hutchison	Erich Schniewind	Michael Burns	Jason Mirise	Robert Eckard	Aaron Hecock	Matt Morales	Poonam Boparai	Monica Strauss	Madeleine Bray	Rosanne Humphrey	Jon West	Lois Clarke (IC + 15%)	Graphics	Administrative/Word Processing	ESA HOURS	ESA LABOR COSTS	Travel & communications	Printing & materials	Court Reporter	Other direct costs	Total Direct Costs plus 10%	ESA TOTAL COSTS
Employee category bill rate: ($/hr)	$215	$175	$175	$175	$175	$175	$160	$185	$160	$135	$135	$135	$135	$200	$110	$160	$100	$86	$105	$85								
TASKS:	(Hours per person per task)																											
1. **Project Kickoff Meeting**	8	12		8																	28	$5,220	$550			$605	$5,825
2. **Notice of Preparation**	2	4		8															8	2	24	$3,540				$0	$3,540
3. **Public Scoping Meeting**		12		8															4	2	26	$4,090	$650	$200	$800	$1,815	$5,905
4. **Prepare Administrative Draft EIR**																											
4.1 Prepare Administrative Draft EIR	12																			40	52	$5,980		$500		$550	$6,530
Project description		8	20															40	20		88	$10,450				$0	$10,450
Aesthetics		2									60								4		66	$8,870	$400			$440	$9,310
Air Quality & GHG Emissions		5	8									50	50								113	$15,775				$0	$15,775
Biological Surveys and EIR Chapter		2														48	64		12		126	$15,690	$520		$100	$682	$16,372
Cultural Report & EIR Section		2												6	68				5		81	$9,555	$200		$1,100	$1,430	$10,985
Geology and Soils		2					30	4											3		39	$6,205				$0	$6,205
Hazards & Haz Materials & Phase I ESA		10					32	4			24								3		73	$11,165			$500	$550	$11,715
Hydrology and Water Quality		2								75											77	$10,475				$0	$10,475
Land Use/Planning and Rec		2			4						60								8		74	$9,990				$0	$9,990
Noise		16							40												56	$9,200	$500		$200	$770	$9,970
Population and Housing		2			2						32										36	$5,020				$0	$5,020
Public Services/ Utilities & Services		2			2						52						62				118	$13,920	$400	$100	$205	$775	$14,695
Traffic Study and EIR Section		2				48															50	$8,750				$0	$8,750
Alternatives		8	10		20													40	8		86	$10,940				$0	$10,940
Other CEQA Sections		2		16																	18	$3,150				$0	$3,150
5. **Prepare Draft EIR**																											
5.1 Prepare Screencheck Draft EIR	8	20		20	3	5	6	1	4	8	23	5	5	1	7	5	13		16	4	152	$22,187				$0	$22,187
5.2 Prepare Draft EIR (40 hcopies + 30 cds)		20		20															8	4	52	$8,180		$3,000		$3,300	$11,480
6. **Response to Comments/ Final EIR**	8	20		40	3	5	6	1	4	8	23	5	5	1	7	5	13		16	4	172	$25,687				$0	$25,687
7. **Draft Mitigation Monitoring Plan**		2			4							16									22	$3,210				$0	$3,210
8. **Prepare Draft Findings SOC**		8		16	8																32	$5,600				$0	$5,600
9. **Public Hearings /Meetings**																					0	$0				$0	$0
9.1 Public Hearings (3 additional)		36		24																	60	$10,500	$1,950			$2,145	$12,645
9.2 Meetings (2 additional)		24		16																	40	$7,000	$1,100			$1,210	$8,210
10. **Weekly Management Conf Call**		52		52																	104	$18,200				$0	$18,200
11. **On-going Project Management**	16	200		100																	316	$55,940				$0	$55,940
ESA 3% Communication Fee on Labor																					0	$0	$9,735			$10,708	$10,708
TOTAL EFFORT (Hours)	54	477	38	328	46	58	74	10	48	90	274	76	60	7	82	58	151	80	115	56	2180						
TOTAL COSTS ($)	$11,610	$83,475	$6,650	$57,400	$7,980	$10,080	$11,904	$1,776	$7,680	$12,150	$36,936	$10,260	$8,100	$1,440	$8,976	$9,216	$15,120	$6,900	$12,075	$4,760		**$324,488**	$16,005	$3,800	$800	$2,105	**$24,980**	**$349,468**

OPTIONAL TASKS: ESA

4.1 Burrowing Owl Surveys if needed																$320	$4,000		$500			$4,820	$400			$440	$5,260
																						$0				$0	$0
																						$0				$0	$0
COSTS FOR OPTIONAL TASKS ($)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$320	$4,000	$0	$500	$0	NA	$4,820	$400	$0	$0	$0	**$440**	**$5,260**

ESA Renewable Resources

Table 1: City of Lancaster Materials Recovery Facility EIR Cost Estimate Detail (Site 1 - Avenue H and Trevor Avenue)

	KOA Corp									
	Labor Effort						Direct			
	Principal	Senior Planner	Assoc. Planner/Engineer	Asst. Planner/Engineer	Sub Hours	Sub Labor Costs	Sub Direct Costs	1st SUB TOTAL COSTS	Total Sub Costs plus 15%	PROJECT COSTS GRAND TOTAL
Employee bill rate: ($/hr)	**$235**	**$185**	**$125**	**$100**						
TASKS:										
1. **Project Kickoff Meeting**		4			4	$740		$740	$851	$6,676
2. **Notice of Preparation**					0	$0		$0	$0	$3,540
3. **Public Scoping Meeting**					0	$0		$0	$0	$5,905
4. **Prepare Administrative Draft EIR**										
4.1 Prepare Administrative Draft EIR					0	$0		$0	$0	$6,530
Project description					0	$0		$0	$0	$10,450
Aesthetics					0	$0		$0	$0	$9,310
Air Quality & GHG Emissions					0	$0		$0	$0	$15,775
Biological Surveys and EIR Chapter					0	$0		$0	$0	$16,372
Cultural Report & EIR Section					0	$0		$0	$0	$10,985
Geology and Soils					0	$0		$0	$0	$6,205
Hazards & Haz Materials & Phase I ESA					0	$0		$0	$0	$11,715
Hydrology and Water Quality					0	$0		$0	$0	$10,475
Land Use/Planning and Rec					0	$0		$0	$0	$9,990
Noise					0	$0		$0	$0	$9,970
Population and Housing					0	$0		$0	$0	$5,020
Public Services/ Utilities & Services					0	$0		$0	$0	$14,695
Traffic Study and EIR Section	11	24	20	79	134	$17,425	$3,150	$20,575	$23,661	$32,411
Alternatives					0	$0		$0	$0	$10,940
Other CEQA Sections					0	$0		$0	$0	$3,150
5. **Prepare Draft EIR**										
5.1 Prepare Screencheck Draft EIR					0	$0		$0	$0	$22,187
5.2 Prepare Draft EIR (40 hcopies + 30 cds)					0	$0		$0	$0	$11,480
6. **Response to Comments/ Final EIR**	2	10			12	$2,320		$2,320	$2,668	$28,355
7. **Draft Mitigation Monitoring Plan**					0	$0		$0	$0	$3,210
8. **Prepare Draft Findings SOC**					0	$0		$0	$0	$5,600
9. **Public Hearings /Meetings**					0	$0		$0	$0	$0
9.1 Public Hearings (2 additional)					0	$0		$0	$0	$12,645
9.2 Meetings (2 additional)	3	18			21	$4,035		$4,035	$4,640	$12,850
10. **Weekly Management Conf Call**					0	$0		$0	$0	$18,200
11. **On-going Project Management**					0	$0		$0	$0	$55,940
ESA 3% Communication Fee on Labor					0	$0		$0	$0	$10,708
TOTAL EFFORT (Hours)	16	56	20	79	171					
TOTAL COSTS ($)	$3,760	$10,360	$2,500	$7,900		**$24,520**	**$3,150**	**$27,670**	**$31,821**	**$381,289**
									10% Contingency	**$38,129**
OPTIONAL TASKS: 1st Subcontractor									**Total with Contingency**	**$419,417**
4.1 Burrowing Owl Surveys if needed					NA	$0		$0	$0	$5,260
					NA	$0		$0	$0	$0
					NA	$0		$0	$0	$0
COSTS FOR OPTIONAL TASKS ($)	$0	$0	$0	$0	NA	$0	$0	**$0**	**$0**	**$5,260**

ESA Renewable Resources

Table 2: City of Lancaster Materials Recovery Facility EIR Cost Estimate Detail (Site 2 - Avenue G and 30th Street West)

		Environmental Science Associates																												
		Labor Effort																								ESA Direct Costs				
	ESA staff:	Deanna Hansen, Proj. Director	Paul Miller, Project Manager	Dan Sicular	Jason Ricks, Deputy PM	Brian Gratiidge	Jack Hutchison	Erich Schniewind	Michael Burns	Jason Mirise	Robert Eckard	Aaron Hecock	Matt Morales	Poonam Boparai	Monica Strauss	Madeleine Bray	Rosanne Humphrey	Jon West	Lois Clarke (IC + 15%)	Graphics	Administrative/Word Processing	ESA HOURS	ESA LABOR COSTS	Travel & communications	Printing & materials	Court Reporter	Other direct costs	Total Direct Costs plus 10%	ESA TOTAL COSTS
Employee category bill rate: ($/hr)		$215	$175	$175	$175	$175	$175	$160	$185	$160	$135	$135	$135	$135	$200	$110	$160	$100	$86	$105	$85								
TASKS:		(Hours per person per task)																											
1. **Project Kickoff Meeting**		8	12		8																	28	$5,220	$550			$605	$5,825
2. **Notice of Preparation**		2	4		8															8	2	24	$3,540				$0	$3,540
3. **Public Scoping Meeting**			12		8															4	2	26	$4,090	$650	$200	$800	$1,815	$5,905
4. **Prepare Administrative Draft EIR**																													
4.1 Prepare Administrative Draft EIR		12																			40	52	$5,980		$500		$550	$6,530
Project description			8	20															40	20		88	$10,450				$0	$10,450
Aesthetics			2									60								4		66	$8,870	$400			$440	$9,310
Air Quality & GHG Emissions			5	8									50	50								113	$15,775				$0	$15,775
Biological Surveys and EIR Chapter			2														48	64		12		126	$15,690	$520		$100	$682	$16,372
Cultural Report & EIR Section			2												7	92				15		116	$13,445	$200		$1,100	$1,430	$14,875
Geology and Soils			2					30	4											3		39	$6,205				$0	$6,205
Hazards & Haz Materials & Phase I ESA			10					32	4			24								3		73	$11,165			$500	$550	$11,715
Hydrology and Water Quality			2								75											77	$10,475				$0	$10,475
Land Use/Planning and Rec			2			4						60								8		74	$9,990				$0	$9,990
Noise			16							40												56	$9,200	$500		$200	$770	$9,970
Population and Housing			2			2						32										36	$5,020				$0	$5,020
Public Services/ Utilities & Services			2			2						52						62				118	$13,920	$400	$100	$205	$775	$14,695
Traffic Study and EIR Section			2				48															50	$8,750				$0	$8,750
Alternatives			8	10		20													40	8		86	$10,940				$0	$10,940
Other CEQA Sections			2		16																	18	$3,150				$0	$3,150
5. **Prepare Draft EIR**																													
5.1 Prepare Screencheck Draft EIR		8	20		20	3	5	6	1	4	8	23	5	5	1	9	5	13		16	4	154	$22,471				$0	$22,471
5.2 Prepare Draft EIR (40 hcopies + 30 cds)			20		20															8	4	52	$8,180		$3,000		$3,300	$11,480
6. **Response to Comments/ Final EIR**		8	20		40	3	5	6	1	4	8	23	5	5	1	9	5	13		16	4	174	$25,971				$0	$25,971
7. **Draft Mitigation Monitoring Plan**			2			4							16									22	$3,210				$0	$3,210
8. **Prepare Draft Findings SOC**			8		16	8																32	$5,600				$0	$5,600
9. **Public Hearings /Meetings**																						0	$0				$0	$0
9.1 Public Hearings (3 additional)			36		24																	60	$10,500	$1,950			$2,145	$12,645
9.2 Meetings (2 additional)			24		16																	40	$7,000	$1,100			$1,210	$8,210
10. **Weekly Management Conf Call**			52		52																	104	$18,200				$0	$18,200
11. **On-going Project Management**		16	200		100																	316	$55,940				$0	$55,940
ESA 3% Communication Fee on Labor																						0	$0	$9,868			$10,855	$10,855
TOTAL EFFORT (Hours)		54	477	38	328	46	58	74	10	48	90	274	76	60	8	110	58	151	80	125	56	2220						
TOTAL COSTS ($)		$11,610	$83,475	$6,650	$57,400	$7,980	$10,080	$11,904	$1,776	$7,680	$12,150	$36,936	$10,260	$8,100	$1,680	$12,144	$9,216	$15,120	$6,900	$13,125	$4,760		**$328,946**	$16,138	$3,800	$800	$2,105	**$25,127**	**$354,073**

OPTIONAL TASKS: ESA

4.1 Burrowing Owl Surveys if needed																	$320	$4,000		$500			$4,820	$400			$440	$5,260
																							$0				$0	$0
																							$0				$0	$0
COSTS FOR OPTIONAL TASKS ($)		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$320	$4,000	$0	$500	$0	NA	$4,820	$400	$0	$0	$0	**$440**	**$5,260**

Table 2: City of Lancaster Materials Recovery Facility EIR Cost Estimate Detail (Site 2 - Avenue G and 30th Street West)

	KOA Corp									
	Labor Effort						Direct			
	Principal	Senior Planner	Assoc. Planner/Engineer	Asst. Planner/Engineer	Sub Hours	Sub Labor Costs	Sub Direct Costs	1st SUB TOTAL COSTS	Total Sub Costs plus 15%	PROJECT COSTS GRAND TOTAL
Employee bill rate: ($/hr)	**$235**	**$185**	**$125**	**$100**						
TASKS:										
1. **Project Kickoff Meeting**		4			4	$740		$740	$851	$6,676
2. **Notice of Preparation**					0	$0		$0	$0	$3,540
3. **Public Scoping Meeting**					0	$0		$0	$0	$5,905
4. **Prepare Administrative Draft EIR**										
4.1 Prepare Administrative Draft EIR					0	$0		$0	$0	$6,530
Project description					0	$0		$0	$0	$10,450
Aesthetics					0	$0		$0	$0	$9,310
Air Quality & GHG Emissions					0	$0		$0	$0	$15,775
Biological Surveys and EIR Chapter					0	$0		$0	$0	$16,372
Cultural Report & EIR Section					0	$0		$0	$0	$14,875
Geology and Soils					0	$0		$0	$0	$6,205
Hazards & Haz Materials & Phase I ESA					0	$0		$0	$0	$11,715
Hydrology and Water Quality					0	$0		$0	$0	$10,475
Land Use/Planning and Rec					0	$0		$0	$0	$9,990
Noise					0	$0		$0	$0	$9,970
Population and Housing					0	$0		$0	$0	$5,020
Public Services/ Utilities & Services					0	$0		$0	$0	$14,695
Traffic Study and EIR Section	11	24	20	79	134	$17,425	$3,150	$20,575	$23,661	$32,411
Alternatives					0	$0		$0	$0	$10,940
Other CEQA Sections					0	$0		$0	$0	$3,150
5. **Prepare Draft EIR**										
5.1 Prepare Screencheck Draft EIR					0	$0		$0	$0	$22,471
5.2 Prepare Draft EIR (40 hcopies + 30 cds)					0	$0		$0	$0	$11,480
6. **Response to Comments/ Final EIR**	2	10			12	$2,320		$2,320	$2,668	$28,639
7. **Draft Mitigation Monitoring Plan**					0	$0		$0	$0	$3,210
8. **Prepare Draft Findings SOC**					0	$0		$0	$0	$5,600
9. **Public Hearings /Meetings**					0	$0		$0	$0	$0
9.1 Public Hearings (2 additional)					0	$0		$0	$0	$12,645
9.2 Meetings (2 additional)	3	18			21	$4,035		$4,035	$4,640	$12,850
10. **Weekly Management Conf Call**					0	$0		$0	$0	$18,200
11. **On-going Project Management**					0	$0		$0	$0	$55,940
ESA 3% Communication Fee on Labor					0	$0		$0	$0	$10,855
TOTAL EFFORT (Hours)	16	56	20	79	171					
TOTAL COSTS ($)	$3,760	$10,360	$2,500	$7,900		**$24,520**	**$3,150**	**$27,670**	**$31,821**	**$385,894**
									10% Contingency	**$38,589**
OPTIONAL TASKS: 1st Subcontractor									**Total with Contingency**	**$424,483**
4.1 Burrowing Owl Surveys if needed					NA	$0		$0	$0	$5,260
					NA	$0		$0	$0	$0
					NA	$0		$0	$0	$0
COSTS FOR OPTIONAL TASKS ($)	$0	$0	$0	$0	NA	$0	$0	**$0**	**$0**	**$5,260**

ESA Renewable Resources

Table 3: City of Lancaster Materials Recovery Facility EIR Cost Estimate Detail (Site 3 - Avenue G and 45th Street West)

	Environmental Science Associates																													
	Labor Effort																						ESA Direct Costs							
ESA staff:	Deanna Hansen, Proj. Director	Paul Miller, Project Manager	Dan Sicular	Jason Ricks, Deputy PM	Brian Gratiidge	Jack Hutchison	Erich Schniewind	Michael Burns	Jason Mirise	Robert Eckard	Aaron Hecock	Matt Morales	Poonam Boparai	Monica Strauss	Madeleine Bray	Rosanne Humphrey	Jon West	Lois Clarke (IC + 15%)	Graphics	Administrative/Word Processing	ESA HOURS	ESA LABOR COSTS	Travel & communications	Printing & materials	Court Reporter	Other direct costs	Total Direct Costs plus 10%	ESA TOTAL COSTS
Employee category bill rate: ($/hr)	$215	$175	$175	$175	$175	$175	$160	$185	$160	$135	$135	$135	$135	$200	$110	$160	$100	$86	$105	$85								
TASKS:	(Hours per person per task)																											
1. **Project Kickoff Meeting**	8	12		8																	28	$5,220	$550			$605	$5,825
2. **Notice of Preparation**	2	4		8															8	2	24	$3,540				$0	$3,540
3. **Public Scoping Meeting**		12		8															4	2	26	$4,090	$650	$200	$800	$1,815	$5,905
4. **Prepare Administrative Draft EIR**																											
4.1 Prepare Administrative Draft EIR	12																			40	52	$5,980		$500		$550	$6,530
Project description		8	20															40	20		88	$10,450				$0	$10,450
Aesthetics		2									60								4		66	$8,870	$400			$440	$9,310
Air Quality & GHG Emissions		5	8									50	50								113	$15,775				$0	$15,775
Biological Surveys and EIR Chapter		2														48	64		12		126	$15,690	$520		$100	$682	$16,372
Cultural Report & EIR Section		2												6	72				6		86	$10,100	$200		$1,100	$1,430	$11,530
Geology and Soils		2					30	4											3		39	$6,205				$0	$6,205
Hazards & Haz Materials & Phase I ESA		10					32	4			24								3		73	$11,165			$500	$550	$11,715
Hydrology and Water Quality		2								75											77	$10,475				$0	$10,475
Land Use/Planning and Rec		2			4						60								8		74	$9,990				$0	$9,990
Noise		16							40												56	$9,200	$500		$200	$770	$9,970
Population and Housing		2			2						32										36	$5,020				$0	$5,020
Public Services/ Utilities & Services		2			2						52						62				118	$13,920	$400	$100	$205	$775	$14,695
Traffic Study and EIR Section		2				48															50	$8,750				$0	$8,750
Alternatives		8	10		20													40	8		86	$10,940				$0	$10,940
Other CEQA Sections		2		16																	18	$3,150				$0	$3,150
5. **Prepare Draft EIR**																											
5.1 Prepare Screencheck Draft EIR	8	20		20	3	5	6	1	4	8	23	5	5	1	7	5	13		16	4	152	$22,231				$0	$22,231
5.2 Prepare Draft EIR (40 hcopies + 30 cds)		20		20															8	4	52	$8,180		$3,000		$3,300	$11,480
6. **Response to Comments/ Final EIR**	8	20		40	3	5	6	1	4	8	23	5	5	1	7	5	13		16	4	172	$25,731				$0	$25,731
7. **Draft Mitigation Monitoring Plan**		2			4							16									22	$3,210				$0	$3,210
8. **Prepare Draft Findings SOC**		8		16	8																32	$5,600				$0	$5,600
9. **Public Hearings /Meetings**																					0	$0				$0	$0
9.1 Public Hearings (3 additional)		36		24																	60	$10,500	$1,950			$2,145	$12,645
9.2 Meetings (2 additional)		24		16																	40	$7,000	$1,100			$1,210	$8,210
10. **Weekly Management Conf Call**		52		52																	104	$18,200				$0	$18,200
11. **On-going Project Management**	16	200		100																	316	$55,940				$0	$55,940
ESA 3% Communication Fee on Labor																					0	$0	$9,754			$10,729	$10,729
TOTAL EFFORT (Hours)	54	477	38	328	46	58	74	10	48	90	274	76	60	7	86	58	151	80	116	56	2186						
TOTAL COSTS ($)	$11,610	$83,475	$6,650	$57,400	$7,980	$10,080	$11,904	$1,776	$7,680	$12,150	$36,936	$10,260	$8,100	$1,440	$9,504	$9,216	$15,120	$6,900	$12,180	$4,760		**$325,121**	$16,024	$3,800	$800	$2,105	**$25,001**	**$350,122**

OPTIONAL TASKS: ESA

4.1 Burrowing Owl Surveys if needed																$320	$4,000		$500			$4,820	$400			$440	$5,260
																						$0				$0	$0
																						$0				$0	$0
COSTS FOR OPTIONAL TASKS ($)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$320	$4,000	$0	$500	$0	NA	$4,820	$400	$0	$0	$0	**$440**	**$5,260**

ESA Renewable Resources

Table 3: City of Lancaster Materials Recovery Facility EIR Cost Estimate Detail (Site 3 - Avenue G and 45th Street West)

	KOA Corp									
	Labor Effort						Direct			
	Principal	Senior Planner	Assoc. Planner/Engineer	Asst. Planner/Engineer	Sub Hours	Sub Labor Costs	Sub Direct Costs	1st SUB TOTAL COSTS	Total Sub Costs plus 15%	PROJECT COSTS GRAND TOTAL
Employee bill rate: ($/hr)	**$235**	**$185**	**$125**	**$100**						
TASKS:										
1. **Project Kickoff Meeting**		4			4	$740		$740	$851	$6,676
2. **Notice of Preparation**					0	$0		$0	$0	$3,540
3. **Public Scoping Meeting**					0	$0		$0	$0	$5,905
4. **Prepare Administrative Draft EIR**										
4.1 Prepare Administrative Draft EIR					0	$0		$0	$0	$6,530
Project description					0	$0		$0	$0	$10,450
Aesthetics					0	$0		$0	$0	$9,310
Air Quality & GHG Emissions					0	$0		$0	$0	$15,775
Biological Surveys and EIR Chapter					0	$0		$0	$0	$16,372
Cultural Report & EIR Section					0	$0		$0	$0	$11,530
Geology and Soils					0	$0		$0	$0	$6,205
Hazards & Haz Materials & Phase I ESA					0	$0		$0	$0	$11,715
Hydrology and Water Quality					0	$0		$0	$0	$10,475
Land Use/Planning and Rec					0	$0		$0	$0	$9,990
Noise					0	$0		$0	$0	$9,970
Population and Housing					0	$0		$0	$0	$5,020
Public Services/ Utilities & Services					0	$0		$0	$0	$14,695
Traffic Study and EIR Section	11	24	20	79	134	$17,425	$3,150	$20,575	$23,661	$32,411
Alternatives					0	$0		$0	$0	$10,940
Other CEQA Sections					0	$0		$0	$0	$3,150
5. **Prepare Draft EIR**										
5.1 Prepare Screencheck Draft EIR					0	$0		$0	$0	$22,231
5.2 Prepare Draft EIR (40 hcopies + 30 cds)					0	$0		$0	$0	$11,480
6. **Response to Comments/ Final EIR**	2	10			12	$2,320		$2,320	$2,668	$28,399
7. **Draft Mitigation Monitoring Plan**					0	$0		$0	$0	$3,210
8. **Prepare Draft Findings SOC**					0	$0		$0	$0	$5,600
9. **Public Hearings /Meetings**					0	$0		$0	$0	$0
9.1 Public Hearings (2 additional)					0	$0		$0	$0	$12,645
9.2 Meetings (2 additional)	3	18			21	$4,035		$4,035	$4,640	$12,850
10. **Weekly Management Conf Call**					0	$0		$0	$0	$18,200
11. **On-going Project Management**					0	$0		$0	$0	$55,940
ESA 3% Communication Fee on Labor					0	$0		$0	$0	$10,729
TOTAL EFFORT (Hours)	16	56	20	79	171					
TOTAL COSTS ($)	$3,760	$10,360	$2,500	$7,900		**$24,520**	**$3,150**	**$27,670**	**$31,821**	**$381,942**
									10% Contingency	**$38,194**
OPTIONAL TASKS: 1st Subcontractor									**Total with Contingency**	**$420,137**
4.1 Burrowing Owl Surveys if needed					NA	$0		$0	$0	$5,260
					NA	$0		$0	$0	$0
					NA	$0		$0	$0	$0
COSTS FOR OPTIONAL TASKS ($)	$0	$0	$0	$0	NA	$0	$0	**$0**	**$0**	**$5,260**

SECTION 5
Insurance

ESA has insurance coverage of $1,000,000 each for general liability, property damage, worker's compensation, automobile, and professional liability with a general aggregate limit of $2,000,000, and $1,000,000 per occurrence. Proof of insurance through our carrier, Woodruff-Sawyer & Co. is attached.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 12/22/2011

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Woodruff-Sawyer & Co.
50 California Street, Floor 12
San Francisco CA 94111
(415) 391-2141

CONTACT NAME:
PHONE (A/C, No, Ext):
FAX (A/C, No):
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Greenwich Insurance Company	22322
INSURER B : XL Specialty Insurance Company	37885
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X Contractual Liability X Employers Stop Gap GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC			GEC001336709	01/01/2012	01/01/2013	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 1,000,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS			AEC001336509 Deductible: $5,000	01/01/2012	01/01/2013	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
A	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $ 10,000			UEC001336609	01/01/2012	01/01/2013	EACH OCCURRENCE AGGREGATE	$ 2,000,000 $ 2,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WEC0013377409	01/01/2012	01/01/2013	X WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
A	Professional Liability Coverage A- Claims Made Retro Date: 10/1/89			PEC001336809	01/01/2012	01/01/2013	Each Claim: $1,000,000 Aggregate: $2,000,000 Retention: $100,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, If more space is required)
Issued for Evidence of Insurance Purposes Only

CERTIFICATE HOLDER

Sample Certificate c/o Environmental Science Associates
225 Bush st, Ste 1700
San Francisco, CA 94104

LOAN #:
ID #:

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Valerie Porter-Browne

Appendix A
Site 1 Detailed SOWs

APPENDIX A
Site 1 Detailed SOWs

Site 1 – Avenue H & Trevor Avenue

Aesthetics

Issues

The proposed project site would be within the City of Lancaster. The project proposes the construction and operation of a materials recovery and conversion facility on approximately 40 acres of land. This facility would be capable of processing up to 4,000 tons of municipal solid waste (MSW) per day. The introduction of a materials recovery and conversion facility would transform the appearance of the currently undeveloped site. The project site would contain two approximately 120,000-150,000 square foot buildings. While the processing of all waste would occur within the building, processed recyclables could be stored outside while waiting to be transported to another facility in an area that is screened from view. Therefore, project operations will result in visual changes to the project area. The nature and severity of the resulting visual changes will depend upon the visibility of project operations by off-site receptors (such as residences).

Using the criteria identified in Appendix G of the CEQA *Guidelines*, this EIR section will evaluate the effects of the proposed project on scenic vistas or views, and on the existing visual character in the project vicinity. In addition, the proposed project could create a new source of light and glare.

Tasks

- Conduct a site reconnaissance to document existing visual/aesthetic conditions at the site and in the vicinity. Conduct photo-documentation of representative views to and from the project site from adjacent land uses.
- Determine if the project will substantially degrade the existing visual character of the site and its surroundings including resources near a scenic highway per Appendix G of the CEQA *Guidelines*.
- Identify potential sources of intrusive glare and night lighting.

- As appropriate, identify measures to mitigate any significant visual impacts of the project.

Assumptions

- No visual simulations of the project are included under this scope of work. They can be added for and additional cost if the analysis of the project site requires them.

Air Quality and Greenhouse Gas Emissions

The proposed project is located in the Antelope Valley Air Quality Management District (AVAQMD), which includes the western portion of the Mojave Desert Air Basin (MDAB). This portion of the MDAB is designated as nonattainment for the federal and State ozone standards and for the State respirable particulate matter (PM10) standard. Site preparation and construction activities, as well as project operational characteristics, could generate substantial short-term temporary and long-term operational emissions of criteria air pollutants (such as particulate matter) and ozone precursors. Construction and operational emissions associated with the project may result in project emissions that exceed AVAQMD's adopted thresholds of significance. These new emissions, added to existing sources of air pollution and cumulative development planned for the area, could contribute to the degraded air quality within the MDAB.

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires the California Air Resources Board (ARB) to design and implement emission limits, regulations, and other measures to reduce statewide greenhouse gas (GHG) emissions to 1990 levels by 2020. Senate Bill (SB) 97, signed August 2007, acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. The updated CEQA Guidelines include requirements for determining the significance of impacts from GHG emissions. The EIR will provide updated information on GHG regulations and quantitatively analyze the GHG emissions sources for the project.

Tasks

- Discuss the local and regional climate, meteorology, and topography as they affect the accumulation or dispersion of pollutants.
- Identify federal, state, and local regulatory agencies responsible for air quality management, and briefly summarize pertinent federal, state, and local air quality and climate change policies, regulations and standards as they pertain to the proposed project site.

- Summarize current air quality conditions and recent trends in the project area on the basis of the annual air quality monitoring data summaries published by the ARB.
- Discuss AVAQMD projections of future air quality trends over the life of the project as presented in the most recent Ozone Attainment Plan (OAP), and the assumptions upon which the projections are based. Identify any policies or goals embodied in the OAP that would apply to the proposed project site.
- Identify air pollutant-sensitive land uses or activities in the vicinity of the project site or along roads providing access to the project site.
- Describe the AVAQMD air quality impact significance thresholds for new developments.
- Discuss, at an appropriate level of detail, the potential for short-term emissions of criteria air pollutants and GHGs generated by construction activities. Estimate construction-related emissions for all project components using the most recent versions of ARB's Off-Road and EMFAC air pollutant emissions models as incorporated into the CalEEMod model.
- Discuss, at an appropriate level of detail, long-term operational criteria pollutant and GHG emissions associated with the project based on the CalEEMod model and other emission factors where available and applicable.
- Discuss the potential for air pollutant emissions from development in the project area to adversely affect sensitive land uses or activities, or to impede attainment of state or federal air quality goals.
- Discuss conformance of the project with the OAP, and determine whether identified air quality impacts would meet AVAQMD thresholds of significance.
- Assess the potential for the proposed project to create objectionable odors that could affect a substantial number of people.
- Identify cumulative development in the area and discuss the potential for cumulative development to adversely affect air quality or impede attainment of air quality goals.
- Assess increases in health risk from the project due to operational activities, primarily associated with diesel particulate matter from diesel engines. Emissions will be modeled using the USEPA approved dispersion model AERMOD. Estimated pollutant concentrations will then be used to evaluate health risks in accordance with methodology provided by the California Office of Environmental Health Hazard Assessment.
- For GHGs, identify the criteria used to determine significance of impacts as applicable at the time of the analysis. Assessment of consistency with ARB's Climate Change Scoping Plan will be performed to determine

whether the project is consistent with the goals of AB 32. Consistency with the AVAQMD's GHG threshold of significance will be quantitatively determined as well.

- Identify practical, feasible and clear measures to mitigate the adverse impacts of the project on air quality and GHGs that are identified in the analysis. Mitigation measures will be developed in consultation with the City as appropriate.

Biological Resources

Tasks

Task 1. Plant Surveys, Habitat Assessment, and Vegetation and Biological Resource Mapping

Based on the Baseline Biological Survey Report (Phoenix Ecological Consulting, 2006), Site 1 has the potential to support special-status plant species. Therefore, ESA will conduct a focused plant survey on the 41 acre site during the spring and/or summer of 2012. During this time, ESA biologists will assess the potential for any sensitive wildlife species to be present based on the current habitat conditions. It is assumed that Mohave ground squirrels (MGS) surveys are not required, since protocol survey conducted in 2008 were negative. However, ESA suggests communicating with the CDFG to determine if the results of the 2008 MGS surveys are still valid to assume absence.

Prior to conducting plant surveys, ESA will conduct a preliminary review of the California Native Plant Society (CNPS), CALFLORA, and California Natural Diversity Database to compile a list of target species based on recorded occurrences in the region. Plant surveys will be conducted in accordance with the California Department of Fish and Game's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (published November 24, 2009). Plant surveys will be timed during the blooming period of all target species. ESA will prepare a technical report summarizing the methods and results of the plant survey and habitat assessment.

The Baseline Biological Survey Report did not find any presence of burrowing owl on the site. However, because the assessment was conducted approximately 6 years ago, burrowing owls could occur, especially since they have been recorded in the vicinity and are known to occur in similar desert scrub habitats in the area. The presence of burrowing owls will be determined during the focused plant surveys. Biologist will search for suitable burrowing for supporting burrowing owls by walking through suitable habitat over the entire project site during the focused plant survey, which includes areas within 150 meters of the project boundary, if access is granted.

All plant communities and sensitive biological resources will be mapped in the field and digitized utilizing a Global Information System (GIS). The amount of each plant community will be calculated in GIS and provided in the EIR to disclose the area of impact within each plant community.

Task 2. Draft EIR Section

ESA will conduct a detailed literature search to identify any documented occurrences of sensitive biological resources on the site or in the immediate vicinity. The Biological Resource Section will describe the existing conditions of the project site and the general region based on the literature search and the database searches and the field surveys describe above in Task 1. The existing conditions section will describe the overall condition of the site, including on-site plant communities and representative plant species, potentially occurring wildlife species and other biological resources, potential wildlife movement corridors, and the regulatory framework. Finally, the Biological Resource Section would describe CEQA Threshold of Significance, potential direct and indirect impacts to sensitive biological resources, and mitigation measures that may reduce potential impacts to a level of less than significant. The section will also describe potential cumulative impacts when considering other projects that are proposed for development in the vicinity.

Cultural Resources

Issues

Site 1 is approximately 41.5 acres located south of Avenue H on both sides of Trevor Avenue. A previous archaeological survey was conducted on 12 acres of this property in 2006; it is unknown if the remaining 29.5 acres have been previously surveyed. One isolated historic artifact was documented during the 2006 survey. Because of the proximity of Site 1 to the Southern Pacific Railroad and spur, the site is assumed to have a slightly increased sensitivity for historic-period archaeological resources.

The following four tasks will be conducted in order to provide a Phase I cultural resources study for the Lancaster Materials Recovery and Conversion Project, Site 1.

Tasks

Task 1. Archival Research.

- Archival research will be conducted at the South Central Coastal Information Center (SCCIC) to identify the presence of previous cultural investigations and previously recorded cultural resources within a 1-mile radius of the project area. Research will include a review of historic topographic and aerial maps. The purpose of this research is to identify

any cultural resources present in the project area and, based on the types of resources found within 1 mile of the project area, to generalize the archaeological sensitivity of the project area and the types of resources that could be found within the project area.

- A paleontological resources records search will be conducted at the Natural History Museum of Los Angeles County (NHMLAC) to identify paleontological resources in or near the project area. The goal of the records research will be to identify any previously recorded paleontological resources located on or adjacent to the project and to develop a geological context.
- A Sacred Lands File (SLF) check will be requested from the California Native American Heritage Commission (NAHC) in order to solicit information on sensitive or undocumented traditional/cultural sites in the vicinity of the project. Native American representatives identified by the NAHC as having affiliation with the area will be contacted to assist in identifying any locations of cultural sensitivity.

Task 2. Survey

- An intensive cultural resources survey will be conducted of the 41.5-acre project area. Qualified cultural resources surveyors will systematically survey all accessible portions of the project area where exposed ground surface is visible. Soils will be inspected for evidence of cultural resources. In the event resources are discovered, the discoveries will be photo-documented and recorded on appropriate DPR 523 forms, and their locations mapped using a GPS unit. Only resources in imminent danger of destruction will be collected - all others will be left in situ. This scope assumes that no more than one (1) new or previously recorded cultural resource will be encountered as a result of the survey. Should potentially significant resources be identified, additional work associated with the formal evaluation of resources may be recommended to be conducted as part of a separate scope and cost prior to the completion of the EIR.

Task 3. Technical Report

- A Phase I Cultural Resources Report addressing CEQA requirements will be prepared. The report will follow the guidelines in *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format*, Department of Parks and Recreation, Office of Historic Preservation, State of California, 1990. The report will provide background contexts for the project area and will present the methods and results of the study. The report will also provide recommendations regarding further treatment of any potentially significant resources identified as a result of the study, and will address the likelihood of encountering subsurface intact archaeological resources during construction. A draft report will be provided to the client for review. A final report, incorporating one round of comments, will be prepared and one hard copy and an electronic copy (PDF) will be provided. Hard copies of the report will be sent to the archives at the SCCIC for their files.

Task 4. EIR cultural resources section

- A cultural resources EIR section will be prepared that summarizes the results of the cultural resources technical studies and provides appropriate mitigation measures for any identified impacts to cultural resources.

Assumptions

- No more than 41.5 acres will require survey.
- Survey will be completed by 2 surveyors in 1 field day.
- The project area will be accessible to surveyors.
- No more than 1 cultural resource will be recorded and a preliminary eligibility evaluation will be provided. The client will be notified immediately if more than 1 resource is encountered.
- A Native American monitor is not included in this scope.
- No historic architectural resources exist within or immediately adjacent to the project area.
- In the event the paleontological records check indicates the potential for sensitive formations, some degree of paleontological survey may be recommended under a separate scope and cost.
- The client will provide ESA with any geotechnical investigation reports that have been completed for this project.

Geology/Soils

Issues

The project site is located within Antelope Valley which comprises the western tip of the Mojave Desert. Lying north of the San Gabriel Mountains and southeast of the Tehachapis, this high desert region spans approximately 2,200 square miles. This broad interior region contains an enclosed drainage and many playas. Two important fault trends control the regions topography – the east west trending Garlock Fault and the northwest-southeast trending San Andreas Fault. The San Andreas Fault which extends approximately 600 miles in total is located approximately 10 miles south of the project site. Other active faults are also located within the region representing what is considered to be a seismically active area. Any of these faults are capable of producing a large earthquake that could cause significant damage at the project site.

During an earthquake, groundshaking and other secondary effects such as liquefaction (failure of saturated earth materials when subjected to shaking) can become damaging to foundations and structures. Damaging effects are usually related to the magnitude of the fault, distance to the epicenter, and the underlying geologic materials present. Published maps show that the project

site is not considered to have a high susceptibility to ground failure due to liquefaction.

Tasks

- Provide overall data review of site geologic conditions using published reports and maps available from sources including the USGS and CGS. If available, evaluate and summarize previous geotechnical investigations prepared for the project site. Compare these studies with known geologic and seismic information for this area. Evaluate geotechnical and seismic analysis and recommendations to determine areas of special concern and potential constraints. Summarize regional reports on soils, geologic materials, and groundwater levels. (No geologic testing is included in this scope of work.)
- Identify subsurface materials present in the area. Using site-specific geotechnical analyses if and when available, determine types and depths of geologic materials on the proposed project site. Map and identify key constraints associated with underlying geology in terms of settlement, differential settlement, subsidence, expansion and shrinkage problems and consolidation.
- Identify the manner in which any proposed grading and other soil disturbances that could affect the soil engineering constraints. If engineering constraints would remain, identify measures to minimize hazards to structures and infrastructure.
- Identify and map the major earthquake fault systems in the region, their distance to the site, earthquake histories, potential to generate large earthquake magnitudes and their recurrence intervals. Using local seismic data obtained by CGS and USGS identify the major sources of earthquake hazards and the worst-case response of the project area to a characteristic earthquake on nearby major faults. Consider ground shaking hazards as constraints to building foundations, structures, and typical nonstructural elements of buildings and infrastructure of the project. Consider and discuss seismic safety (evacuation, damage) as it relates to the operation of a large industrial facility.
- Using published information or previous reports, identify areas on the site subject to ground failure caused by liquefaction and/or soils and conditions that could be subject to such hazards, if identified. This task would include a review of groundwater elevation data, if available. If such site constraints are present, discuss the potential limitations that they could pose for site development and mitigation measures typically employed to overcome the potential impacts.
- Describe the erosion hazards of the site including the potential for erosion due to high winds. Evaluate erosion as related to site conditions, including slope and proximity to drainage channels. Discuss the potential limitations that erosion hazard could place on development.

- Using available data and previous reports, analyze, discuss and determine intensity of potential impacts from geologic hazards, seismic hazards, short-term erosion hazards, and construction activities. Develop appropriate mitigation measures, if necessary, to address geologic and seismic hazards considering the current building codes and local ordinances.

Hazards & Hazardous Materials

Issues

The City of Lancaster was originally a small farming community that transitioned from agriculture to industrial uses with the advent of the aerospace industry beginning in the 1950s. These industrial activities may have adversely impacted the quality of the soil and groundwater beneath the property. However, the undeveloped project site was evaluated as part of a Phase I Investigation and has no history of any industrial activity. An adjoining property was reported to have above ground storage tanks but no record of any unauthorized releases.

The proposed use of the project would involve the storage use and transport of waste streams that could potentially contain hazardous materials/waste but would primarily contain household waste materials. The operational activities would include minor quantities of hazardous materials such as cleaning products, fuels, lubricants, oils, and solvents that would be handled stored and disposed of in accordance with hazardous materials regulations. An operating manufacturing facility is required by laws governing the handling of hazardous materials to have extensive physical systems and detailed procedures to assure the safety of the employees and visitors. The EIR will ensure that the proposed measures are adequate to ensure the protection of the public, employees and visitors.

Tasks

- Update the Phase I Environmental Site Assessment (in general accordance with ASTM E 1527-05). No contamination was identified in a prior Phase I that was provided to ESA by the City. Review findings and recommendations from the updated Phase I to identify any potential impacts from hazardous materials.
- Describe the regulatory framework that controls and oversees the use of hazardous materials and the handling of the waste streams. Identify the responsible agencies with control and the mechanisms used to monitor compliance.
- Describe the proposed plan for the storage, transport, handling, and disposal procedures of the hazardous materials that would be required for operation of the project.

- In the event that the project or the regulatory requirements might result in a potential adverse environmental risk, identify measures that would mitigate that risk to a less-than-significant level.
- Identify and discuss the adequacy of specific measures proposed to store hazardous materials and reduce the risk of an unanticipated upset, especially in the case of a seismic event. Evaluate and discuss measures to control contain hazardous materials discharged from an unintentional release.

Hydrology and Water Quality

Issues

Based on a preliminary review of available site information, ESA's hydrologic resources and water quality specialists anticipate potential but likely mitigable impacts associated with construction and operation period water quality, and operation period changes in stormwater flow. Construction related disturbances could result in the release of water quality pollutants including sediments, oils, greases, and other construction related pollutants. During operations, unless adequately designed and mitigated, stormwater could mingle with MRCF feedstock or other residual materials on site, resulting in potential discharge of polluted stormwater from the Project site. Disposal of process wastewater produced during MRCF operation could also potentially result in degradation of natural surface or groundwaters, depending upon treatment, storage, and disposal methods. ESA anticipates that these issues would be avoidable or mitigable based on standard mitigation and state and local permitting conditions, as applicable.

With respect to surface water hydrology, Project implementation would result in a net increase in impervious surfaces on site. This could result in a net reduction in on site groundwater recharge, combined with a net increase in stormwater runoff from the Project site, which could contribute to downstream flooding and other hydrologic issues. ESA would support Project implementation by applying relevant mitigation measures as warranted to ensure that potential for changes to groundwater infiltration and downstream surface water hydrology would be minimized, in accordance with state and local requirements.

The proposed site is located outside of the 100-year flood zone, but is located, in part, within a 500 year flood zone, as defined by the Federal Emergency Management Agency (FEMA). ESA anticipates that additional floodplain related construction requirements and mitigation would not be warranted on site.

Tasks

- Review and summarize available surface water hydrology and water quality information available from the City, as well as other local, state, and national agencies including the California Department of Water Resources, the Regional Water Quality Control Board, and the U.S. Geological Survey.
- Review and summarize available groundwater hydrology and groundwater quality information, available through the California Department of Water Resources, as well as the City, County, and other local sources as relevant.
- Confirm preliminary flood zone locations based on a review of the latest available FEMA data for the Project site and vicinity; review additional flood documentation as relevant available through local agencies.
- Review applicable stormwater information for the site, as relevant, based on prior site specific or regional studies.
- Evaluate potential for water supply to the Project to result in reduction of groundwater levels, to the extent that groundwater could be used to supply the Project during startup periods.
- Identify anticipated permitting requirements for the Project, to the extent that adherence to such requirements could reduce or minimize potential mitigation requirements.
- Review appropriate General Plan policies and goals, including any policies related to hydrologic resources and water quality Discuss the consistency of the project with the applicable plans and programs, and ordinances.
- Using information provided by the City, identify approved and foreseeable future developments that, in combination with the project, could result in cumulative effects.

Land Use/Planning and Recreation

Issues

The City of Lancaster contains a variety of land uses including industrial, non-urban residential, urban residential, public use, and commercial. A majority of the City consists of industrial and non-urban residential land uses, so it is possible that conflicts with existing zoning may arise. The EIR will address potential impacts resulting from land use conflicts including potential conflicts with any applicable Airport Land Use Plan. Additionally, the EIR will address potential growth-inducing impacts, and the relationship of the project to current and proposed land use plans and policies.

The potential increase in population attributable to the green jobs resulting from the proposed project could likely also increase the use of, and impacts on, local public parks and recreational facilities.

Tasks

- Describe the character of the region and the area surrounding the project site in terms of existing and planned development patterns and land uses. Identify adopted, planned, and proposed development in the vicinity of the project under the General Plan, zoning and land use policies of the appropriate jurisdiction.
- Describe and map existing land uses and appropriate General Plan land use and zoning designations in the vicinity of the project site.
- Review appropriate General Plan policies and goals, including any policies related to materials recovery and energy production, other development standards, and other applicable plans and programs (including the Fox Field Specific Plan and the Fox Field Airport Land Use Plan). Discuss the consistency of the project with the applicable plans and programs, and ordinances.
- Using information provided by the City, identify approved and foreseeable future developments that, in combination with the project, could result in cumulative effects.
- Based on applicable laws, policies, and regulations, develop significance criteria to be applied to the impact analysis. Identify any General Plan inconsistencies that may result from implementation of the project. Describe any land use compatibility issues that may arise from implementation of the project, including potential impacts of the project on nearby land uses.
- Identify all existing and proposed local parks, recreation and open space areas in the vicinity of the site; describe existing facilities, the estimated number of users and periods of peak use.
- Assess the level of demand the proposed project would have on parks and recreation resources, and identify any potentially significant adverse effects of the project on these resources.
- Identify feasible measures to mitigate identified land use incompatibilities and recreation-related impacts.
- Following publication of the Draft EIR, ESA will respond to all substantive public comments regarding land use, recreation, and parks.

Noise

The project would include additional noise sources that could affect noise-sensitive receptors in the project area. The EIR analysis will include noise measurements by ESA to characterize the existing noise environment at the site and at sensitive receptors in the vicinity of the project. Noise generated by off-road equipment and on-road vehicles during construction and operational activities associated with project development would affect the ambient noise environment based upon various factors: 1) the proximity of noise-sensitive uses (e.g., residences), 2) the character of project noise sources (impulsive versus

constant), 3) the temporal distribution of project-related noise (e.g., daytime versus nighttime), 4) the presence or absence of intervening terrain, 5) the existing ambient noise levels, and 6) the importance of quiet to the community as reflected in the noise/land use compatibility guidelines contained in the City of Lancaster Noise Element of the General Plan. ESA will assess project and cumulative noise impacts with reference to the change in noise levels at noise-sensitive locations in the vicinity and with reference to noise/land use compatibility guidelines contained in the City's Noise Element and will devise, where necessary, feasible, appropriate noise mitigation measures in accordance with CEQA.

Tasks

- Describe and discuss existing major noise sources in the vicinity of the project area based on information available from the City of Lancaster General Plan Noise Element, field reconnaissance, and site specific noise measurements. Noise measurements will include up to two (2) 48-hour measurements and up to six (6) short-term 10-minute measurements.
- Summarize applicable noise regulations, policies, and standards.
- Identify the noise-sensitive land uses or activities in the vicinity of the project area and roads that will receive traffic generated by project development.
- Discuss construction equipment noise levels expected and appropriate mitigation measures for noise.
- Estimate (as needed) future noise levels at sensitive land uses adjacent to access roads to the project site. These estimates will be based on traffic estimates as the input data for the Federal Highway Administration Highway Traffic Noise Prediction Model.
- Compile "reference" noise levels from individual pieces of equipment and activities that are representative of those proposed for the project site. Reference noise levels will provide the basis for estimating future composite noise levels due to the project at noise-sensitive locations. ESA will develop reference noise levels based on published information contained in environmental documentation on similar types of projects.
- Estimate the change in noise levels at noise-sensitive land uses in the project vicinity based on the project description (activity levels, locations of equipment and activities, numbers of truck trips, and hours of operation), the reference noise levels discussed above, the distance between project noise sources and the noise-sensitive uses, presence or absence of intervening terrain, and existing background noise levels at the noise-sensitive locations.
- Evaluate the potential for significant noise impacts based on the estimated change in noise levels at noise-sensitive uses.

- Identify feasible, appropriate noise mitigation measures to avoid or reduce adverse impacts in consultation with the City and the project applicant.

Population/Housing

Issues

The project proposes the construction and operation of a materials recovery and conversion facility on approximately 40 acres of land in the City of Lancaster. The project would not only potentially alter the project area's fundamental character but could also have implications for housing in the project area. The EIR analysis will evaluate the population, housing and employment effects of the proposed materials recovery and conversion facility project and may also include related discussion of the project's expected effects on local housing market.

Tasks

- Describe the number and type of jobs associated with the proposed project to determine the net additional employment for Lancaster.
- Identify and describe existing housing and population within the project area. ESA will identify whether or not that housing supply is sufficient to accommodate additional population created by the proposed project.
- Review and assess existing City of Lancaster plans and policies related to the housing supply, including policies of the City's General Plan and Housing Element. Identify objectives and implementing policies in the Lancaster Housing Element that are relevant to the proposed project.
- Where feasible, identify potential mitigation measures for both project and cumulative impacts to reduce the magnitude of the any project related adverse impacts to the local population or housing conditions.

Public Services , Utilities Service Systems

The proposed project would require electricity, and water; as well as storm water drainage, a stormwater detention pond, and waste disposal and wastewater services. Water needs could be substantial during dry conditions and the EIR will analyze the adequacy of the proposed water supply. While the project is not expected to result in a significant increase in demands on utilities or service systems, an analysis of these potential impacts will be conducted to confirm this assumption. In addition, public services (i.e., schools, libraries, etc.) are not expected to experience detrimental impacts as a result of the project and existing law enforcement, and fire protection providers will continue to provide coverage of the site. However, an analysis of these potential impacts will also be conducted to confirm this assumption.

Tasks

- Review and evaluate all plans for the provision of utilities and service systems to the project site.
- Analyze the adequacy of the water supply for the project, including any potential for the use of recycled water.
- Evaluate potential changes in service needs as a result of implementation of the project.
- Consult with local service providers and agencies to determine any unforeseen impacts to existing levels of service.
- As needed, incorporate mitigation measures or other recommendations pursuant to service provider consultation.

Assumptions

We assume that the City of Lancaster will provide us with specific plans for the provision of utilities and service systems as well as any available estimates of utilities and service systems needs for project construction and operation.

Transportation/Traffic

The project under consideration is the construction and operation of a materials recovery and conversion facility that would be capable of processing up to 4,000 tons of municipal solid waste (msw) per day. The project is currently proposed to be developed in two phases, with each phase contained in a 120,000 to 150,000 square-foot building and capable of processing 2,000 tons of msw/day. However, the entire project could be built in one build out phase in the event the developer has commitments to process 4,000 tons of msw.

It is our understanding that the specific project site location has not yet been identified but that three potential sites are currently under consideration. The three sites are located 1) south of Avenue H on both sides of Trevor Avenue, 2) on the northeast corner of Avenue G and 30th Street West, and 3) north of Avenue G and west of 45th Street West. The scope of work provided below assumes the proposed facility would be built within Site 1. Separate scopes of work are also provided for the other two potential locations.

Site 1 is designated as Heavy Industrial in the City's General Plan and is zoned Heavy Industrial. The site is bounded by a railroad spur on the south.

The study area breadth for the required traffic study includes the analysis of up to 10 intersections and 3 freeway segments, which is per the project RFP. The specific study locations will be identified during the traffic study scoping process with the City, and will be based on project trip generation estimates, site driveway locations, employee and truck delivery trip distributions, and

the roadway system network within the project area. In addition, the scope of work provides for the analysis of two project phases. The scope and fee can be adjusted if the City requires the analysis of a build out phase only.

A proposed scope of work and fee estimate for a traffic study for this project have been developed by KOA Corporation and are provided below.

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A proposed scope of work and fee estimate for a traffic study for this project have been developed by KOA Corporation and are provided below.

Scope of Work

A. KOA Corporation will attend a kick-off meeting to discuss the project and the requirements of the Environmental Impact Report for this project.

B. In order to establish study assumptions acceptable to the City, KOA Corporation will discuss traffic aspects of the project with City of Lancaster staff. KOA Corporation will verify the study approach and any additional

specific study requirements prior to traffic data collection. Trip generation assumptions for the Project, and for other area developments within the future analysis period, would be defined. A scoping document would be provided to the City and Client for review, which would summarize all of the major traffic study assumptions. The document would establish the location of the study intersections and freeway segments, assumptions for project trip generation and distribution, ambient growth rate, and project build-out year for each phase. Approval of this document by the City would be necessary before subsequent tasks could be undertaken.

C. KOA Corporation will quantitatively assess weekday a.m. and p.m. peak-hour traffic impacts at up to ten study intersections and three freeway segments.

D. KOA Corporation will collect traffic counts at the study intersection locations. We recommend collecting the counts during the weekday a.m. (7-9) and p.m. (4-6) peak periods. However, alternate and equivalent morning or afternoon periods could be counted as defined by the City during the scoping process.

E. KOA Corporation will perform fieldwork to survey the study area and intersections. The field inventory will include collecting data on roadway cross-section geometry, traffic control at intersections, surrounding land uses, on–street parking and other pertinent data.

F. KOA Corporation will summarize the traffic data collection effort. Based on the traffic counts and current intersection geometry, an existing conditions analysis will be conducted. Intersection traffic analysis will be based upon the City's traffic study guidelines (and the County's guidelines as applicable). The TRAFFIX software program will be used to perform the level of service analysis for the study intersections for all study scenarios.

G. The Future Without Project conditions forms the basis by which project impacts can be measured against. The horizon year coincides with the planned project opening date. Based on the anticipated build-out year for each phase of the proposed Project, Future Without Project conditions will be forecast. This task includes the following elements:

- Ambient traffic growth – KOA Corporation will apply an ambient growth rate to existing traffic counts to estimate future background traffic growth. Ambient growth includes growth in regional traffic due to both population and employment growth outside of the study area.
- Area Projects - KOA Corporation will compile a list of area projects within the vicinity of the proposed project site. Traffic generated by these future projects will be assigned onto the roadway system.
- Planned roadway improvements – KOA Corporation will conduct research and compile a list of planned roadway improvements anticipated to be constructed by the project's build-out year for each phase.

- Level of service analysis - Based on the traffic forecasts of Future Without Project conditions, KOA Corporation will conduct level of service analysis at each of the study intersections.

The following Future Without Project scenarios will be analyzed:

- Future With Ambient Growth (Phase 1)
- Future With Ambient Growth and Related Projects (Phase 1)
- Future With Ambient Growth (Phase 2)
- Future With Ambient Growth and Related Projects (Phase 2)

H. Based on the project description, detailed traffic forecasts of Future With Project conditions will be estimated. The following outlines the key components of this task:

- Project trip generation - KOA Corporation will conduct trip generation estimates for each phase of the proposed project. Daily and peak hour trips will be calculated for the project based on planned operating details for the project (either the expected truck loads or a capacity number) and employment numbers and work shift details to be provided by the Client and/or the City. Based on truck types, if defined, a passenger-car equivalent (PCE) factor will be used to factor the truck volumes upward for analysis. Trip generation will also be estimated per ITE Trip Generation and compared to trip generation based on projected site activity. As required by the City's traffic study guidelines, the trip generation estimates and assumptions will be presented to City staff for approval prior to their application in the traffic analysis.
- Project trip distribution - KOA Corporation will estimate trip distribution patterns based on material flow origins/destinations, likely employee travel routes, and local and regional traffic routes.
- Project trip assignment - Based on the trip generation and distribution assumptions, KOA Corporation will assign project traffic onto the roadway system based on the location of the project and access to the surrounding roadway system.
- Level of service analysis - Based on the Future With Project forecasts, KOA Corporation will conduct detailed level of service analysis. The traffic impact analysis will be based on the traffic study guidelines of the City of Lancaster. For any study intersections located in unincorporated neighborhoods of the County of Los Angeles, the traffic study guidelines from the County will be used. Based on the City's (and County's) threshold of significance, potential significant project impacts will be identified. If the project generates significant traffic impacts, potential mitigation measures will be developed.

The following Future With Project scenarios will be analyzed:

- Future With Ambient Growth, Related Projects and Proposed Project (Phase 1)
- Future With Ambient Growth, Related Projects and Proposed Project (Phase 2)

I. KOA will conduct an Existing plus Project analysis which assumes existing conditions as the 'base' to compare project impacts. The Existing plus Project scenario would be conducted in response to the December 2010 decision by the California Court of Appeals (6th District) in the case of Sunnyvale West Neighborhood Association v. City of Sunnyvale City Council to analyze the potential for impacts using the project Notice of Preparation year as the baseline condition. Traffic impacts in the study area will be identified and documented under this scenario.

J. KOA Corporation will summarize the traffic data collection, traffic forecasts, and traffic analysis for incorporation into a traffic impact study document by KOA Corporation, and the Environmental Impact Report by the client. The traffic analysis will follow guidelines acceptable to the City of Lancaster and the County (where applicable). Any significant impact of the project at the study intersections will have to be mitigated to a level of insignificance, as defined by City traffic study guidelines and the County Congestion Management Program (CMP). In cases where capacity increases are possible, KOA Corporation will analyze those sites that can be mitigated to a satisfactory level of service. V/C ratios and LOS will be calculated for the mitigated locations. The TRAFFIX software will be used by KOA Corporation to perform the analysis for the study intersections.

K. Any significant impact of the project at the study intersections will have to be mitigated to a level of insignificance. In cases where capacity increases are possible, KOA Corporation will analyze those locations that can be mitigated to a satisfactory level of service. Levels of service will be calculated for the mitigated intersections.

L. A traffic signal warrant analysis for peak-hour conditions will be conducted to determine if the projected traffic volumes would warrant installation of a traffic signal at any study intersections that are unsignalized. The signal warrant analysis will be based on the California MUTCD methodology.

M. As part of the traffic circulation analysis effort, local circulation on site and around the site, as well as at the project driveways will be assessed based on preliminary site designs to be provided by the applicant. Considerations will be made as to the adequacy of circulation for both haul/transfer trucks and smaller vehicles. Potential conflicts between haul vehicles and personal automobiles (destined for the waste facility) will be examined.

N. A truck turning template will be applied to the site plan, to be provided by the Client or City in AutoCAD format. The ability of trucks to make movements into and out of the site, and within the site, will be examined.

Any apparent deficiencies in site or driveway geometry will be identified.

O. KOA Corporation will determine if the proposed project will impact the monitored Congestion Management Program regional network. If intersection and freeway segment mitigation measures are required with respect to the Congestion Management Program, we will readdress the mitigation measures and conduct additional intersection analyses with the roadway improvements.

P. KOA Corporation will analyze the parking requirements of the project. The proposed supply versus the City's parking code requirements will be compared.

Q. Traffic impacts during construction of the project will be assessed. Trip generation during construction will be based on construction worker numbers, haul routes, and truck activity/delivery information to be provided by the Client or City. The peak construction activity period will be analyzed.

R. KOA Corporation will prepare responses to comments on the draft environmental document. A total effort of 12 staff hours has been included in the proposed fee for these efforts.

Appendix B
Site 2 Detailed SOWs

APPENDIX B
Site 2 Detailed SOWs

Site 2 – Avenue G & 30th Street West

Aesthetics

The Scope of Work is the same as for Site 1 (see Appendix A).

Air Quality and Greenhouse Gas Emissions

The Scope of Work is the same as for Site 1 (see Appendix A).

Biological Resources

Tasks

Task 1. Plant Surveys, Habitat Assessment, and Vegetation and Biological Resource Mapping

Based on the Biotic Study (H.T. Harvey & Associates Ecological Consulting, 2005), Site 2 consist of salt-bush scrub and supports Alkali Mariposa Lily and Golden Goodmania populations. ESA will conduct a focused plant survey on the 37 acre site during the spring and/or summer of 2012 to quantify and map these populations and any other sensitive plant species that are encountered. During this time, ESA biologists will assess the potential for any sensitive wildlife species to be present based on the current habitat conditions.

Prior to conducting plant surveys, ESA will conduct a preliminary review of the California Native Plant Society (CNPS), CALFLORA, and California Natural Diversity Database to compile a list of target species based on recorded occurrences in the region. Plant surveys will be conducted in accordance with the California Department of Fish and Game's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (published November 24, 2009). Plant surveys will be timed during the blooming period of all target species. ESA will prepare a technical report summarizing the methods and results of the plant survey and habitat assessment.

The Biotic Study did not find any presence of burrowing owl on the site. However, because the assessment was conducted approximately 7 years ago, burrowing owls could occur, especially since they have been recorded in the vicinity and are known to occur in similar desert scrub habitats in the area. The presence of burrowing owls will be determined during the focused plant surveys. Biologist will search for suitable burrowing for supporting burrowing owls by walking through suitable habitat over the entire project site during the focused plant survey, which includes areas within 150 meters of the project boundary, if access is granted.

All plant communities and sensitive biological resources will be mapped in the field and digitized utilizing a Global Information System (GIS). The amount of each plant community will be calculated in GIS and provided in the EIR to disclose the area of impact within each plant community.

Task 2. Draft EIR Section

ESA will conduct a detailed literature search to identify any documented occurrences of sensitive biological resources on the site or in the immediate vicinity. The Biological Resource Section will describe the existing conditions of the project site and the general region based on the literature search and the database searches and the field surveys describe above in Task 1. The existing conditions section will describe the overall condition of the site, including on-site plant communities and representative plant species, potentially occurring wildlife species and other biological resources, potential wildlife movement corridors, and the regulatory framework. Finally, the Biological Resource Section would describe CEQA Threshold of Significance, potential direct and indirect impacts to sensitive biological resources, and mitigation measures that may reduce potential impacts to a level of less than significant. The section will also describe potential cumulative impacts when considering other projects that are proposed for development in the vicinity.

Cultural Resources

Site 2 is approximately 37.07 acres located on the northeast corner of Avenue G and 30th Street West. A previous archaeological survey of Site 2 was conducted in 2006. During this survey, one historic-era road and six historic-era debris concentrations were noted. However, it is not apparent whether the debris concentrations or historic road were formally recorded during the 2006 study. The historic-era road and debris concentrations would need to be relocated and (re-)recorded as part of the current survey effort; this assumption is incorporated into the scope of work below.

The following four tasks will be conducted in order to provide a Phase I cultural resources study for the Lancaster Materials Recovery and Conversion Project, Site 2.

Tasks

Task 1. Archival Research.

- Archival research will be conducted at the South Central Coastal Information Center (SCCIC) to identify the presence of previous cultural investigations and previously recorded cultural resources within a 1-mile radius of the project area. Research will include a review of historic topographic and aerial maps. The purpose of this research is to identify any cultural resources present in the project area and, based on the types of resources found within 1 mile of the project area, to generalize the archaeological sensitivity of the project area and the types of resources that could be found within the project area.

- A paleontological resources records search will be conducted at the Natural History Museum of Los Angeles County (NHMLAC) to identify paleontological resources in or near the project area. The goal of the records research will be to identify any previously recorded paleontological resources located on or adjacent to the project and to develop a geological context.

- A Sacred Lands File (SLF) check will be requested from the California Native American Heritage Commission (NAHC) in order to solicit information on sensitive or undocumented traditional/cultural sites in the vicinity of the project. Native American representatives identified by the NAHC as having affiliation with the area will be contacted to assist in identifying any locations of cultural sensitivity.

Task 2. Survey

- An intensive cultural resources survey will be conducted of the 37.07-acre project area. Qualified cultural resources surveyors will systematically survey all accessible portions of the project area where exposed ground surface is visible. Soils will be inspected for evidence of cultural resources. In the event resources are discovered, the discoveries will be photo-documented and recorded on appropriate DPR 523 forms, and their locations mapped using a GPS unit. Only resources in imminent danger of destruction will be collected - all others will be left in situ. This scope assumes that no more than the seven (7) previously recorded cultural resources noted (historic road and debris concentrations) in the 2006 archaeological survey report will be encountered as a result of the survey. Should potentially significant resources be identified, additional work associated with the formal evaluation of resources may be recommended to be conducted as part of a separate scope and cost prior to the completion of the EIR.

Task 3. Technical Report.

- A Phase I Cultural Resources Report addressing CEQA requirements will be prepared. The report will follow the guidelines in *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format*, Department of Parks and Recreation, Office of Historic Preservation, State of California, 1990. The report will provide background contexts for the project area and will present the methods and results of the study. The report will also provide recommendations regarding further treatment of any potentially significant resources identified as a result of the study, and will address the likelihood of encountering subsurface intact archaeological resources during construction. A draft report will be provided to the client for review. A final report, incorporating one round of comments, will be prepared and one hard copy and an electronic copy (PDF) will be provided. Hard copies of the report will be sent to the archives at the SCCIC for their files.

Task 4. EIR cultural resources section

- A cultural resources EIR section will be prepared that summarizes the results of the cultural resources technical studies and provides appropriate mitigation measures for any identified impacts to cultural resources.

Assumptions

- No more than 37.07 acres will require survey.
- Survey will be completed by 2 surveyors in 1 field day.
- The project area will be accessible to surveyors.
- No more than 7 cultural resources will be (re-)recorded and a preliminary eligibility evaluation will be provided. The client will be notified immediately if more than 7 resources are encountered.
- A Native American monitor is not included in this scope.
- No historic architectural resources exist within or immediately adjacent to the project area.
- In the event the paleontological records check indicates the potential for sensitive formations, some degree of paleontological survey may be recommended under a separate scope and cost.
- The client will provide ESA with any geotechnical investigation reports that have been completed for this project.

Geology/Soils

The Scope of Work is the same as for Site 1 (see Appendix A).

Hazards & Hazardous Materials

The Scope of Work is the same as for Site 1 (see Appendix A).

Hydrology and Water Quality

The Scope of Work is the same as for Site 1 (see Appendix A).

Except Site 2 is located entirely outside of FEMA-defined flood zones. Therefore, ESA anticipates that additional floodplain related construction requirements and mitigation would not be warranted on site.

Land Use/Planning and Recreation

The Scope of Work is the same as for Site 1 (see Appendix A).

Noise

The Scope of Work is the same as for Site 1 (see Appendix A).

Population/Housing

The Scope of Work is the same as for Site 1 (see Appendix A).

Public Services , Utilities Service Systems

The Scope of Work is the same as for Site 1 (see Appendix A).

Transportation/Traffic

The Scope of Work is the same as for Site 1 (see Appendix A).

Appendix C
Site 3 Detailed SOWs

APPENDIX C
Site 3 Detailed SOWs

Site 3 – Avenue G & 45th Street West

Aesthetics

The Scope of Work is the same as for Site 1 (see Appendix A).

Air Quality and Greenhouse Gas Emissions

The Scope of Work is the same as for Site 1 (see Appendix A).

Biological Resources

Tasks

Task 1: Plant Surveys, Habitat Assessment, and Vegetation and Biological Resource Mapping

Based on the Fox Field Final EIR, Site 3 is located in the historic range of the desert tortoise and Mohave ground squirrel. In 1991, it was determined that desert tortoises are not present within the periphery of Site 3. The EIR also found that the potential presence of MGS is low. Sensitive plants that were recoded in the area and are known to occur within a Salt Bush Scrub community, which is present at Site 3, included Alkali mariposa lily, and Mohave spineflower. ESA will conduct a focused plant survey on the approximate 42 acre site during the spring and/or summer of 2012. During this time, ESA biologists will assess the potential for any sensitive wildlife species to be present based on the current habitat conditions, including desert tortoise and Mohave ground squirrel. Because it has been nearly 20 years since it was determined that desert tortoise and MGS have a low probability to occur in the vicinity of Site 3, it is advised that ESA or the project proponent communicates with the US Fish and Wildlife Service to determine if protocol surveys for desert tortoise survey are necessary at this project site and with the CDFG to determine if MGS surveys are warranted.

Prior to conducting the plant surveys and habitat assessment, ESA will conduct a preliminary review of the California Native Plant Society (CNPS),

CALFLORA, and California Natural Diversity Database to compile a list of target plant and wildlife species based on recorded occurrences in the region, which includes the desert tortoise and MGS. Plant surveys will be conducted in accordance with the California Department of Fish and Game's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (published November 24, 2009). Plant surveys will be timed during the blooming period of all target species. ESA will prepare a technical report summarizing the methods and results of the plant survey and habitat assessment.

The Fox Field EIR does not indicate whether burrowing owl surveys have been conducted on Site 3. The presence of burrowing owls will be determined during the focused plant surveys. Biologist will search for suitable burrowing for supporting burrowing owls by walking through suitable habitat over the entire project site during the focused plant survey, which includes areas within 150 meters of the project boundary, if access is granted. If presence of burrowing owl is identified, a Phase 3 breeding survey should be conducted (See Task 2).

All plant communities and sensitive biological resources will be mapped in the field and digitized utilizing a Global Information System (GIS). The amount of each plant community will be calculated in GIS and provided in the EIR to disclose the area of impact within each plant community.

Task 2. Draft EIR Section

ESA will conduct a detailed literature search to identify any documented occurrences of sensitive biological resources on the site or in the immediate vicinity. The Biological Resource Section will describe the existing conditions of the project site and the general region based on the literature search and the database searches and the field surveys describe above in Task 1. The existing conditions section will describe the overall condition of the site, including on-site plant communities and representative plant species, potentially occurring wildlife species and other biological resources, potential wildlife movement corridors, and the regulatory framework. Finally, the Biological Resource Section would describe CEQA Threshold of Significance, potential direct and indirect impacts to sensitive biological resources, and mitigation measures that may reduce potential impacts to a level of less than significant. The section will also describe potential cumulative impacts when considering other projects that are proposed for development in the vicinity.

Cultural Resources

Site 3 is approximately 42 acres located north of Avenue G and just west of 45th Street West. No previous cultural resources studies have been conducted at this site, and its archaeological sensitivity is unknown.

The following four tasks will be conducted in order to provide a Phase I cultural resources study for the Lancaster Materials Recovery and Conversion Project, Site 3.

Tasks

Task 1. Archival Research.

- Archival research will be conducted at the South Central Coastal Information Center (SCCIC) to identify the presence of previous cultural investigations and previously recorded cultural resources within a 1-mile radius of the project area. Research will include a review of historic topographic and aerial maps. The purpose of this research is to identify any cultural resources present in the project area and, based on the types of resources found within 1 mile of the project area, to generalize the archaeological sensitivity of the project area and the types of resources that could be found within the project area.
- A paleontological resources records search will be conducted at the Natural History Museum of Los Angeles County (NHMLAC) to identify paleontological resources in or near the project area. The goal of the records research will be to identify any previously recorded paleontological resources located on or adjacent to the project and to develop a geological context.
- A Sacred Lands File (SLF) check will be requested from the California Native American Heritage Commission (NAHC) in order to solicit information on sensitive or undocumented traditional/cultural sites in the vicinity of the project. Native American representatives identified by the NAHC as having affiliation with the area will be contacted to assist in identifying any locations of cultural sensitivity.

Task 2. Survey

- An intensive cultural resources survey will be conducted of the 42-acre project area. Qualified cultural resources surveyors will systematically survey all accessible portions of the project area where exposed ground surface is visible. Soils will be inspected for evidence of cultural resources. In the event resources are discovered, the discoveries will be photo-documented and recorded on appropriate DPR 523 forms, and their locations mapped using a GPS unit. Only resources in imminent danger of destruction will be collected - all others will be left in situ. This scope assumes that no more than one (1) new or previously recorded cultural resource will be encountered as a result of the survey. Should potentially significant resources be identified, additional work associated with the

formal evaluation of resources may be recommended to be conducted as part of a separate scope and cost prior to the completion of the EIR.

Task 3. Technical Report.

- A Phase I Cultural Resources Report addressing CEQA requirements will be prepared. The report will follow the guidelines in *Archaeological Resource Management Reports (*ARMR*): Recommended Contents and Format*, Department of Parks and Recreation, Office of Historic Preservation, State of California, 1990. The report will provide background contexts for the project area and will present the methods and results of the study. The report will also provide recommendations regarding further treatment of any potentially significant resources identified as a result of the study, and will address the likelihood of encountering subsurface intact archaeological resources during construction. A draft report will be provided to the client for review. A final report, incorporating one round of comments, will be prepared and one hard copy and an electronic copy (PDF) will be provided. Hard copies of the report will be sent to the archives at the SCCIC for their files.

Task 4. EIR cultural resources section

- A cultural resources EIR section will be prepared that summarizes the results of the cultural resources technical studies and provides appropriate mitigation measures for any identified impacts to cultural resources.

Assumptions

- No more than 42 acres will require survey.
- Survey will be completed by 2 surveyors in 1 field day.
- The project area will be accessible to surveyors.
- No more than 1 cultural resource will be recorded and a preliminary eligibility evaluation will be provided. The client will be notified immediately if more than 1 resource is encountered.
- A Native American monitor is not included in this scope.
- No historic architectural resources exist within or immediately adjacent to the project area.
- In the event the paleontological records check indicates the potential for sensitive formations, some degree of paleontological survey may be recommended under a separate scope and cost.
- The client will provide ESA with any geotechnical investigation reports that have been completed for this project.

Geology/Soils

The Scope of Work is the same as for Site 1 (see Appendix A).

Hazards & Hazardous Materials

The Scope of Work is the same as for Site 1 (see Appendix A) with the following modified Phase I language.

ESA will prepare a Phase I Environmental Site Assessment for this location in general conformance with methodology ASTM E-1527-05. No prior Phase I was provided for this site. A review of GeoTracker database indicates only one reported leaking underground storage tank (LUST) in the immediate vicinity of this site, and there are no active reports of any remediation at that LUST site. There is also one permitted underground storage tank near Site 3.

Hydrology and Water Quality

The Scope of Work is the same as for Site 1 (see Appendix A).

Land Use/Planning and Recreation

The Scope of Work is the same as for Site 1 (see Appendix A).

Noise

The Scope of Work is the same as for Site 1 (see Appendix A).

Population/Housing

The Scope of Work is the same as for Site 1 (see Appendix A).

Public Services , Utilities Service Systems

The Scope of Work is the same as for Site 1 (see Appendix A).

Transportation/Traffic

The Scope of Work is the same as for Site 1 (see Appendix A).

Appendix D
Resumes

DEANNA M. HANSEN

Project Director

Deanna has 20 years of experience in environmental consulting and has contributed to a wide variety of residential, commercial, and industrial projects. She has developed a well-balance expertise in environmental compliance for development projects, specializing in CEQA/NEPA compliance. She has developed a level of understanding required to clearly explain technical concepts and issues for public comprehension, particularly for projects that include complex technical analyses and controversial public policy and planning issues. As the Director of the Southern California Community Development group for ESA, Deanna provides project oversight, workload and personnel management, and training, and serves as a client and agency liaison for projects located through California.

Education

B.F.A., Graphics, California State University, Fullerton

20 Years Experience

Professional Affiliations

Association of Environmental Professionals

American Planning Association

Relevant Experience

Bailard Landfill Permit Extension EIR, Ventura County, CA. ***Assistant Project Manager*****.** Prior to joining ESA, Deanna provided day-to-day project management and prepared EIR sections for the expansion of the Ballard Class III landfill in Ventura County. Controversy included proximity to residential area and potential impacts related to noise and odors.

El Sobrante Landfill EIR, Riverside, CA. ***Technical Analyst.*** Prior joining ESA, Deanna provided day-to-day management of staff and prepared the aesthetic section of the EIR for the El Sobrante Landfill project. The project included the expansion of 100-million ton Class III El Sobrante Landfill in Riverside County. Controversy included proximity to residential area and potentially endangered species.

Toland Road Landfill EIR, Ventura, CA. ***Scientist.*** Prior to joining ESA, Deanna assisted with the day-today-management of the EIR and prepared analysis. Expansion of the Toland Road Landfill in Ventura County from 135 to 1,500 tons of waste per day plus the use of an additional 33 acres of the 161-acre site. Controversial due to landfill location in a primarily agricultural area of the county and location to local school facilities.

Briggs Mining Project EIS/EIR, Inyo County, CA. ***Assistant Project Manager.*** Prior to joining ESA, Deanna assisted with the day-today-management of the EIR and prepared analysis. Development of conventional open pit gold mine with heap leach extraction adjacent to Death Valley National Park. Completion of Final EIS/EIR concurrent with consideration of Desert Protection Act by Congress. The project also included coordination with the US Bureau of Land Management and the County of Inyo.

Castle Mountain Mining Project EIR/EIS, San Bernardino County , CA. ***Assistant Project Manager*****.** Prior to joining ESA, Deanna assisted with the day-today-management of the EIR and prepared analysis. Highly controversial, 30-million ton, open pit heap leach gold mine located in the East Mojave National Scenic Area. Project also included Biological Assessment for the recently listed (at the time) desert tortoise and a detailed Mine and Reclamation Plan. Project

Relevant Experience (Continued)

included coordination with San Bernardino County and the US Bureau of Land Management.

Kern County, Solar Projects EIRs, Kern County, CA. ***Project Director/Project Manager.*** Deanna is working closely with the County of Kern providing strategic guidance and overall environmental compliance management and litigation support. Kern County has a vision to become the center of solar development in California. ESA is currently preparing over six EIRs for photovoltaic solar projects in the desert region of the County. The project sites range from around 500 acres to over 5,400 acres. All the projects are on a "fast track" schedule with the expectation of certification in nine to twelve months. In addition to preparing the EIRs, ESA is reviewing all technical reports for adequacy and compliance with CEQA requirements. Technical reports include: agricultural conversion, aesthetics, air quality, biological resource, cultural resources, greenhouse gases, noise, and traffic. Unique challenges include preparing all the CEQA documentation on the same schedule and coordinating with the County and multiple applicants. Key environmental issues include: aesthetics, air quality, biological resources, and greenhouse gas emissions.

Fresh & Easy, Riverside Distribution Center EIR, Riverside County, CA. ***Project Manager.*** Deanna is working closely with the applicant and March JPA providing strategic guidance and overall environmental compliance management and litigation support. Fresh & Easy's Riverside distribution and warehouse is located at the March Business Center (now known as Meridian) in Riverside County. The Fresh & Easy facility receives, sorts, prepares, re-packages, stores, and distributes food and household products and will serve approximately 550 stores throughout California, Arizona and Nevada. Phase I of the facility (approximately 776,304 square feet) was built in 2006 after March JPA determined the project was exempt under CEQA and consistent with the Business Center Specific Plan. ESA is preparing an EIR to address an approximate1,141,600 square foot expansion. ESA is providing technical reports regarding air quality, noise, and greenhouse gases. Unique challenges include addressing air quality impacts over five air districts that Fresh & Easy's distribution trucks will travel through. Key environmental issues include: traffic, air quality, and greenhouse gas emissions.

Sterling Gateway Industrial MND, Los Angeles, CA. ***Project Director.*** Deanna provided strategic guidance and managed the preparation of an MND for the development of the Sterling Gateway Industrial Center, located in an unincorporated area of Santa Clarita Valley in Los Angeles County. The purpose of the proposed project is to provide additional light industrial building space to enhance the existing Valencia Commerce Center, which is located adjacent to the site. ESA performed the air quality analysis in addition to a biological constraints analysis. The air quality analysis included a discussion of greenhouse gas emissions and global climate change in relationship to the project. The project was approved by the County of Los Angeles.

Relevant Experience (Continued)

City of Burbank, Medical Office Building MND, Burbank, CA. ***Project Director.*** Deanna managed and prepared an Initial Study and MND for the City of Burbank. The proposed project included a proposed medical office building, a cancer center, and two parking garages for Providence Saint Joseph Medical Center located in Burbank. ESA coordinated the results of a traffic study for the proposed development. Construction would be phased over a 12 month period. Key issues included: traffic and noise associated with construction activities on adjacent receptors.

California Department of Transportation and Federal Highway Administration, San Ysidro Border Crossing Facility Reconfiguration EIS/EIR, San Diego, CA. ***Project Manager.*** Deanna managed staff and resources and worked closely with the General Services Administration, California Department of Transportation, and Federal Highway Administration to prepare the EIS/EIR for the upgrade and expansion of the existing San Ysidro Border Station. The EIS/EIR was to address the potential environmental impacts of the development alternatives of the proposed project in addition to the socioeconomic effects of the potential expansion of the San Ysidro Border Station. Key issues include: traffic and socio-economic effects.

Rose Bowl – UCLA, Lease Seismic Upgrades and Locker/Media Room Improvements ND, Pasadena, CA. ***Project Manager.*** Deanna prepared the Initial Study/ND for the lease between the City of Pasadena and the UCLA for use of the Rose Bowl stadium by UCLA for its home football games. The lease required the renovation of the existing locker room facilities and addition of a media room at the south end of the existing stadium, minor changes to a former locker room in the north end of the stadium, and seismic strengthening of the stadium to meet the seismic rating required by the University of California seismic policy. The project was approved.

County of Los Angeles Department of Recreation, Loma Alta Community Regional Park MND, Altadena, CA. ***Project Director.*** Deanna provided strategic guidance on scope and methodology. The proposed project consisted of the renovation and improvement of the existing 16.5-acre Loma Alta County Park. The proposed project included the demolition of the existing asphalt basketball courts to allow for the construction of a gymnasium facility, outdoor basketball court, associated parking and the improvement of existing lighting, landscaping, and walkways. ESA prepared the Mitigated Negative Declaration for the Loma Alta County Park Gymnasium Project under a master contract with the County of Los Angeles Department of Parks and Recreation. Environmental issues of concern included traffic, air quality, noise, and geology.

City of Oxnard, General Plan Update & EIR, Oxnard, CA. ***Project Director.*** Deanna provided senior QA/QC and peer review of documents. ESA is working to prepare comprehensive updates to the existing Open Space, Conservation, and Safety Elements for the City's update to its existing 1990 General Plan. ESA's scope of work includes preparing several natural resource and public health/safety sections of the General Plan Background Report and preparation of the corresponding General Plan elements. ESA is also taking the lead in

Relevant Experience (Continued)

preparing a program EIR for the proposed project. As part of the project, ESA is also working with City staff to update their existing CEQA Threshold Guidelines handbook.

Department of Homeland Security Customs House EA, San Pedro, CA. ***Project Manager.*** Prior to joining ESA, Deanna prepared and managed an EA for the Department of Homeland Security (formerly the INS). The project was to convert the existing U.S. Customs House located in San Pedro, California. This facility was to be used for needed office and warehouse space to support overall DHS operations.

Garland Village Specific Plan EIR, Inglewood, CA. ***Project Manager.*** Prior to joining ESA, Deanna managed and oversaw preparation of the EIR for the Garland Village Specific Plan. The project included development of over 200,000 square feet of retail/commercial floor area and revitalization of exiting multi-family residential units in the City of Inglewood. Project controversy regarding the required demolition of approximately 382 residential units and 25,000 square feet of existing commercial space.

Grand Avenue Corporate Center Project MND, El Segundo, CA. ***Senior Planner.*** Prior to joining ESA, Deanna prepared the MND for the Grand Avenue Corporate Center project, which was a mixed use development program proposed to accommodate two potential conceptual plans that included office and hotel uses with appurtenant restaurant, meeting, retail, service and ancillary facilities located in the City of El Segundo. One conceptual plan included a sport training/recreational facility.

Level 3 Fiber Optic EA, Southern CA – NV. ***Project Manager.*** Prior to joining ESA, Deanna managed a large team that was preparing the EA for one portion of the Level 3 fiber optic line. Installation of a national telecommunications network of fiber optic cables. EA included segment of cable installation from San Bernardino to Las Vegas. Responsible for all permitting under CEQA and NEPA. Sensitive issues include alignment traversing critical desert tortoise habitat and alternative alignments being located within and adjacent to the Mojave National Preserve. The project was also subject to a very aggressive schedule.

Canyon Lake Program EIR, Canyon Lake, CA. ***Project Manager.*** Prior to joining ESA, Deanna managed the EIR for the Canyon Lake Program EIR. Responsibilities included holding public meetings and coordinating with the City and the Santa Ana Watershed Project Authority (SAWPA). The project included an in-lake sedimentation study and EIR for SAWPA located in the City of Canyon Lake. The project included the removal of approximately 225,000 cubic yards of sediment from the east bay. Worked closely with SAWPA and the Canyon Lake City Council in defining the project and solutions.

PAUL MILLER, REA

Project Manager

Paul is an environmental professional with more than 25 years of experience in providing services primarily to city, county and state government agencies in California. With a broad range of environmental skills, he has applied his background since 1986 to National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) environmental assessments. Paul has had major roles in the preparation of over 250 CEQA and NEPA environmental documents, including project manager for more than 18 major environmental impact reports (EIRs). He has been the project manager or a key team leader for five state agencies (California Public Utilities Commission [CPUC], California Energy Commission [CEC], CalRecycle, the former California Integrated Waste Management Board [CIWMB], and the State Water Resources Board, Central Valley Region) on projects of statewide importance. He has managed numerous EIR documents in counties throughout California for proposed integrated waste management facilities (new landfills, landfill expansions, landfill permit revisions, materials recovery facilities, and composting facilities). In 2011 he completed two Program EIR on anaerobic digesters, one for CalRecycle and one on dairy manure digesters for the Central Valley Water Board. He also managed several EIRs for the vast majority of utility-owned power plants in California that were divested in the late 1990's by Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company.

Education

M.S., Zoology and Entomology, Colorado State University

B.A., Zoology, Miami University

Registered Environmental Assessor # 00926

25+ Years Experience

Certifications

Certificate of Integrated Waste Management, San Francisco State University

Certified Asbestos Building Inspector and Management Planner under the EPA's AHERA programs

Specialized Training

40-hour health and safety training course, complying with OSHA regulations for hazardous waste site activities, and annual 8-hour updates

Relevant Experience

Bay Area Regional BioSolids Processing Program Facility Plan and EIR. ***Senior Air Quality and Noise Analyst.*** Paul is serving as a senior advisor for the evaluation of the Bay Area biosolids management options and preparation of a Facilities Plan and EIR. The project would incorporate sustainable processes for collection and treatment of biosolids for reuse or generating energy. He is advising on technical issues such as on biosolids incineration processes, air emissions, and also public concerns and controversial issues.

CalRecycle (formerly the California Integrated Waste Management Board), Statewide Program EIR for Anaerobic Digestion Facilities. ***Project Manager.*** Paul provided contract schedule and budget control as well as staffing oversight and applying CEQA expertise in managing the development of the EIR for the development of Anaerobic Digestion Facilities in California. CalRecycle approved the Organics Policy Roadmap (which calls for a 50 percent reduction in the amount of organics being disposed in landfills by 2020) and schedule in 2007 and stakeholders in that process indicated that developing a Program EIR would be beneficial to local agencies in siting organic diversion facilities (including anaerobic digestion facilities).

The Program EIR reduces the need for duplicative review of policy considerations related to anaerobic digestion facilities and expedite site-specific environmental documentation that may be required for CEQA compliance by lead agencies with discretion to site facilities. ESA kicked off the project work in the fall of 2009. The project included development of a Technical Advisory Group, research into prior environmental documents analyzing anaerobic digestion facilities, identification of typical anaerobic digestion facilities, identification of Best Management

Practices, a review of risk assessment analyses that would be appropriate for anaerobic digestion facilities, and preparation of the Statewide Program EIR. The Program EIR was certified in June 2011.

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) - Dairy Manure Digester and Manure Co-digester Program EIR. *Project Manager.* The Central Valley Water Board explored dairy manure digesters and co-digestion in a Program EIR that was the environmental documentation for a Central Valley Water Board General Order for Dairy manure digesters. The digesters control the generation of methane and allow methane to be a low-carbon fuel resource rather than a potent greenhouse gas emission that results from uncontrolled generation of methane.

The project was undertaken to reduce greenhouse gas emissions (as required by AB 32) and to help generate renewable fuels (biogas and biomethane) to help California utilities meet their renewable portfolio standard (RPS). The EIR considered manure digestion and co-digestion facilities on individual dairies, groups of dairies linked by gas collection systems, and at centralized locations within the Central Valley Region of California. The project had a very aggressive timeline because of the important the EIR will have in facilitating site-specific project environmental review and permitting. The EIR was certified in December 2010 and the General Order for Dairy manure digesters and co-digesters was approved.

Sonoma County Waste Management Agency (SCWMA), Amendments to the Sonoma Countywide Integrated Waste Management Plan, Sonoma County, CA. *Project Director.* Under contract to the Sonoma County Waste Management Agency (SCWMA) Paul was the Project Director for the preparation of a Supplemental Program Environmental Impact Report (SPEIR) for the Amendment to the Sonoma Countywide Integrated Waste Management Plan (CoIWMP). The amendment included modifications to the CoIWMP Household Hazardous Waste Element and the Siting Element. Amendments to the Siting Element included a range of waste disposal options, including hauling refuse by truck to out-of-County landfills, hauling waste by rail to out-of-County landfills, and divestiture of the County waste facilities to a private firm. The final EIR was certified on February 17, 2010.

Austin Road Landfill Expansion EIR, Stockton, CA. *Project Manager*. ESA prepared an EIR for the proposed expansion of the Austin Road Landfill that provided the City of Stockton with an additional 50 years of capacity. The project called for realignment of a branch of Little Johns Creek, which divided the landfill and the proposed expansion area, and expanded the permitted landfill area both horizontally and vertically. The realignment required a Streambed Alteration Agreement with the California Department of Fish and Game. The project was approved and the City shortly thereafter sold to a private company. The landfill was sold with an increased value because of the increased capacity in the Solid Waste Facilities Permit.

Relevant Experience (Continued)

Redwood Landfill Expansion EIR, Marin County, CA. ***Senior Air Quality and Noise Analyst.*** ESA is preparing an EIR for a proposed expansion of the Redwood Landfill in Marin County. The proposed project would increase total capacity, increase the allowable daily disposal rate, develop a Class II cell, change the processing of sewage sludge, and expand the landfill's existing co-composting facility. Paul responded to a variety of public comments regarding air quality issues, such as the new federal diesel emission regulations.

Yuba-Sutter Disposal Inc. CEQA, Marysville, CA. ***Project Manager.*** ESA is preparing an Initial Study pursuant to CEQA for modifications to Yuba-Sutter Disposal Inc. Transfer facility and Feather River Organics Composite Facility operations. The IS will require revisions of the existing City Conditional Use Permit and SWFP. The project will include a traffic study that will be the basis of the traffic-related air quality emissions. The IS will review new compost handling procedures; including provisions for nighttime monitoring of compost operations.

Sonoma County Compost Site Selection, Conceptual Design and CEQA. ***Project Manager.*** The work was completed with the publication of these reports: Landfill Siting Summary Report; Siting Study Review Report; and Waste Disposal Alternatives Report. These reports included recommendations for future actions for the County’s waste management systems.

Western Merced County Solid Waste Options Feasibility Study. ***Senior Air Quality and Noise Reviewer.*** ESA is currently preparing an EIR that evaluates the impacts of two landfill expansion options at Billy Wright Landfill site and four potential transfer station projects. The analysis provides a site-specific analysis of all six options. Paul determined the appropriate noise analysis for reviewing and comparing each of the six options.

D202102.00 Yolo County Central Landfill Subsequent Environmental Impact Report. ***Air Quality and Noise Analyst.*** ESA prepared an EIR for a proposed revision to the Solid Waste Facilities Permit for the Yolo County (County) Central Landfill. The County, which owns the landfill, proposed several innovative design and management techniques, including use of landfill bioreactor technology, landfill mining to remediate groundwater issues and to develop additional capacity, development of a materials recovery facility, increased beneficial use of landfill gas, and a composting operation. The EIR also evaluated a proposed height extension for the landfill, and examined impacts associated with development of an off-site soil borrow area. The EIR analyzed the full suite of potential environmental effects, including hydrology, geology, air quality (including odors), noise, aesthetics, traffic, biology, and cultural resources. ESA also performed a wetland delineation for the landfill site.

California Integrated Waste Management Board Planning Study. ***Project Manager.*** Paul managed five subconsulting firms in four separate major tasks involving over 70 individual tasks. He also provided the final review of all documents produced by the ESA team. Major tasks included the development of

"how-to" models for the preparation of county summary plans and county siting elements and the development of a geographic information system (GIS) to map and display the remaining landfill capacity at all operating solid waste landfills in California.

Eureka County Nevada Solid Waste Planning and Siting Study. *Project Director.* The project included short-term and long-term planning that allowed the County to comply with the federal Subtitle D regulations. The project included a siting study for a new landfill and remote transfer station and the environmental documents for closure of old burn dumps. ESA prepared an environmental assessment (EA) for the closures and the operation of a new landfill.

Cold Creek Compost Landfill Expansion EIR, Ukiah, CA. *Project Manager.* Paul prepared and reviewed odor analyses for several landfill expansion project EIRs. These analyses focused on the dilution potential of the odors by distance. He also reviewed special meteorological conditions that might concentrate the odors. The analyses compared relevant odor regulations from the local air district and the past compliance history with odor regulations at each of the facilities. The reviews included recommendations to develop progressive odor mitigation programs to address odor impacts of varying intensities.

Ukiah Landfill Permit Revision EIR. *Project Manager*. The City of Ukiah proposed to increase the amount of solid waste accepted each day at its landfill, located just east of the City. By increasing the daily disposal rate from about 98 tons per day to 190 tons per day, the project would reduce the projected life of the landfill. Paul was project manager for a highly contentious Supplemental EIR that was prepared for the project. The Supplemental EIR addressed the issues of additional traffic and the impacts of traffic-related noise and air quality.

Altamont Landfill Reclassification EIR. *Project Manager*. ESA prepared an EIR for the reclassification of the Altamont Sanitary Landfill from Class III to a Class II landfill. Altamont accepts solid waste from jurisdictions in Alameda County and the City and County of San Francisco. Paul analyzed the change in the liner that was necessary and identified the potential for a loss of "air space", because of the necessary separation between the Class II and Class III landfill cells. The EIR identified the types of waste that could be handled in the Class II cell and also identified the disconnect between State and federal regulations, because the federal regulations have no equivalent to the California Class II landfill designation.

JASON W. RICKS

Deputy Project Manager

Jason has 15 years of professional environmental health and science experience, with an emphasis on preparation of environmental documents in compliance with NEPA, CEQA, and environmental permitting requirements for the California Energy Commission and California Public Utilities Commission. He has managed Environmental Impact Reports and Statements for a variety of public clients and project types. With a technical background in hazards and hazardous materials, Jason's experience has focused primarily on electrical energy generation, transmission, and distribution projects, including several renewable energy projects for government agencies.

Education

M.S., Environmental Public Health, Tulane University, New Orleans, LA

B.S., Biology, Alma College, Alma, MI

15 Years Experience

Relevant Experience

Kern County Planning & Community Development Department, Alta Infill 2 Supplemental EIR to the Alta-Oak Creek Mojave Project, Kern County, CA. ***Project Director.*** Jason was responsible for directing the project team in preparation of a supplemental EIR for a proposed 750-MW wind energy generation facility in the Mojave region of Kern County. Jason was responsible for all aspects of the project including content editing, schedule maintenance, staff coordination, budget management and client interaction. The Draft SEIR was circulated three months after project kickoff, the Final SEIR was completed one week after close of the Draft SEIR public review period, and was certified six months after project kickoff.

Kern County Planning & Community Development Department, North Sky River and Jawbone Wind Energy Projects, Kern County, CA. ***Project Manager.*** Jason was the Project Manager in charge of producing an EIR for a proposed 250-MW wind energy generation facility in the Mojave region of Kern County. Jason was responsible for all aspects of the project including content editing, schedule maintenance, staff coordination, alternatives analysis, budget management and client interaction. The Draft EIR was circulated four months after project kickoff, the Final EIR was completed five weeks after close of the Draft EIR public review period, and was certified nine months after project kickoff.

Kern County Planning & Community Development Department, Pacific Wind Energy Project, Kern County, CA. ***Project Manager.*** Jason was the Project Manager in charge of producing an EIR for a proposed 250-MW wind energy generation facility in the Mojave region of Kern County. The Final EIR was completed and submitted to the County within nine months of project kickoff. Jason was responsible for all aspects of the project including content editing, schedule maintenance, staff coordination, alternatives analysis, budget management and client interaction. The Draft EIR was circulated six months after project kickoff, the Final EIR was completed four weeks after close of the Draft EIR public review period, and was certified 10 months after project kickoff.

Relevant Experience (Continued)

Kern County Planning & Community Development Department, Alta-Oak Creek Mojave Project EIR, Kern County, CA. ***Deputy Project Manager.*** Jason was the Project Manager in charge of producing an EIR for a proposed 800-MW wind energy generation facility in the Mojave region of Kern County. Jason was responsible for all aspects of the project including content editing, schedule maintenance, staff coordination, alternatives analysis, budget management and client interaction.

Los Angeles Department of Water and Power, Distribution Station #144 IS/MND, Los Angeles, CA. ***Project Manager.*** Jason was the Project Manager responsible for all aspects of the project including content editing, client interaction, schedule maintenance, staff coordination, alternatives analysis, and budget tracking for the MND prepared a proposed electrical distribution station in downtown Los Angeles.

San Luis Obispo County Planning Department, Topaz Solar Farm EIR.San Luis Obispo County, CA. ***Deputy Project Manager.*** Jason was responsible for day-to-day management and coordination of Aspen staff, client interaction, project reporting, content editing, schedule maintenance, and budget tracking for the EIR being prepared for a proposed 550-MW solar energy facility on the Carrizo Plain in San Luis Obispo County. Jason also prepared the transportation and traffic analysis for the EIR.

San Luis Obispo County Planning Department, California Valley Solar Ranch EIR, San Luis Obispo County, CA. ***Traffic and Transportation Analysis.*** At his previous employer, Jason was responsible for management of the traffic analysis prepared for the EIR prepared for a proposed 250-MW photovoltaic solar energy facility on the Carrizo Plain in San Luis Obispo County.

California Energy Commission (CEC), Multiple Projects throughout CA. ***Traffic and Transportation Analysis.*** In response to California's power shortage, Jason's previous firm assisted the CEC in evaluating the environmental and engineering aspects of new power plant applications throughout the State. As part of this effort, Jason served as a technical specialist for traffic and transportation for several power plant projects including:

Carrizo Energy Solar Farm. Jason prepared the traffic and transportation portion of the Staff Assessment for a new solar thermal power plant in San? Luis Obispo County.

Chevron Power Plant Replacement Project. Jason conducted analysis and prepared the traffic portion of the Initial Study for the Chevron Power Plant Replacement Project at the existing Chevron Refinery in Richmond.

Chula Vista Energy Upgrade Project. Jason prepared the traffic and transportation portion of the Staff Assessment for upgrading and expanding an existing peaker plant.

Relevant Experience (Continued)

Humboldt Bay Repowering Project. As technical senior, Jason managed the analysis of the traffic portion of the Staff Assessment for replacement of a natural gas–fired generator at the existing Humboldt Bay Power Plant.

Ivanpah Solar Electric Generating System. Jason prepared the traffic and transportation portion of the Staff Assessment for a new solar thermal power plant in west San Bernardino County. He also prepared an analysis of potential cumulative impacts that would occur as a result of implementation of future solar and wind development projects that are currently proposed on over 1 million acres of land in the desert areas of southeastern California, southern Nevada, and western Arizona.

California Public Utilities Commission, Tehachapi Renewable Transmission Project EIR/EIS, C, Kern, Los Angeles, and San Bernardino Counties. ***Issue Area Coordinator*****.** Jason was the Issue Area Coordinator (IAC) for physical science technical sections of the joint EIR/EIS prepared for the CPUC and USDA Forest Service for an extensive series of transmission system upgrades spanning Kern, Los Angeles, and San Bernardino Counties. Jason prepared the traffic and transportation analysis for this joint EIR/EIS and managed the physical sciences team in analyzing potential impacts to air quality; noise; geology, soils, and paleontology; environmental contamination; hydrology; and fire prevention and suppression; and traffic and transportation. As IAC, Jason was responsible for information coordination between project management staff and the physical sciences analysts, as well as content review of all physical sciences sections of the EIR/EIS.

California Public Utilities Commission, El Casco System Project EIR, Riverside County, CA. ***Technical Analyst.*** Jason completed the Geology and Soils, Hazards and Hazardous Materials, Hydrology, and Terrorism analyses for the EIR prepared for the California Public Utilities Commission. The Proposed Project would be located in a rapidly growing area of northern Riverside County, which includes the Cities of Beaumont, Banning, and Calimesa.

Ventura County Watershed Protection District, Ventura River Bank Restoration Project IS/MND, Ventura County, CA. ***Project Manager.*** Jason was responsible for all aspects of the project including content editing, client interaction, schedule maintenance, staff coordination, alternatives analysis, and budget tracking for Mitigated Negative Declaration prepared to address impacts associated with restoring the flood protection function of the Ventura River Bank.

California Public Utilities Commission, Antelope Transmission Project, Segments 2 and 3, Kern and Los Angeles County, CA. ***Technical Analyst.*** Jason conducted analysis and prepared the Traffic section of the EIR for the California Public Utilities Commission. This EIR was prepared for a 56.7-mile 500-kV transmission line proposed by Southern California Edison to serve wind power projects in the Antelope Valley in Los Angeles County and the Tehachapi area in Kern County.

Relevant Experience (Continued)

California Public Utilities Commission, Antelope-Pardee 500-kV Transmission Project, Kern and Los Angeles County, CA. ***Technical Analyst.*** Jason conducted analysis and prepared the Traffic section of the joint EIR/EIS for the California Public Utilities Commission and USDA Forest Service. This EIR/EIS was prepared for a 25.6-mile 500-kV transmission line proposed by Southern California Edison to serve wind power projects in the Antelope Valley in Los Angeles and Kern Counties.

California Public Utilities Commission, Sunrise Powerlink Project EIR/EIS, Imperial County, CA. ***Technical Analyst.*** Jason devised the methodology for analysis of cumulative impacts of 21 different alternatives to the proposed Project. This methodology provided comprehensive analysis of potential cumulative impacts while realizing efficiencies to avoid redundancy among so many alternatives. He also prepared programmatic impact analyses for solar thermal power plant and solar photovoltaic projects as part of the non-wires alternative to the proposed Project.

Palmdale Water District, Littlerock Reservoir Sediment Removal EIR/EIS, Palmdale, CA. ***Technical Analyst.*** Jason conducted analysis and prepared the Geology, Hydrology, and Hazards sections for this joint EIR/EIS being prepared for the Palmdale Water District and Angeles National Forest. This document was prepared to document the potential effects of constructing a grade control structure and excavating up to 540,000 cubic yards of sediment from Littlerock Reservoir in order to restore the water storage capabilities for beneficial use and prevent upstream sediment loss.

City of Oxnard, Cabrillo Port Liquefied Natural Gas (LNG) Deepwater Port, Oxnard, CA. ***Technical Reviewer.*** Under contract to the City of Oxnard, Jason was tasked to review the Draft EIS/EIR for this the proposed construction and operation of an offshore floating storage and regasification unit that would be moored in Federal waters offshore of Ventura County. Jason reviewed the document for technical adequacy and assisted the City in preparing written comments for the following sections of the EIS/EIR: Ground Transportation and Marine Traffic.

California Department of Fish and Game (CDFG), Newhall Ranch Specific Plan CEQA Consultation Services, Santa Clarita, CA. ***Technical Reviewer.*** Under contract to the CDFG Jason assisted the CDFG and U.S. Army Corps of Engineers in the preparation of an EIR/EIS for a master Streambed Alteration Agreement, Section 404 Permit, and Section 2081 Take Permit (for the San Fernando Valley Spineflower) for the Newhall Ranch Specific Plan. Jason provided expert technical review services for the following issue areas: Hazards and Hazardous Materials, Visual Resources, Public Utilities, Socioeconomics, and Environmental Justice.

POONAM BOPARAI

Air Quality and Greenhouse Gas Emissions

Poonam is a senior air quality and climate change specialist with particular expertise in air quality and greenhouse gas (GHG) assessments for land use planning, transportation, energy, and infrastructure projects. Her professional experience in the public and private sectors is complemented by a strong educational background specializing in air quality management. Poonam has a Master's degree in Environmental Engineering from University of Illinois at Urbana-Champaign. She is proficient in conducting emissions inventories and dispersion modeling using a variety of U.S. Environmental Protection Agency (EPA) and California Air Resources Board (ARB)-approved models (e.g., CalEEMod, URBEMIS, EMFAC, Off-Road, AERMOD and Cal3QHC). She also possesses a solid understanding of air quality and GHG protocols promulgated by ARB, the California Climate Action Registry (CCAR), and California air districts.

Education

M.S., Environmental Engineering (Focus: Air Quality Engineering and Science), University of Illinois, Urbana-Champaign

Bachelor of Engineering, Chemical Engineering, Birla Institute of Technology and Science, Pilani, India

6 Years Experience

Professional Affiliations

Member of Association of Environmental Professionals

Air and Waste Management Association

American Association for Aerosol Research

Specialized Training

Lakes Environmental AERMOD Air Dispersion Modeling Course

Poonam possesses a unique skill set that balances technical expertise with a keen understanding of planning and environmental policy. She has successfully applied her expertise in assisting agencies such as the California Air Pollution Control Officers Association (CAPCOA), Bay Area Air Quality Management District (BAAQMD), Sacramento Metropolitan Air Quality Management District (SMAQMD), and the County of San Diego with air quality and climate change policy development, development of GHG thresholds of significance, analysis methodologies, and GHG reduction strategies. She has worked on multiple major projects including city and county General Plans; Specific Plans; school expansions; residential, commercial, and industrial development; energy projects; freeway expansions; GHG inventories; and Climate Action Plans.

Relevant Experience

City of West Hollywood, General Plan EIR and Climate Action Plan, West Hollywood, CA. ***Air Quality and Climate Change Specialist.*** The City of West Hollywood's updated General Plan will accommodate redevelopment and infill in six commercial subareas adjacent to planned transit stops. Poonam prepared the air quality and climate change sections of the EIR to assess impacts related with the General Plan update. She also served as the technical specialist in the preparation of a Climate Action Plan (CAP) to estimate GHG emissions for the City's baseline inventory for 2008 and projected GHG emissions for 2020 (AB 32 goal) and 2035 (General Plan buildout). She assisted in identifying how each proposed measure contributes toward meeting GHG reduction targets established by the City. The CAP will be incorporated within the General Plan update.

City of San Marcos, General Plan, Zoning Ordinance, and EIR, San Marcos, CA. ***Air Quality and Climate Change Specialist.*** The City of San Marcos is comprehensively updating the City's General Plan and Zoning Ordinance. Weaving sustainable development strategies throughout the updated General Plan and Zoning Ordinance for both new and existing development are key efforts of this program. The City of San Marcos developed a GHG emissions inventory for both the community-wide and government-related GHG emission sources for the 2005 base year. The inventory was compiled using the ICLEI – Local Governments for

Relevant Experience (Continued)

Sustainability Clean Air Climate Protection (CACP) software and the Local Government Operations Protocol (LGOP), among other sources of information. Poonam conducted a peer review of the City's inventory. The review focused on the aspects of the inventory that could potentially influence the General Plan decision-making process and development of the Climate Action Plan (CAP). She communicated key findings, an analysis of inventory input data and assumptions, and recommendations to refine the inventory to use within the General Plan update to the City.

San Diego Association of Governments, RTP/SCS EIR, San Diego, CA. ***Air Quality and Climate Change Specialist.*** Poonam developed thresholds of significance and analysis methodologies to assess the air quality and GHG impacts from SANDAG's 2050 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), prior to leaving AECOM. The SCS is a new element of the RTP, as required by SB 375; therefore the thresholds for use in the Program EIR were developed to account for this new component. SANDAG's plan is the first of its kind in California. The 2050 RTP is comprised of goals, policies, and objectives, as well as a list of transportation network improvements and other transportation programs that are intended to improve movement of people and goods through the region. The region includes the 18 cities and the County of San Diego.

Centre City Development Corporation, As-Needed Support, San Diego, CA. ***Air Quality and Climate Change Specialist.*** Poonam analyzed the GHG emissions from multiple subsequent projects under the San Diego Downtown Community Plan in Secondary Studies; including the Bayside Fire Station, Columbia and Fir Apartments, Connections Housing, and the Horton Plaza Park Revitalization Project. CCDC adopted the San Diego Downtown Community Plan in 2006. The Final EIR for the Plan did not address the issue of GHG emissions and climate change. Each subsequent development project's impact on climate change has been addressed through the Secondary Study process pursuant to the San Diego Redevelopment Agency's amended "Procedures for Implementation of CEQA and the State CEQA Guidelines." The Secondary Study includes the same evaluation criteria as the Initial Study defined in Section 15063 of the State CEQA Guidelines.

Counties of Kern and Los Angeles, Antelope Valley Solar Power Project, CA. ***Air Quality and Climate Change Specialist.*** Poonam served as a peer reviewer for the Air Quality Impact Analysis Report that assessed the construction and operational impacts to air quality and climate change. The Report was prepared in support of an Environmental Impact Report (EIR) prepared by the County. The Renewable Resources Group (RRG) proposes to construct and operate a 650-MW photovoltaic (PV) solar power-generating facility on site parcels totaling 5,385 acres near the towns of Rosamond and Lancaster in Kern and Los Angeles County, respectively.

County of Kern, Weldon Solar Power Project, CA. ***Air Quality and Climate Change Specialist.*** Poonam served as a peer reviewer for the Air Quality Impact Analysis Report that assessed the construction and operational impacts to air quality and climate change. The Report was prepared in support of an EIR prepared by the County. The Renewable Resources Group (RRG) proposes to construct and operate a 60-MW photovoltaic (PV) solar power generating plant on a 500-acre site near the community of Weldon in Kern County, California.

Relevant Experience (Continued)

California Department of Parks and Recreation, Los Angeles State Historic Park Master Development Plan, Los Angeles, CA. ***Air Quality and Climate Change Specialist.*** Poonam prepared an Air Quality Study for the project that analyzed the air pollutant and GHG emissions due to construction and operation of the project. Key issues included air emissions during special events (up to 25,000 visitors) and toxic air contaminant emissions from firework displays at LASHP. The California Department of Parks and Recreation is preparing the Los Angeles State Historic Park Master (LASHP) Development Plan and initiating the environmental review process under CEQA. The Master Development Plan represents the design footprint of the long-term vision for LASHP.

California Department of Parks and Recreation, Off-Highway, Heber Dunes State Vehicular Recreation Area General Plan and EIR, Imperial County, CA. ***Air Quality and Climate Change Specialist.*** Poonam served as the air quality and GHG specialist for the project and authored the corresponding EIR sections. Key issues included dust emissions from off-highway vehicle activity onsite and their impacts on sensitive receptors. Heber Dunes is a new SVRA, managed by the OHMVR Division of the California Department of Parks and Recreation. It is approximately 380 acres and is located adjacent to the communities of Heber and Calexico, close to the U.S./Mexico border. Heber Dunes is known for its sand dune formations, which are unusual in the area given the surrounding agricultural land uses. Heber Dunes provides recreational opportunities for beginning off-highway vehicle recreation enthusiasts and families. The general plan for Heber Dunes provides long-term management guidance for the park. The plan and EIR also specifically address facility improvements that are anticipated in the near future, including an entry station and employee housing.

City of Encinitas, EIR for the Hall Property Community Park, San Diego County, CA. ***Air Quality and Climate Change Specialist.*** Poonam addressed the air quality and GHG emissions for the project and also assessed the impacts of emissions from I-5 on the recreational users of the park. The Hall Property Community Park is a project proposed by the City of Encinitas on a 43-acre site adjacent to Interstate 5. The project includes the replacement of Mackinnon Bridge, which will provide improved access to the park. The environmental process was highly scrutinized by the community, due to the prominence of the project and adjacency issues that result from nearby single-family residential uses.

Los Angeles County Department of Public Works, Santa Anita Dam Riser Modification and Sediment Removal Project, Los Angeles, CA. ***Air Quality Specialist.*** Poonam prepared the air quality analysis for the proposed project. The analysis evaluated the air quality impacts of the sediment removal and transport process. The analysis also included the SCAQMD-recommended localized significance threshold analysis to address local impacts to residences in proximity to the SPS sites. The EIR was been prepared by the Los Angeles County Department of Public Works (LACDPW) to evaluate potential environmental effects that may result from the proposed Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project. The purpose of the project is to remove the sediment that has accumulated behind the dam since the last clean out, which occurred during

Relevant Experience (Continued)

1992-1993 storm season, and to construct a new riser on the low-level outlet of the dam.

Santa Monica-Malibu Unified School District, Santa Monica High School Science and Technology Building and Site Improvements Project, CA. ***Air Quality and Climate Change Specialist.*** Poonam prepared the air quality and climate change analyses for the project. The analyses evaluated the potential emission from construction and operation of the Proposed Project. Local emissions were assessed in accordance with SCAQMD's Localized Significance Thresholds guidance. Additionally, the section also analyzed the impacts on the Project site since the school represents a sensitive receptor for air quality. Potential criteria pollutant and toxic air contaminant impacts were evaluated by conducting dispersion modeling based on mobile (including I-10) and stationary sources identified in a 0.25-mile radius. GHG emissions from the project were analyzed in accordance with the updated State CEQA Guidelines. The EIR was prepared by the Santa Monica-Malibu Unified School District (SMMUSD) to evaluate potential environmental effects that would result from development of the Santa Monica High School Science and Technology Building and Site Improvements Project. The SMMUSD proposes to reconfigure the northern portion of the existing Santa Monica High School campus. The project consists of the demolition of the existing 88,000-square-foot two-story Science and Technology Buildings, a 253-space parking lot, and softball field and construction of a new 84,000-square-foot, three-story Science and Technology Building, reconfigured parking lot, and a relocated softball field.

Los Angeles County Department of Public Works, Termino Avenue Drain EIR, Long Beach, CA. ***Air Quality Specialist.*** Poonam prepared the air quality analysis for the proposed project, addressing key issues such as impacts to sensitive receptors located along the drain alignment. The proposed project area is located in the southern portion of the San Gabriel River watershed, in an area that has historically had flooding problems. The existing drainage system in this portion of the watershed is not sufficient to convey the maximum runoff that would be generated on average once every 50 years during what is known as a 50-year flood event. The City of Long Beach and County of Los Angeles, through its Department of Public Works (DPW), have been working together since 1993 to alleviate flooding problems within this portion of the San Gabriel River watershed. The proposed project would involve the construction of a storm drain mainline, six lateral drains, low flow treatment pump station, catch basin screens, and an outlet to Marine Stadium in the City. The purpose of the proposed project is to construct a storm drain to alleviate flooding problems in the area and to accommodate water flows in a 50-year flood event.

Los Angeles County Department of Public Works Hansen Spreading Grounds EIR, Los Angeles, CA. ***Air Quality Specialist.*** Poonam was responsible for conducting an air quality analysis to predict the emissions that would occur during excavation of on-site materials, processing spoils hauling, and other project operations that would generate air pollutants. Hansen Spreading Grounds is a project proposed by LACDPW to improve operations at the spreading grounds by consolidating the existing 20 shallow basins into 6 basins of medium depth. LACDPW anticipates removing and hauling approximately 1.25 million cubic yards of material for the modifications.

MADELEINE BRAY, RPA

Cultural Resources

Madeleine is an archaeologist and cultural resources project manager with 10 years of survey, excavation and mapping experience related to historically significant sites. She has managed numerous projects in California in compliance with CEQA and with Section 106 of the National Historic Preservation Act, including Phase I surveys, site significance testing and evaluation, mitigation recommendations, and archaeological construction monitoring. She has worked extensively throughout southern California, with particular experience in the context of the Mojave and California deserts, historic mining sites, and historic artifacts. She is currently involved in several fieldwork efforts in Los Angeles County. Internationally, she has participated in the excavation of a Roman temple in Omrit, Israel, and in the pedestrian and geophysical survey of Sikyon, an important urban site in Greece.

Education

M.A., Archaeology, University of California, Los Angeles

B.A., Classical Archaeology, Macalester College, Saint Paul, Minnesota

10 Years Experience

Professional Affiliations

Register of Professional Archaeologists

Society for American Archaeology

Qualification Summary

Meets Secretary of the Interior's Standards

Riverside County certified

CA State BLM Permitted

Certified in CA BLM Protocol

Continuing Education

ACHP Section 106 Basics seminar

Riverside County certification course, 2007 and 2009

Relevant Experience

City of Los Angeles Recreation and Parks Hansen Dam Skate Park Project, Los Angeles County, CA. ***Archaeologist.*** ESA prepared a joint EA and IS/MND for the Los Angeles Department of Recreation and Parks in coordination with the U.S. Army Corps of Engineers (Corps) for a proposed skate park facility within the Hansen Dam Recreation Area. Madeleine conducted archival research, facilitated Native American outreach, performed an archaeological survey of the project site, coordinated with the Corps, and co-authored the technical report and EA/IS/MND cultural resources section.

California Public Utilities Commission, Presidential Substation Project, Ventura County, CA. ***Cultural Resources Project Manager.*** ESA prepared an EIR under contract to the CPUC to evaluate the potential impacts from Southern California Edison's proposed Presidential Substation project. This project included the construction of a substation and associated subtransmission lines. The project was controversial and faced significant community opposition due to aesthetic and other issues. Madeleine reviewed cultural resources technical documents and assisted in drafting the cultural resources EIR section. Madeleine also coordinated with SCE regarding mitigation for a significant archaeological site within the project area.

Red Mountain Ridge Wind Project, Kern County, CA ***Cultural Resources Project Manager.*** Madeleine conducted an archaeological constraints study of the project site, including research concerning previous archaeological work in proximity to the project site, nearby archaeological sites, and Native American sacred lands. ESA conducted a 30-45 day fatal flaw analysis for biological, cultural, and paleontological resources on the proposed 7.5 square-mile Red Mountain Ridge Project, which included approximately 8 miles of transmission line.

Bureau of Land Management, Field Verification Studies, Blythe, CA. ***Archaeologist.*** ESA is providing support services to the BLM for the processing of applications for solar development on BLM lands. Madeleine led several projects that provided field verification, on behalf of the Bureau of Land Management, of Class III archaeological surveys.

Relevant Experience (Continued)

Los Angeles Unified School District, Central Los Angeles High School #9, *Los Angeles, CA. Report Contributor.* This project involved the construction of LAUSD Central High School #9, a new performing arts high school, in downtown Los Angeles. Over a 2-year period, data recovery of archaeological materials in connection with the 19th century Los Angeles City Cemetery in downtown Los Angeles was conducted. Madeleine assisted in drafting portions of the final report for the archaeological excavation.

California Public Utilities Commission, San Joaquin Cross Valley Loop Project, Tulare County, CA. *Technical Analyst.* Madeleine reviewed cultural resources technical documents and assisted in drafting the cultural resources EIR section for the CPUC San Joaquin Cross Valley Loop Project. ESA was selected by the CPUC to prepare an EIR for SCE's proposed San Joaquin Cross Valley Loop Project in Tulare County. The proposed project would involve construction of approximately 20-miles of 220 kV transmission line in mostly new right-of-way through agricultural and rural residential areas. SCE's proposed route was very unpopular with many local residents, as a result, ESA implemented a rigorous public outreach program to engage the stakeholders in meaningful dialogue. Key technical issues which ESA addressed in the CEQA process included biological and cultural resources, aesthetics, air quality and greenhouse gases, land use and agriculture.

Department of Water Resources, East Branch Extension Project, San Bernardino County, CA. *Archaeologist.* Madeleine assisted in the technical editorial review of the Cultural Resources section for the East Branch Extension (EBXII) EIR. She reviewed archaeological technical reports; helped revise the cultural EIR section; researched and assisted in the preparation of a historic evaluation of Grand Central Rocket Company facilities, and completed extended Phase I cultural resources surveys. She also assisted in the preparation of a cultural resources evaluation report. ESA prepared an EIR assessing potential impacts of the East Branch Extension Phase II Project, which will install 6 miles of pipeline across the Santa Ana River near Redlands. The new pipeline will increase water delivery capacity to the San Gorgonio Pass Water Agency serving the cities of Banning and Beaumont. The project includes construction of the Citrus Reservoir, a 26-acre lined storage reservoir that will require excavation and hauling off site of 1.8 million cubic yards of material over a three year construction period. ESA has managed biological surveys of the project corridor and is assisting in agency consultation required for natural resource permitting with the USFWS, CDFG, RWQCB, and the USACE.

City of Ventura, Water and Sewer Main Replacement Project, Ventura County, CA. *Cultural Resources Project Manager and Archaeological Monitor*. ESA provided on-call cultural resources monitoring services to the City of Ventura. The Water and Sewer Main Replacement Project involved the replacement of deteriorated water and sewer mains along city streets. Madeleine served as project manager and archaeological monitor for the project. Tasks included ensuring compliance with project mitigation measures and relevant regulations, documentation of the project including a daily monitoring log and photographs, and analysis of cultural materials found during the course of construction.

Relevant Experience (Continued)

Caruso-Burton Way Mixed-Use MND, Los Angeles, CA. ***Cultural Resources Project Manager***. ESA prepared a MND for a mixed use project in west Los Angeles for a confidential client. Madeleine conducted archaeological studies of the project site and prepared a cultural resources technical report. In addition, she conducted research concerning previous archaeological work in proximity to the project site, nearby Native American sacred lands, and paleontological sensitivity. She prepared the cultural resources section of the environmental document.

Gunner Ranch West Program EIR, Madera, CA. ***Technical Analyst***. ESA is preparing a Program EIR for the Gunner Ranch West project, a mixed-use development consisting of a regional shopping mall and power center, as well as residential, office and public facilities. Madeleine conducted archaeological studies of the project site, including research concerning previous archaeological work in proximity to the project site, nearby archaeological sites, and Native American sacred lands and prepared the cultural resources section of the EIR. Environmental documentation was previously prepared for the Gunner Ranch West Area Plan, which was certified by the Madera County Board of Supervisors in 1994. The only facility constructed on the site is the Children's Hospital of Central California. Subsequent to this approval, the proposed land uses in the Area Plan have been further refined with the preparation of a Infrastructure Master Plan and Development Agreement.

County of Los Angeles, Sorensen County Park Phase III Constraints Analysis Cultural Monitoring, Los Angeles County, CA. ***Archaeological monitor.*** The County of Los Angeles Department of Recreation and Parks plans to further expand the Stephen Sorensen County Park in the unincorporated Lake Los Angeles area of northern Los Angeles County. ESA performed a constraints analysis to evaluate future development of the 100-acre site. ESA also prepared an EIR/EA for the project. Finally, ESA provided archaeological and biological monitoring of project construction. Madeleine provided technical review of numerous cultural resources technical documents, and provided archaeological monitoring of project construction.

City of Los Angeles, Costello Pool and Bathhouse Replacement Project, Los Angeles, CA. ***Technical Analyst*** ESA prepared an EIR for the City of Los Angeles Department of Recreation and Parks Lou Costello Recreational Center. The City proposed to replace the existing pool and bathhouse at the Costello Recreation Center, located on East Olympic Boulevard in East Los Angeles. The pool and bathhouse facilities are considered historically significant, and ESA has work closely with the City to develop alternatives that would preserve such resources. Madeleine conducted review of technical documents and prepared the cultural resources section of the Initial Study.

City of Riverside, Water Quality Control Plant Expansion Plan EIR, Riverside, CA. ***Technical Analyst.*** Madeleine conducted archaeological studies of the project site and prepared the cultural resources section of the EIR. The City of Riverside's Regional Water Quality Control Plant (RWQCP) has prepared a facilities plan that would increase the capacity of the plant by approximately 10 mgd. The upgrade would include three main components: the Plant 1 Primary Expansion, the Plant 1 Membrane Bioreactor Facilities, and the

Relevant Experience (Continued)

Acid Phase Digester. Key issues in the CEQA analysis include consistency with the recently updated City General Plan, construction impacts, local land uses including the municipal airport, growth inducement, and discharge water quality.

West Covina Corporate Center/BKK Landfill EIR, West Covina, CA. ***Technical Analyst.*** Madeleine assisted with the research and preparation of the cultural resources section of the EIR. The City of West Covina and BKK has asked ESA to prepare a Supplemental EIR that would consider the effects of changing a portion of the anticipated land uses at a BKK development site (and former landfill) from a home improvement superstore to a corporate office complex.

BKK Landfill Gas Station, West Covina, CA. ***Technical Analyst.*** ESA prepared a MND for the BKK Gas Station Project. The project involved the development of a gas station and food mart at the edge of the former BKK landfill. Madeleine conducted archival research, facilitated Native American outreach, performed an archaeological survey of the project site, and wrote the technical report and MND cultural resources section.

Kern County Planning Master Contract for Solar Projects, Kern County, CA. ***Project Lead Archaeologist.*** On behalf of the County, Madeleine is providing reviews of cultural resources technical reports prepared for photovoltaic solar projects in the desert region of Kern County. The approved revised technical reports are used as the basis for preparation of the associated EIR technical sections.

- **RE Distributed Solar, Unincorporated Kern County, CA.** ***Lead Archaeologist.*** Madeleine reviewed technical reports to ensure consistency with CEQA and cultural regulatory requirements for a 214 MW-AC solar PV facility on approximately 1,709-acres of land on nine different sites in unincorporated Kern County.
- **Rosamond Solar Project, Rosamond, CA.** ***Lead Archaeologist.*** Madeleine reviewed technical reports to ensure consistency with CEQA and cultural regulatory requirements for this photovoltaic panel solar project that would produce approximately 120 megawatts (MW) of electricity.
- **Ridge Rider Solar Park, Mojave Desert, CA.** ***Lead Archaeologist.*** Madeleine reviewed technical reports to ensure consistency with CEQA and cultural regulatory requirements for this photo voltaic panel solar project that would be approximately 3.5 miles north of California City. The project would average an estimated annual energy production of 74,200 MW hours of electricity.

MICHAEL G. BURNS, CHG, CEG, PG, REA

Geology and Soils, Hazards and Hazardous Materials

Michael is a highly skilled and effective project manager with over 30 years of experience in the environmental and geological sciences. He provides expert services in planning and permitting, site characterization, Superfund sites, Remedial Investigation/Feasibility Studies (RI/FS), waste management, litigation support, property assessments, development and redevelopment, soil and groundwater remediation, groundwater banking, and water rights. His projects include municipal and regional water supply, industrial and manufacturing facilities, airports, levees, landfills, refineries, research and development facilities, hazardous waste management, vineyards, and commercial properties.

Education

B.S., Geology, San Jose State University

More Than 30 Years Experience

Certifications /Registrations

Certified Hydrogeologist (CHG), No.280, CA, 1995

Certified Engineering Geologist (CEG), No.1846, CA, 1993

Professional Geologist (PG), No.4532, CA, 1989

Registered Environmental Assessor I (REA I), No.570, CA, 1988

Specialized Training / Continuing Education

Managed Aquifer Recharge Symposium, NWRI, 2011

Groundwater-Surface Water Interaction: California's Legal and Scientific Disconnect, GRA, 2011

CEQA Update Conference, CLE International, 2010

Development & Preservation of Water Rights, Sheppard Mullins et al, 2009

40-Hour OSHA Hazardous Materials & Waste Operations, Current

30-Hour OSHA Constriction Safety, 2010

Relevant Experience

Closure of Winton Avenue Landfill, Hayward, California. *Project Manager.* Michael served as the project manager for landfill closure activities that included conducting the State-mandated Solid Waste Assessment Test (SWAT) program. He investigated the extent of landfill leachate in groundwater, negotiated with the regulatory agencies, developed the site's Soil Acceptance Plan to establish criteria for the acceptance of soil from County roadwork projects and of dredge sediment from County flood control activities. The acceptance criteria included chemical restrictions to exclude hazardous waste and grain-size restrictions since accepted the material was used as the landfill capping material. Michael developed the Grading Plan to direct landfill staff as to where accepted soil was to be placed and to document individual load placements. The Grading Plan was integrated with requirements of the Storm Water Pollution Prevention Plan and the needs of the County to continue using the landfill as a staging area.

Burlingame Landfill, Burlingame, California. *Project Manager.* Michael served as the project manager for a landfill investigation under the State-mandated Solid Waste Assessment Test (SWAT) program and revised Article 5 regulations. Michael' tasks included revision and implementation of SWAT work plan incorporating the new, revised Article 5 regulations; installation and sampling of groundwater monitoring and leachate wells; development of SWAT conclusions; financial assurance requirements; water quality monitoring program; regulatory agency negotiation; and the preparation of the SWAT/revised Article 5 report.

Cummings Road Landfill, Eureka, California. *Project Manager.* Michael served as the project manager for landfill investigation under State-mandated SWAT program. Michael' tasks included the preparation of work plans, installation and sampling of groundwater monitoring and leachate extraction wells, geological mapping of landfill, and research for and preparation of SWAT report. The installation of the leachate extraction wells required drilling through municipal solid waste.

Lewis Road Landfill, Watsonville, California. *Project Manager.* Michael served as the project manager for landfill investigation under the State-mandated

Professional Affiliations

National Groundwater Association - Association of Groundwater Scientists and Engineers

Association of Engineering Geologists

Association of California Airports

SWAT program. Michael' tasks included preparation of work plan, installation and sampling of groundwater monitoring and leachate extraction wells, geological mapping of landfill, and research for and preparation of SWAT report.

Galbraith Landfill, Oakland, California. ***Project Manager.*** Michael served as the project manager for the Report of Waste Discharge (ROWD) for the placement of dredged Oakland Harbor sediments over former Galbraith Landfill. His tasks included the evaluation of dredged sediment and landfill physical and chemical parameters, and the site hydrogeology; development of the post-placement monitoring program; and preparation and submittal of ROWD.

Redwood Landfill, Novato, California. ***Project Manager.*** Michael served as the project manager for the landfill water quality monitoring program under the revised federal Subtitle D and revised State Article 5 regulations. His tasks included overseeing the quarterly water quality monitoring program, evaluation of data, preparation of quarterly reports, and preparation and submittal of proposed intra-well sampling and analysis plan in accordance with recently revised regulations and statistical analysis requirements.

Premier Pacific Vineyards, Preservation Ranch, Sonoma County, CA, ***Program Manager, Geologist, Hydrologist, and Hazardous Materials Analyst.*** Michael served as the program manager for a multi-million dollar, full service, environmental planning and permitting program for a 20,000-acre precedent-setting project involving the creation of a property-wide integrated land use plan that reduces resource fragmentation, implements sustainable viticulture practices, and restores degraded timberland using sustainable timber management practices. From a land-management perspective, this project set an example for future vineyard projects, incorporating "edge effect" and wildlife-enhancing designs that coordinate design and viticulture elements to reduce/mitigate erosion impacts to the surrounding watershed. This project will restore thousands of acres of contiguous forest which was heavily impacted from historic logging practices. Michael oversaw baseline surveys for wildlife, botanical, and fishery studies, including threatened and endangered species (California Spotted Owl, Coho and Steelhead Salmon); geotechnical studies including slope stability, erosion, landslide, water availability, roadway assessments, aggregate borrow sites and reservoir construction; watershed studies including sediment budgets, hillslope monitoring, and vineyard monitoring; GIS (data management and analysis, predictive management tool, and multi-dimensional graphic displays); permit scheduling and minimization strategies, tracking and processing; wetland delineations, habitat characterization and mapping; and pre-construction permit requirements.

Cadiz Groundwater Conservation, Recovery, and Storage Project EIR, Cadiz, CA. ***Analyst for Geology, Hydrology, Mineral Resources, and Hazardous Materials.*** Michael evaluated geologic, hydrologic, hazardous materials, and mineral resources impacts for the EIR for the proposed Cadiz Groundwater Conservation, Recovery, and Storage Project. The Project is a

Relevant Experience (Continued)

groundwater recovery, water conservation, and conjunctive use storage project that would actively manage the groundwater basin within the Fenner and Orange

Blossom Watersheds in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District and other participating water agencies. The Conservation and Recovery component would recover up to 50,000 acre-feet per year water that would otherwise be lost to evaporation in two dry lakes. The Storage and Recovery component would actively manage the groundwater basin as a conjunctive use project. Up to 1 million acre feet of water originating from the Colorado River, directly or by exchange, would be conveyed to the watershed from the CRA through the pipeline constructed under the Conservation and Recovery Component of the project. This water would be recharged into the aquifer system via spreading basins and recovered when needed.

Landrum & Brown and Marin County, Gnoss Field EIS/EIR, Novato, CA. . ***Project Manager, Geologist, Hydrologist, Mineral Resources, and Hazardous Materials Analyst.*** Michael is providing planning services to assist Marin County and the Federal Aviation Administration (FAA) with a National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) analysis for the proposed 1,100-foot extension of Runway 13/31 of the Gnoss Field Airport into a disturbed wetland and former agricultural area. A combined Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) is under preparation to comply with NEPA and CEQA, respectively, and describes and analyzes the affected environment and potential impacts of the proposed project within the affected area. Successful extension of Runway 13/31 will enable Gnoss Field Airport to handle modern aircraft and improve the safety of the airport.

The Companies Superfund "Triple Site," Sunnyvale, CA. ***Project Manager.*** Michael managed the investigation, monitoring, and remediation of a chlorinated solvent groundwater contamination project for the offsite operable unit of the Companies Superfund site located within an RWQCB-led regional groundwater investigation and remediation program. He developed and implemented work plans and investigations, regulatory agency negotiation, preparation of post-RI investigation reports including 5-Year Status Report and Effectiveness Evaluation, and quarterly water quality monitoring programs. He also provided litigation support for defense against a class-action lawsuit charging residential property value depreciation.

Veritas Software Corporation Purchase of Raytheon/Fairchild Superfund Site, Mountain View, California. ***Environmental Project Manager.*** Michael served as the environmental project manager for a redevelopment project involving the purchase, redevelopment, and occupation of a Superfund site undergoing active remediation consisting of a soil vapor extraction and treatment system, a groundwater extraction and treatment system, and a perimeter slurry wall that could not be adversely affected by redevelopment of the site. Michael served on the client project team for developing the approach

to purchasing and redeveloping the site in concert with Ernst & Young, along with integrating the closure of the Fairchild Semiconductor manufacturing facility with site redevelopment. He prepared an Environmental Site Assessment to evaluate environmental conditions of site and identify environmental conditions that would affect future redevelopment; evaluated ongoing treatment systems and residual contamination to ensure completion or continuation of previous owners environmental obligations, protection of buyers investment, and the health and safety of construction workers and future building occupants; worked with the existing semiconductor manufacturing facility to ensure closure was consistent with new owner's environmental and geotechnical requirements, worked with the architect to develop the site to maximize the benefit to new owner while not interfering with ongoing site remediation (the criteria included locating buildings to maximize transit zone credits with City); provided input to City agencies to produce the Initial Study for rezoning and redevelopment; evaluated ecological conditions onsite related to sensitive species (specifically burrowing owls); and performed all environmental and geotechnical investigations in support of demolition of existing structures and construction of new facility. During and after construction, he oversaw the geotechnical and environmental oversight of construction activities, responded to geotechnical and environmental issues, and reviewed and monitored the regional U.S.EPA-led Indoor Air Quality Study that included this Site.

Morgan Hill Perchlorate Investigation, California. ***Task Manager.*** Michael served as the Task Manager for directing the on- and offsite groundwater monitoring and site evaluation program for a former flare manufacturing facility where perchlorate had been released to soil and groundwater affecting an area including several thousand domestic, agricultural, and municipal water supply wells in an area ten miles long by two miles wide by 400 feet deep. He characterized the nature and extent of the plume (including the preparation and regular update of the site conceptual model for the affected area, participating in the development and implementation of the strategic approach for the investigation and remediation activities as a member of the management and legal team, acquisition, negotiations with regulatory agencies, and the preparation of reports); managed the on- and offsite quarterly monitoring program (including the quarterly sampling of 46 onsite wells and over 400 offsite wells; the identification of additional wells affected by perchlorate and their integration into the monitoring program; the evaluation of the monitoring program for lateral and vertical coverage; and responding to requests for sampling from the public); negotiations with the regulatory agencies; providing public presentations; and developing recommendations for future monitoring activities and offsite remediation (including evaluation of potential treatment approaches and data, installation of well head treatment systems, interface with private well owners, and the preparation of reports).

ROBERT S. ECKARD

Hydrology and Water Quality

Robert brings about a decade of experience as a hydrologic resources/water quality specialist, in support of CEQA and project permitting, and also provides hazards identification support. Robert has served as a hydrologic resources/water quality specialist on numerous local and regional water, energy, and tribal projects throughout northern and southern California. He has provided technical and CEQA/NEPA analysis for wastewater treatment facilities, wastewater discharges including NPDES permitting, groundwater banking, and water supply/storage infrastructure throughout the state, and is currently working closely with the Regional Board on a number of water quality permitting projects. He is also familiar with water supply and water quality issues associated with both photovoltaic and solar thermal installations, as well as various other types of renewable and conventional energy sources.

Education

Currently Completing Ph.D. in Water Quality, University of California, Davis; Working on determining sources and potential mitigation measures for disinfection by-product forming compounds within untreated surface water from the Sacramento-San Joaquin River System

B.A., Biology, University of California, Santa Barbara

10 Years Experience

Relevant Experience

Plasco Plasma Arc Gasification Facility, Salinas Valley Solid Waste Authority, CA. ***Water Resources Specialist.*** The Salinas Valley Solid Waste Authority is considering installation of a new plasma arc gasification facility, intended to reduce the total amount of municipal solid waste (MSW) that would be landfilled each year. Following removal of recoverable recyclables, the facility would use a plasma gasification process to convert MSW into usable electricity, that would be sold onto the power grid. Key issues associated with this controversial project include air emissions and wastewater treatment and disposal. Robert is providing analysis of water resources, including water quality, floodplain, and water supply, in support of an EIR for the project.

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) - Dairy Manure Digester and Manure Co-digester Program EIR. ***Hydrology and Water Quality Specialist.*** The Central Valley Water Board wanted to explore dairy manure digesters and co-digestion in a Program EIR that would also be the environmental documentation for a Central Valley Water Board General Order for Dairy digesters. Digesters control the generation of methane and allow methane to be captured and burned as a low-carbon fuel resource, rather released as a potent greenhouse gas, as occurs as a result of uncontrolled methane generation.

The project was undertaken in support of greenhouse gas emissions reduction strategies (as required by AB 32), and to generate renewable fuels (biogas and biomethane) to help California utilities meet California's renewable portfolio standard (RPS). The EIR considered manure digestion and co-digestion facilities on individual dairies, groups of dairies linked by gas collection systems, and at centralized locations within the Central Valley Region of California. The project was completed under a very aggressive timeline, due to the key role that the EIR has in facilitating site-specific project environmental review and permitting. Robert identified critical water resources and water quality issues relevant to dairy digester installation and operation within the Central Valley Region. He worked with Regional Board staff and a select panel of experts to evaluate potential solutions to challenging nutrient and salt loading issues. Robert also

Relevant Experience (Continued)

provided senior level/expert review on the hydrologic resources section of the EIR.

Yuba Sutter Disposal Inc. MND. ***Water Quality Specialist.*** ESA is preparing an IS/MND and compostable material handling permit for modifications to the Yuba-Sutter Disposal Transfer facility and Feather River Organics (FRO) Composite Facility operations. Robert assisted the client in analyzing the impacts of the operational modifications to water quality and water consumption. He authored the water quality and consumption sections of the IS/MND.

Marysville Regional Wastewater Treatment. ***Project Manager and Water Quality Specialist.*** ESA is assisting the City of Marysville with the preparation of an Initial Study/Mitigated Negative Declaration in support of a series of wastewater treatment plant upgrades. Upgrades were mandated by the Regional Water Quality Control Board under a revised discharge permit, and include installation of a new untreated sewage conveyance pipeline, connection to a new regional wastewater treatment facility, decommissioning of existing wastewater infiltration ponds, which are currently located within the floodplain of the Feather River, and various facility upgrades. Robert served as project manager and water quality specialist for the development of environmental documentation for this project.

Recycled Water Master Plan and Ordinance Program EIR, Fresno, CA. ***Water Resources Specialist.*** Robert evaluated hydrologic resources, water quality, water/wastewater impacts in support of the EIR. ESA is preparing the EIR for the City of Fresno's proposed Recycled Water Master Plan (Master Plan). The Master Plan identifies potential recycled water use opportunities within the City and its Sphere of Influence (SOI), including Fresno County lands located in or adjacent to the SOI. The Master Plan includes a plan for the installation and operation of treatment, storage and distribution infrastructure to serve the proposed project area with recycled water that would be implemented in a phased manner based on technical, funding, partnering, and other factors. The Master Plan would inform the City's decision process in selecting recycled water projects that include the expansion of the City's recycled water system to reduce the use of percolation ponds that currently handle effluent discharge, to offset potable water use, and to enhance the sustainability of the water supply. Key environmental issues to be evaluated.

Bureau of Land Management, Solar Millennium – Palen Solar Power Project. ***Water Resources and Climate Specialist.*** Robert evaluated complex water supply, water quality, and climate change related issues along groundwater basins tributary to the Colorado River for the Palen Solar Power Project, including response to comments on hydrologic resources and climate change. This project would be a concentrated solar thermal electric generating facility with two adjacent, independent, and identical solar plants of 250 megawatt (MW) nominal capacity each for a total capacity of 500 MW. Key issues include biological resources, cultural resources, hydrology (i.e., ground and surface), and aesthetics.

Bureau of Land Management, Solar Millennium – Blythe Solar Power Project. ***Water Resources and Climate Specialist.*** Robert evaluated impacts

Relevant Experience (Continued)

and responded to public comments on complex water supply, water quality, and climate change related issues for this controversial project, located in an area that is tributary to the Colorado River. When approved in 2010, the project was the world's largest concentrated solar power plant: one with the nominal capacity to generate a gigawatt of power (10,000 MW) using solar parabolic trough technology. Key issues include biological resources, cultural resources, aesthetics and hydrology (ground and surface).

Vasco Wind Energy Project, Contra Costa County, CA. ***Water Resources Specialist.*** Robert provided potential impacts to hydrology, water supply, and water quality in support of an EIR for the Vasco Wind Energy Project. This "repowering" project would decommission approximately 435 existing and aging turbines and replace them with up to 54 larger wind turbines. The project would maintain its existing capacity of 80 MW of electricity. Anticipated environmental issues include aesthetic, hydrology, and biological (i.e., avian mortality) and cultural resources.

Stockton Delta Water Supply Design/Build Services Project, ***Project Manager.*** Robert serves as Project Manager for the Design and Build Services project, and is in the process of overseeing ESA biological resources and cultural resources staff in support of an addendum to the original EIR. Additional work overseen by Robert includes \ wetland delineations, cultural resources surveys, biological resources assessments, as well as mitigation and monitoring documentation and compliance assistance to Stockton's contractors and engineers. ESA is continuing to provide support the City of Stockton in the development, feasibility assessment, CEQA compliance, and permitting for the Delta Water Supply Project, which involves construction of a new delta water intake, transmission pipelines from the Delta inland to a new treatment plant, and new distribution pipelines to connect to the city's water system. ESA prepared an EIR in support of this project, and is currently providing ongoing environmental compliance and permitting support to Stockton.

Woodbridge Irrigation District-Stockton Water Transfer, ***Project Manager.*** Robert served as project manager for this project, overseeing the preparation of all technical reports and environmental documentation, including an initial study, an MND or EIR, and biological resources and cultural resources surveys and reports. He also managed the work of Robertson-Bryan, Inc, which provided an analysis of water supply, water quality, and potential effects on fisheries, associated with the proposed project. ESA recently completed preparation of a detailed initial study/mitigated negative declaration for the Woodbridge Irrigation District, located near Lodi, CA, in support of a water transfer and conveyance agreement between the district and the City of Stockton. This public infrastructure project involves construction activities along a canal for water conveyance, as well as integration with a treatment plant and withdrawal from the Mokelumne River. Water would be used in support of Stockton's Delta Water Supply Project, and would provide supplemental water to the City's proposed diversion.

Sacramento Cogeneration Authority Campbell's NPDES Sampling, Sacramento, CA. ***Project Manager and Water Quality Specialist.*** Wood Group

Relevant Experience (Continued)

has retained ESA to provide water quality sampling support to their Sacramento area cogeneration plant. The plant, which sells power to the Sacramento Municipal Utilities District (SMUD), discharges cooling water from its cogeneration operations into the municipal sewer system owned and operated by the Sacramento County Regional Sanitation District. Robert serves as project manager, and coordinates with SMUD and facility management in order to provide monitoring services and monitoring documentation and support in to meet waste discharge requirements imposed by the Regional Board. Robert continues to renew ESA's annual contract with the plant operators, and has also provided advice and support to SMUD staff in regards to NPDES requirements.

Davis-Woodland Water Supply Project EIR, Water Rights Acquisition Support and Permitting, Cities of Davis and Woodland, CA. ***Water Resources Technical Specialist.*** ESA recently completed an EIR for a project that would supply surface water to the Cities of Davis and Woodland, and the University of California at Davis. The document addressed alternative surface water supply facilities capable of replacing existing groundwater wells to meet existing and future water demands. Robert provided technical investigation and review in support of the project, including a detailed assessment of the changes in hydrology, water quality, and public health that would result from project implementation. Robert also assessed potential changes in wastewater effluent quality that would result from implementation of the project, including reductions in salt loading due to the effects of switching from groundwater to surface water supply. Additionally, he was integral to the preparation of the EIR, and coordinated very closely with staff and the client in order to ensure that deliverables were prepared to the highest standard of quality.

CCWD/U. S. Bureau of Reclamation Los Vaqueros Reservoir Expansion Project EIS/EIR, Contra Costa County, CA. ***Water Quality / Hydrology.*** ESA is part of a team that provides comprehensive environmental planning and compliance services, including project definition, alternatives development and screening, environmental studies, CEQA, NEPA, and Endangered Species Act compliance, public outreach, and permitting for a significant expansion of water storage and conveyance facilities. Centered in the Delta, the project would result in substantial withdrawals of Delta water, and potential associated changes to Delta water quality and hydrology. Robert served as lead hydrological resources, water quality, and climate change analyst in support of the proposed expansion, including review of technical reports and composition of CEQA- and NEPA- compliant hydrology, water quality resources, and climate change analyses for the project.

ESA Renewable Resources

BRIAN GRATTIDGE

CEQA Alternatives / Other CEQA Considerations / Mitigation Monitoring or Reporting

Brian is a senior planner with over 15 years of experience in California Environmental Quality Act (CEQA) compliance. In addition to his CEQA expertise, he has experience with general plans, specific plans, and processing individual development projects. While a member of the Governor's Office of Planning and Research, he prepared the 2003 update of the *General Plan Guidelines*, worked on the 2003 CEQA Guideline Amendments, and coordinated state review of environmental documents. Prior to his appointment to the Office of Planning and Research, Brian was a planner for the City of Woodland. His recent project management experience at ESA includes the preparation of several EIRs, including the StanCOG Half-Cent Sales Tax Programmatic EIR, the Weston Ranch Towne Center EIR, the Baldwin Hallwood Mine Expansion Project EIR; and the Orciuoli Residential Development EIR. Other recent and ongoing projects include the preparation of the City of Stockton Farmland Conversion Fee nexus study; contract planning services to the City of Woodland; land use alternatives analysis for the Crows Landing Air Facility, CEQA/NEPA support to the Port of Stockton; and CEQA support to CSU Chico.

Education

M.A., Political Science, University of California, Davis

B.A., International Relations, University of California, Davis

15 Years Experience

Specialized Training

ICMA Land Use Planning Program, November 1997

Land Use and Natural Resource Program, University of California, Davis Extension 2000

Professional Affiliations

American Planning Association

Relevant Experience

Jackson Valley Quarry Expansion and Reclamation EIR and Mitigation Monitoring Program, Amador County, CA. *Project Manager*. ESA is preparing an EIR and Mitigation Monitoring Program for the County of Amador. The applicant has requested approval of a Use Permit and Reclamation Plan to allow for the expansion of the Jackson Valley Quarry on the 86 acres to the east of the existing operations and increase rock production from 500,000 tons per year to 2 million tons per year over a 25 year period. Key environmental issues include air quality, noise, vibration (from blasting) and traffic impacts. Other potentially significant issues include impacts to biological resources, cultural resources, hydrology/water quality, visual quality, and land use compatibility (with surrounding agricultural and rural residential uses). The Draft EIR is scheduled for release in the summer of 2009.

Munn & Perkins Quarry Excavation Permit Amendment EIR, San Joaquin County, CA. *Project Manager*. ESA is preparing EIR revisions to a previously approved Quarry Excavation Permit for the Munn & Perkins Quarry in San Joaquin County approximately two miles southeast of the City of Escalon. The project proposes revising the quarry's existing permit in order to extend the hours of operation at the existing facility from 9:00 p.m. to 5:00 a.m. for projects that contain specifications that limit work to nighttime hours not to exceed 125 nights per year, provided there are no unexpected delays in construction work. Nighttime work will be limited to the asphalt batch plant, loaders, trucks including a water truck, and scale house. Permit revisions will not remove any of the existing approved conditions including the Reclamation Plan. Based on early consultation, the initial study first prepared for the project, the NOP, and comments received on both the NOP and the rejected IS/MND, it has been determined that the EIR will focus on lighting (visual impacts), traffic, odor (air quality), and noise.

Relevant Experience (Continued)

Kunzler Terrace Mine Use Permit, Ukiah Valley, CA. *Project Manager.* Brian managed the preparation of an EIR for a proposed terrace mining operation in Mendocino County's Ukiah Valley. The applicant filed for a use permit and reclamation plan for an aggregate mining operation at the confluence of the Russian River and Ackerman Creek. The proposed project extracts an estimated, 2.25 million cubic yards (cy) of material over a period of approximately 25 years, with an annual maximum of 250,000 tons. The pit is to be developed through three phases totaling approximately 30 acres with a maximum depth of 66 feet. Processing would occur on site using portable aggregate plant for the crushing, washing, and screening of raw aggregate materials. Key environmental issues include pit capture and fish entrapment, traffic, diesel particulate matter emissions, and greenhouse gas emissions.

Stanislaus Council of Governments StanCOG 2011 Regional Transportation Plan, Stanislaus County, CA. *Project Manager*. Working with StanCOG, ESA managed a multidisciplinary consulting team to complete the 2011 Regional Transportation Plan (RTP) and EIR within an accelerated schedule. The 2011 Regional Transportation Plan is unique in that it utilized the two foundational concepts of fiscal constraint and system planning as part of its development. Consequently, the stakeholder involvement process for the RTP was very extensive with ESA team members providing public facilitation and Spanish translation services throughout the process. ESA also took the lead in preparing the program-level EIR and worked with the larger consultant team to develop a Sustainable Communities Strategy.

Calaveras River/Sutter Street Bicycle and Pedestrian Bridge Project, Stockton, CA. *Project Manager.* As project manager, Brian is providing environmental services for the City of Stockton's Calaveras River/Sutter Street Bicycle and Pedestrian Gap Closure Project, which includes 3 elements: (1) the design and construction of a bicycle/pedestrian bridge over the Calaveras River at Sutter Street; (2) the conversion of approximately 6,700 lineal-feet of Sutter Street into a Class II bike lane; and (3) the conversion of approximately 1,200 lineal-feet of Alpine Avenue into a Class III bike route.

Design Engineering and Environmental Services for the Lower Sacramento Road Project, San Joaquin County, CA. *Project Manager*. As a subconsultant, Brian is managing the full range of environmental compliance services, including the preparation of technical studies, CEQA compliance, regulatory permitting, and preconstruction surveys for the Lower Sacramento Road Improvements Project.

2010 Caltrans Airport Land Use Handbook Update Services. *Deputy Project Manager.* The ESA Airports Team is preparing the update of the 2002 California Airport Land Use Planning Handbook for Caltrans' Division of Aeronautics. ESA Airports is managing a large multi-disciplined consultant team, developing and facilitating the efforts of a Technical Assistance Committee (TAC), overseeing technical development of the updated text, providing Caltrans staff with training, and publishing the revised Handbook. The updated Airport Land Use Planning Handbook is anticipated to be completed in 2010.

Relevant Experience (Continued)

Weston Ranch Towne Center, Stockton, CA. ***Project Manager.*** ESA prepared an EIR for the City of Stockton to analyze a proposed regional shopping center in the French Camp area of Stockton. In addition to extensive traffic, noise, and air quality analysis, the EIR includes an urban decay analysis which looks at the indirect environmental effects of "big box" retail sales in the Stockton area. The Final EIR also took into account several additional factors, including a new city general plan, a new "big box" zoning ordinance, and changes in climate change analysis.

City of Clearlake Wal-Mart Expansion Project. ***Project Manager.*** Brian will work with the city to prepare the EIR for Wal-Mart's proposed expansion of its existing store in Clearlake. The proposed expansion will include the addition of approximately 40,000 square feet of building area for a variety of uses including food and general merchandise sales, a medical/vision clinic, and two additional loading docks. Significant issues to be evaluated in the EIR include aesthetics, air quality (including greenhouse gas emissions), land use and planning (including urban decay), noise, traffic/transportation, and utilities/public service systems (including energy).

Stockton Farmland Conversion Fee Nexus Study. ***Project Manager.*** As the Project Manager, Brian worked closely with city attorneys to meet the requirements of the Mitigation Fee Act. ESA recently prepared a nexus study (or AB 1600 study) for the adoption of a farmland conversion fee by several cities in San Joaquin County. The study explains the nexus between the fee and the type of development subject to the fee and how the amount of the fee is reasonably related to its purpose.

Madera County Dairy Program EIR. ***Analyst.*** ESA developed the overall county land use planning approach to evaluating new dairies or dairy expansions. This included evaluating and designing the technical dairy standards and permit application process and assessing whether the county will use a dairy element for the General Plan, changes to the zoning ordinance, or creation of a specific dairy ordinance. Brian assisted in the preparation of the Madera County Dairy Element and Program EIR.

Port of Stockton West Complex Development Plan EIR. ***Project Manager, FEIR.*** Brian managed the preparation and certification of the Final EIR for the Development Plan. Working with the Port of Stockton and the Redevelopment Agency, ESA developed and implemented the environmental compliance strategy for the proposed development plan. Important environmental issues included air and water quality, noise, and traffic.

AARON A. HECOCK, AICP

Utilities and Services Systems/Public Services, Aesthetics, Recreation, Population and Housing

Aaron is a land use and environmental planner with expertise in assisting public and private clients comply with local planning requirements. Aaron has over five years private consulting experience during which time he has worked on a variety of projects including Initial Studies, Mitigated Negative Declarations, EIRs, joint CEQA/NEPA documents, and more. During his former experience with the City of El Paso De Robles as a planning intern, he fielded questions from the public regarding zoning and other land use issues. He is experienced in processing applications for lot line adjustments and issuing temporary use permits and conditional use permits. He has prepared letters of notification and non-compliance for property owners as well as assisted in completing initial environmental studies and reports. Through his experience in the private and public sectors Aaron brings inside knowledge into the processes and methodologies of local and regional planners. Aaron is experienced in preparing environmental documents in compliance with CEQA, NEPA, as well as local and regional planning regulations.

Education

Masters in City and Regional Planning, California Polytechnic State University, San Luis Obispo Graduated with Honors

B.A., Political Science, Minor in Communications, University of Arizona

5 Years Experience

Certifications / Registrations

American Institute of Certified Planners (AICP)

Professional Affiliations

American Planning Association (APA)

Relevant Experience

Yuba Sutter Disposal Inc. CEQA. *Environmental Planner.* Utilizing Emfac2002 software available from the California Air Resources Board, Aaron modeled emissions that would result from the project. Emissions were calculated for a mixed fleet including Heavy-Heavy Duty Trucks from the year 2006 to the year 2020. The results were used in order to help evaluate air quality impacts that would result from the project. Aaron also assisted with the preparation of the Final Mitigated Negative Declaration for the project by coordinating and responding to comments received during the review period.

North Bay Aqueduct Alternate Intake Project EIR, DWR, Sacramento, Yolo, Solano and Napa Counties, CA. EIR. *Environmental Planner.* Aaron was responsible for completing the Aesthetics, Agricultural Resources, and Land Use sections of the EIR. The proposed project includes the construction and operation of a new intake and pumping plant on the Sacramento River, conveyance pipeline, and inline storage to divert and convey water from the Sacramento River connecting to the existing North Bay Aqueduct pipeline near the North Bay Regional Water Treatment Plant.

Revised Alameda Landing Land Use Plan SEIR Addendum, Alameda, CA. *Project Coordinator.* Aaron was responsible for overall project coordination including organization and preparation of the SEIR Addendum. The project consisted of changes to a mixed use development land use plan that was analyzed in the original SEIR. Changes to the land use plan after the SEIR triggered the need for an addendum to address any new impacts created by the proposed changes. Aaron coordinated key staff and worked with the client in order to prepare the SEIR Addendum.

Relevant Experience (Continued)

Kunzler Terrace Mine Use Permit, Ukiah Valley, CA. *Deputy Project Manager*. Aaron was responsible for overall project coordination for environmental review and permitting. The project involved the creation of an aggregate (sand and gravel) mining operation located north of Ukiah in Mendocino County at a site formerly utilized as a vineyard. The project required a Conditional Use Permit and a surface mining permit. Under the Surface Mining and Reclamation Act (SMARA) the project also required approval of a Mine Reclamation Plan. In addition to coordinating key staff and organizing the EIR, Aaron was also responsible for drafting the Land Use, Agricultural Resources and Aesthetics sections of the EIR. In addition, Aaron aided in the preparation and response to comments of the FEIR.

Opus West Industrial Project Logistics Center, Stockton, CA. *Deputy Project Manager*. Aaron is responsible for overall project coordination in the preparation of an EIR. The project involves a two phased industrial development located in southeast Stockton, CA on land formerly used for agricultural purposes. The first phase consists of subdividing three parcels zoned for industrial use within the City of Stockton. The second phase consists of the annexation of an adjacent parcel that is designated for industrial use in the City's General Plan. In addition to coordinating preparation of the EIR, Aaron is also responsible for drafting the Aesthetics, Agricultural Resources, Energy and Climate Change, Land Use, and Public Services sections of the EIR.

Merced County On-Call Environmental Services - Merced Hospital Reuse IS/MND. *Deputy Project Manager*. Aaron is responsible for overall project coordination in the preparation of an Initial Study/Mitigated Negative Declaration (IS/MND). The project involves the reconditioning and reuse of an old hospital facility in Merced, CA. In addition to overall project coordination, Aaron is also responsible for drafting the IS/MND and associated figures.

Merced County On-Call Environmental Services - Castle/Winton Wastewater Treatment Facility PEIR. *Deputy Project Manager*. Aaron is responsible for overall project coordination in the preparation of an EIR. The project involves the development of a new wastewater treatment facility with associated infrastructure to meet Castle Commerce Center and Airport (Castle Airport) and the Winton Water and Sanitary District's wastewater collection needs. In addition to coordinating preparation of the EIR, Aaron is also responsible for drafting the NOP and Initial Study, as well as the Aesthetics, Land Use and Agricultural Resources, Public Services, Geology and Soils, Hazardous Materials, and Traffic sections of the EIR.

Jackson Valley Quarry Expansion and Reclamation EIR and Mitigation Monitoring Program, Amador County, CA. *Deputy Project Manager*. Aaron is responsible for overall project coordination for environmental review and permitting. The project involves the expansion of an aggregate (rock and gravel) mining operation located south of Ione in Amador County at an undeveloped wooded site. The project will require a Conditional Use Permit and surface mining permit. Under the Surface Mining and Reclamation Act (SMARA) the project will also require approval of a Mine Reclamation Plan. Aaron is also

Relevant Experience (Continued)

responsible for drafting the Land Use, Agricultural Resources, Public Services, and Aesthetics sections of the EIR.

Ostrom Road Quarry Mining EIR, Yuba County, CA. ***Deputy Project Manager.*** Aaron is responsible for overall project coordination for environmental review and permitting. The project involves the creation of an aggregate (sand and gravel) mining operation located east of Olivehurst in Yuba County at a site formerly cultivated with orchards. The project will require a Conditional Use Permit and surface mining permit. Under the Surface Mining and Reclamation Act (SMARA) the project will also require approval of a Mine Reclamation Plan. Aaron is also responsible for drafting the Land Use, Agricultural Resources and Aesthetics sections of the EIR.

Union Pacific Railroad Modernization EIR, Lathrop, CA. ***Environmental Planner*****.** Aaron was responsible for preparing the Land Use and Agricultural Resources section of the EIR. The project consists of preparing an EIR because Union Pacific Railroad filed an application with San Joaquin County for a Conditional Use Permit to modernize and expand the existing Union Pacific Intermodal Facility located on Roth Road adjacent to the cities of Lathrop and Manteca.

Mather Specific Plan EIS, Sacramento County, CA. ***Environmental Planner*****.** Aaron was responsible for drafting the Hazardous Materials and Aesthetics sections of the EIS. The Mather Specific Plan project site covers approximately 5,749 acres in eastern Sacramento County and includes the following land uses: airport commercial, commercial development, aggregate extraction, university village/residential, parks/recreation, regional sports park, and associated infrastructure.

Sacramento River Water Reliability Study CEQA/NEPA. ***Environmental Planner.*** Aaron was responsible for assisting with drafting the Land Use and Agriculture sections of the EIR. The SRWRS Project is a water supply project involving the construction and operation of water diversion facilities, water treatment facilities, and untreated and treated water pipelines. Aspects of the project are located in the northern part of the City of Sacramento, the western part of the City of Roseville, and within Sacramento and Placer Counties.

3250 Hollis Street, Oakland CEQA Exemption Documentation. ***Environmental Planner.*** Aaron prepared an Air Quality Technical Study for a mixed-use residential and commercial development project in Oakland, California. Regional and local air quality impacts during construction and operation of the project were analyzed and presented in the study as part of CEQA exemption documentation.

Eastern San Joaquin County Integrated Conjunctive Use EIR, San Joaquin County, CA. ***Environmental Planner*****.** Aaron assisted with preparation of the program EIR for the Northeastern San Joaquin County Groundwater Banking Authority's proposed Integrated Conjunctive Use Program that will ensure the sustainability of groundwater resources in the San Joaquin County region. Aaron prepared the Land Use and Agriculture section of the EIR.

ROSANNE HUMPHREY

Biologcal Resources

Rosanne is an ecologist specializing in biological resources management and assessment. Her expertise includes the developing land management plans and open space planning issue papers; conducting sensitive species surveys using scientific sampling methods; assisting with habitat restoration and erosion control planning and implementation; working with MSCP planning documents for San Diego County; conducting and writing biological assessments, biological resources technical reports, impacts analyses, mitigation recommendations, and managing projects for mainly public sector clients. She is also skilled in the development of Property Record Analysis (PAR) programs to calculate endowments for open space preserve management. Rosanne recently piloted the newly developed San Diego Vegetation Community Classification system in the field. Rosanne also serves as a parabotanist for the San Diego Natural History Museum for the Plant Atlas Project in San Diego County.

Education

M. S., Zoology, University of Oklahoma, Candidate

B.S., Biology, magna cum laude, University of New Mexico

Parabotanist training, San Diego Natural History Museum Plant Atlas Project, Dr. John Rebman

Taxonomy of California Plants, San Diego State University, Dr. Michael Simpson

Birding by Ear, Natural History Museum, Claude Edwards

15 Years Experience

Certifications

USFWS Quino checkerspot butterfly identification test, 2005

USFWS Recovery Permit for the Coastal California gnatcatcher, 2007

Certification of Completion: Rare Plants of Western San Diego County, California Native Plant Society

Affiliations

National Audubon Society, Buena Vista and San Diego chapters

California Native Plant Society

California Invasive Plant Council, 2007

Relevant Experience

City of Carlsbad Planning Department Carlsbad Preserve Steward and Biological Guidelines Development. Carlsbad, CA. Preserve steward for the City of Carlsbad responsible for coordinating activities associated with implementation of the Habitat Management Plan and Open Space Management Plan. Serves as an extension of staff in reviewing project consistency with the plans, and prepares annual reports for USFWS.

County of San Diego Department of Parks and Recreation Furby North Preserve Baseline Biodiversity Report. San Diego, CA. Lead Biologist for baseline biological surveys of the County of San Diego's Furby North Preserve in Otay Mesa, applying scientifically repeatable methods for habitat, rare plant, avian, herpetological, butterfly, bat, and small, medium, and large mammal surveys. Piloted the first application of the San Diego Vegetation Classification System for habitat mapping, conducted small mammal trapping, cactus patch mapping to delineate cactus wren habitat, invasive species mapping, and rare plant surveys.

City of Oceanside Myers Property Restoration. Oceanside, CA. Lead Biologist to assist the City of Oceanside implement a SWRCB grant (Proposition 13) for habitat management, including restoration and erosion control, on a 35-acre property in Oceanside. Rosanne is coordinating field crews completing trash removal, habitat restoration, and soil stabilization/erosion control activities. She also conducted vegetation monitoring and focused gnatcatcher surveys.

County of San Diego Department of Parks and Recreation Lawrence and Barbara Daley Preserve Survey Report and Baseline Biodiversity Monitoring. San Diego, CA. Lead Biologist for the baseline biological surveys of the County of San Diego's Lawrence and Barbara Daley Preserve over a two-year period using scientifically repeatable methodologies. These surveys include habitat mapping, rare plant surveys, avian surveys, herpetological surveys, butterfly surveys, bat surveys, and small, medium, and large mammal surveys.

Relevant Experience (Continued)

Results of each survey are documented in the Baseline Biodiversity Monitoring Report.

The Nature Conservancy Santa Rosa Plateau Ecological Reserve Land Management Plan. Rosanne is serving as the Land Management Plan task leader for the development of a Land Management Plan (LMP) for this Ecological Reserve and adjacent lands in Riverside County for the California Department of Fish and Game (CDFG), The Nature Conservancy (TNC), Riverside County Department of Parks and Recreation, Western Riverside County Regional Conservation Authority (RCA) and the Metropolitan Water District of Southern California (MWD).

California Department of Fish and Game Rancho Jamul Ecological Reserve Land Management Plan. Lead Biologist for the development of a Land Management Plan for the California Department of Fish and Game. Responsible plan preparation, client and research coordination, data collection and preparing management guidelines and objectives to address biological resource issues.

County of San Diego Department of Parks and Recreation South County MSCP Monitoring. San Diego, CA. Lead Biologist responsible for producing a Monitoring Report for Tijuana River Valley Regional Park (TRVRP) and the Barnett Ranch Preserve, two distinct areas within the South County MSCP sub-area plan, with approved Resource Management Plans. Tasks include monitoring of habitat, rare plants, and animals, plus the scheduling and coordination of other field biologists. Other responsibilities include rare plant surveys and adaptive management actions for TRVRP, monitoring of habitat, wildlife corridors, rare plants and animals, update vegetation map and adaptive management actions for Barnett Ranch Preserve.

County of San Diego Department of Parks and Recreation, Santa Ysabel Open Space Preserve East Spotted Owl Survey and Monitoring. San Diego, CA. Lead biologist for a study to determine recreational impacts on the California spotted owl in the Santa Ysabel Open Space East Preserve. Conducted spotted owl surveys, consulted with experts, conducted a thorough literature review, prepared a survey report and designed a long-term monitoring plan for the spotted owl in the Preserve. Spotted owl surveys included diurnal and nocturnal surveys. Developed a monitoring protocol for future spotted owl work to estimate whether recreational trail use could affect owl nesting behavior.

City of Encinitas, Planning Department Encinitas Open Space Management Plan. Encinitas, CA. Rosanne is currently assisting the City of Encinitas with the preparation of an Open Space Management Plan (OSMP), which will serve as a framework for management and monitoring of protected open space lands throughout the City as part of the Multiple Habitat Conservation Program (MHCP) in north San Diego County. Tasks and responsibilities include project management; assisting GIS staff in developing and updating a geodatabase inventory of open space preserves, vegetation communities, and sensitive plant and animal species; assessing and prioritizing MHCP management and

Relevant Experience (Continued)

monitoring requirements; conducting a Property Analysis Record (PAR) to develop a detailed cost estimate for initial and ongoing open space management; and coordinating with the City Planning Department to assess the City's goals and priorities and to develop alternative solutions. The OSMP will guide the City in preserve assembly tracking, annual reporting, developing and prioritizing management and monitoring objectives, community education and outreach, compliance and effectiveness monitoring, and incorporating an adaptive management strategy.

Yuba Sutter Disposal Inc. CEQA. ***Environmental Planner.*** Utilizing Emfac2002 software available from the California Air Resources Board, Aaron modeled emissions that would result from the project. Emissions were calculated for a mixed fleet including Heavy-Heavy Duty Trucks from the year 2006 to the year 2020. The results were used in order to help evaluate air quality impacts that would result from the project. Aaron also assisted with the preparation of the Final Mitigated Negative Declaration for the project by coordinating and responding to comments received during the review period.

County of San Diego Department of Parks and Recreation Santa Maria Creek Restoration and Monitoring Project. Lead Biologist assisting the County of San Diego Department of Parks and Recreation in developing a baseline database for habitat and species monitoring of the Ramona Grasslands preserve (Proposition 13 grant). Rosanne responsibilities include coordination of field access, preparation of field maps and field data forms, assisting in field surveys for riparian birds and small mammals, and preparation of final report.

Calleguas Municipal Water District Open Space Conservation Planning in the Calleguas Creek Watershed Ventura and Los Angeles Counties, CA. Lead biologist in preparing issue paper related to the development of an open space planning network for the Calleguas Municipal Water District. Rosanne was responsible for writing the introductory chapter, Open Space Conservation Planning; organizing this chapter and chapters on riparian buffers, urban/wildland interface, and agricultural lands into a single issue paper; and implementing comments made by the Calleguas Creek Watershed Management Plan Steering Committee.

County of San Diego Department of Public Works Gillespie Field Redevelopment Project. Lead Biologist developing a Biological Technical Report and Biological Assessment for the Gillespie Field Development project, vegetation mapping, rare plant surveys, and biological mitigation for the federally endangered San Diego ambrosia (Ambrosia pumila). The project included a GIS-modeled transplantation receptor site search, identifying historic and extant populations of San Diego ambrosia in the County, and developing transplantation criteria. In addition, conducted field surveys to identify suitable transplantation receptor sites, based on the evaluation of specific habitat conditions and transplantation requirements for the San Diego ambrosia.

County of San Diego Department of Public Works As-Needed Biological Technical Reports. Lead biologist for several Biological Technical Reports (BTR) and Caltrans Natural Environment Studies (NES) for bridge replacement,

Relevant Experience (Continued)

road widening, and road/trail construction projects, including Valley Center Road Bridge, Willow Street Bridge, Viejas Bridge, Emery Road Bridge, Buckman Springs Road, Flynn Springs Road, etc. Conducted biological surveys, issued BTR or NES and developed Biological Assessments (BA) pursuant to Section 7 of the Endangered Species Act.

San Diego County Water Authority San Vicente Dam Raise Supplemental EIR. Lead biologist for the preparation of a Biological Resources Technical Report for the San Diego County Water Authority San Vicente Carryover Storage and Dam Raise Project. Field Biologist for the collection of biological resources data. Rosanne is responsible for coordinating access and logistics of field staff, conducting vegetation communities mapping, completing a general habitat assessment, completing habitat assessment surveys for sensitive species, and compilation of field data

County of San Diego Department of Public Works As-Needed Mitigation Monitoring. Lead biologist for several biological mitigation monitoring projects, including Otay River Valley Regional Park, Viejas Road Bridge Widening, Valley Center Road Bridge Widening, Wildcat Canyon Enhancement project/Pata Ranch mitigation, Black Canyon Road mitigation, and others. Work included setting up permanent monitoring transects and conducting qualitative and quantitative vegetation monitoring and photo point surveys, developing monitoring reports, analyzing success relative to success criteria and comparing annual monitoring results.

County of San Diego Department of Public Works, Environmental Services Unit Central Avenue Biological Surveys and Wetland Delineation. Bonita, CA. Lead Biologist on a project in which a general biological resources assessment and formal wetlands delineation was completed in support of a Least Environmentally Damaging Practicable Alternative (LEDPA) analysis required under Section 404 of Clean Water Act.

County of San Diego Department of Public Works SR 54-94 Widening Project. San Diego, CA. Project Manager for monitoring noise, least Bell's vireo and other migratory birds, and construction along SR 54 and SR 94 for the County of San Diego Department of Public Works. Rosanne was responsible for coordinating logistics of field monitoring activities; developing monitoring and reporting protocols; coordinating with field staff, County project manager, and construction manager; data management; and weekly reporting.

County of San Diego Department of Public Work Environmental Services Unit Cottonwood Creek Habitat Restoration Project Biological Assessment. Lead Biologist for the preparation of a Biological Assessment and Biological Resources Technical Report for the County of San Diego Department of Public Works Cottonwood Creek Invasive Species Removal Project. Rosanne managed biologists, GIS staff, and subcontractors in completing a site-level vegetation map, conducting USFWS protocol sensitive species surveys (Least Bell's Vireo, Arroyo Toad, Southwestern Willow Flycatcher), and preparing a Biological Resources Technical Report and Biological Assessment.

JACK HUTCHISON, P.E.

Traffic – Senior Review

Jack is a registered traffic engineer in the State of California. He has 34 years of experience in a wide range of transportation analyses, from planning-level impact analyses to operations and design evaluations, as well as for a wide range of project types and locations. In addition to his role as primary technical analyst, he provides critical peer review of analyses conducted by other firms and third party analysis to ensure compliance with CEQA and NEPA requirements.

Education

M.Eng., Transportation Engineering, Pennsylvania State University (*as part of the Bureau of Highway Traffic program*)

B.S., Civil Engineering, University of Connecticut

34 Years Experience

Certifications / Registrations

Registered Traffic Engineer, State of California, 1985

Professional Affiliations

Institute of Transportation Engineers

Transportation Research Board

Relevant Experience

Brentwood Transfer Station Expansion Initial Study, ***Transportation Analyst***. Jack prepared the transportation analysis for the Initial Study / Mitigated Negative Declaration for a proposed expansion of the City of Brentwood's solid waste transfer station. The City owns and operates the facility, which is located within a rapidly growing area in proximity to recreational facilities, commercial developments, and residences. The proposed project includes expansion of the facility onto an adjoining parcel, construction of a transfer building, and the addition of processing capacity for recyclable and compostable materials. Of particular concern for the Initial Study was air quality, noise and traffic that would be generated by project operations, and disturbance of sensitive biological habitat in the expansion parcel.

Redwood Landfill Expansion Environmental Impact Report , San Rafael, Marin County, CA. ***Transportation Analyst.*** Jack prepared the transportation analysis for the EIR for a proposed expansion of the Redwood Landfill in Marin County. The proposed project would dramatically increase total capacity, increase the allowable daily disposal rate, develop a Class II cell, change the processing of sewage sludge, and expand the landfill's existing co-composting facility. Because the landfill is adjacent to a major wetland in a scenic corridor, any additional development at the site is potentially sensitive. Major issues included potential impacts to visual and biological resources, water quality, air quality, and public health.

Sonoma County Composting Facility Environmental Impact Report, ***Transportation Analyst.*** Jack is preparing the traffic and circulation analysis for the EIR for a proposed new compost facility in Sonoma County that would replace the existing compost facility at the Central Disposal Site. The analysis examines potential impacts at an equal level of detail for three possible sites (including the Central Disposal Site), providing information on the local roadway network, potential impact of traffic associated with the project on intersection levels of service, traffic and bicycle/pedestrian safety, and road wear, and identification of measures necessary to mitigate potential significant impacts.

Yolo County Central Landfill EIR, ***Transportation Analyst.*** Jack prepared the transportation analysis for the EIR for a proposed revision to the Solid Waste Facilities Permit for the Yolo County Central Landfill. The County, which owns the landfill, is proposing several innovative design and management techniques,

Relevant Experience (Continued)

including use of landfill bioreactor technology, landfill mining to remediate groundwater issues and to develop additional capacity, development of a MRF, and a composting facility. The EIR also evaluated a proposed height extension for the landfill and increased beneficial use of landfill gas, and examines impacts associated with development of an off-site soil borrow area. The EIR analyzed the full suite of potential environmental effects, including traffic, hydrology, geology, air quality (including odors), noise, aesthetics, biology, and cultural resources.

Western Merced County Solid Waste Options Feasibility Study, Merced, Merced County, CA. ***Senior Reviewer of ESA Transportation Analyst.*** Jack provided senior review of the ESA-prepared transportation analysis for the EIR that evaluates the impacts of two landfill expansion options at Billy Wright Landfill site and four potential transfer station projects. Western Merced County is running short on solid waste disposal capacity. To address this issue, the Merced County Department of Public Works looked at six options to expand capacity. The analysis provided a site-specific analysis of all six options. The impacts assessed include geology and soils; groundwater and surface drainage; land use; aesthetics; biology; cultural resources, traffic and noise.

99 Pasadena Avenue CEQA Documentation, South Pasadena, Los Angeles County, ***Peer Reviewer of Transportation Subconsultant.*** Jack provided peer review of transportation analysis for the CEQA documentation for proposed office development expansion of 20,650 square feet, a street vacation and a General Plan/Zoning Study at 99 Pasadena Avenue at Marmion Way, a portion of Marmion Way and a contiguous traffic island in the Ostrich Fram area of the City.

Roblar Road Quarry Project EIR. ***Senior Reviewer of ESA Transportation Analyst.*** Jack provided senior review of the transportation analysis for an EIR for a proposed new hard rock quarry in southern Sonoma County, adjacent to a former landfill. Project approvals included a Mineral Resource zoning change, and a Surface Mining Conditional Use Permit. The project presented a number of environmental and technical issues, geotechnical (e.g., slope stability, geologic hazards, blasting impacts) and hydrogeologic issues (e.g., alteration of groundwater gradient and flow, potential seepage into quarry, runoff effects to local creeks), and effects to biological resources. In addition, the project would create a new source of air emissions (including dust and diesel) and noise from on-site mining and processing and off-site quarry truck traffic, and visual impacts from mining.

Union Pacific Intermodal Facility Expansion EIR, San Joaquin County, CA. ***Peer Reviewer of Transportation Subconsultant.*** Jack is providing peer review of transportation analysis for the EIR for the proposed expansion of the existing Union Pacific Intermodal Facility in the unincorporated portion of San Joaquin County and between the City of Lathrop and City of Manteca. The facility would continue to undertake cargo container transfers in which cargo containers are transferred to/from trucks to railcars, and the capacity of annual cargo container transfers would be increased from 270,000 to 730,000 lifts.

Relevant Experience (Continued)

Environmental issues include transportation, agricultural resources, air quality, noise, aesthetics, biological resources, cultural resources, hazardous materials, and hydrology.

United Technologies Corporation (UTC) Facility Demolition, Grading, and Remediation EIR. ***Transportation Analyst.*** Jack prepared traffic and circulation analysis for the EIR of the demolition, grading and remediation of the United Technologies Corporation's Pratt & Whitney Rocketdyne San Jose Facility. This 5,200-acre facility was previously used to design and manufacture solid propellant rocket motors for the military and aerospace industry.

535 Mission Street MND Addendum, San Francisco, CA. ***Transportation Analyst.*** Jack prepared the traffic analysis for various CEQA documents (EIRs and a Mitigated Negative Declaration) for different land use proposals (residential and office) as market forces fluctuated over a 20-year period. The most recent, in 2006, was a 300,000-square-foot office project proposed for this project site, and ESA prepared an Addendum to the Negative Declaration. Jack prepared a full Transportation Impact Analysis for each project, and incorporated the report findings into the CEQA document. The TIAs were prepared in accordance with the San Francisco Planning Department's Transportation Guidelines for Environmental Review, which requires analysis of potential impacts to traffic, transit, parking, pedestrian, bicycle, and freight loading conditions, as well as impacts associated with project construction.

1840 Washington Street Traffic Analysis. ***Transportation Analyst /Project Manager.*** Jack prepared a letter report that described the results of analysis of various transportation issues associated with development of a 29-unit residential building at 1840 Washington Street in San Francisco. The letter report was prepared for the 1840 Washington Associates, LLC for their use in responding to specific concerns raised by project site neighbors, including the proposed on-site parking supply; the amount of traffic the project would generate and its effect on existing traffic flow on area streets; and ingress/egress conditions related to possible conflicts between vehicles, and between vehicles and pedestrians, at driveways for the project building and the residential building at 1800 Washington Street. The analysis was based on data and methodologies contained in the San Francisco Planning Department's Transportation Guidelines for Environmental Review (2002 Guidelines)

Bob Hope Airport Hollywood Way Traffic Index. ***Transportation Analyst.*** Prepared a technical memo that evaluated the potential impacts of truck traffic generated by construction of projects at the airport on the structural integrity of pavement on Hollywood Way in the airport area. The evaluation was conducted using current truck volumes and the estimated number of daily construction truck trips associated with the projects (with a worst-case assumption that the projects would be constructed simultaneously). The potential effects were described in the context of the temporary nature of construction projects compared to the standardized analysis of impacts from on-going truck traffic over a typical 20-year pavement life.

Relevant Experience (Continued)

Bob Hope Airport A-1 Property Acquisition, ***Transportation Analyst.*** As part of the environmental documentation for the California state requirements, ESA airports provided airfield planning and the justification for the new parallel taxiway extension. The study emphasized the need for the project while maintaining the criteria and meeting the demands set by the agencies. The project required extending the existing partial parallel taxiway 1,700 feet to provide a full length parallel taxiway to the preferential landing runway. The taxiway extension included a high speed taxiway exit along with the provisions to be wide enough at the eastern end to allow aircraft to taxi pass one another eliminating unnecessary queuing, idling and runway back-taxiing. A number of factors were considered in evaluating this project including reviewing existing airfield restrictions, taxiway and operational flows of the airfield, in-trail separation distances, air traffic control procedures, aircraft fleet mix and the interaction between commercial and general aviation activities were all reviewed and analyzed for the airport. The study also analyzed how these factors would change with the implementation of the proposed taxiway extension and what implications the project would have on the operational capacity, airspace capacity, controller workload, security and safety and terminal ramp efficiency.

City of Richmond Chevron Refinery Renewal Project EIR, Richmond, Contra Costa County, *Peer Reviewer of Developer's Transportation Consultant.* Jack provided peer review of developer's transportation analysis for the EIR for the proposed renewal project at Chevron's refinery in Richmond and assisted the City of Richmond in evaluating the project's compliance with CEQA. Principal components of the project include replacing the hydrogen plant, reformer, and power plant; improving hydrogen purity; and replacing or upgrading other ancillary equipment.

ConocoPhillips Rodeo Refinery Clean Fuels Expansion Project EIR. ***Transportation Analyst.*** Jack provided traffic and transportation analysis for an EIR for the proposed Clean Fuels Expansion Project (CFEP) at the ConocoPhillips Rodeo Refinery. The CFEP includes the construction of a new hydrogen plant that would produce additional hydrogen to be used in the production of additional fuel. Specific environmental project concerns were the potential impacts to air quality, noise, traffic, public safety and public health, and water quality.

Tres Vaqueros Wind Energy Project, Contra Costa County, CA. *Traffic Analyst.* Jack prepared the transportation section of the EIR. Tasks included site visits, estimate of project-generated construction traffic (trucks and worker vehicles) on the basis of engineering estimates of the work, and evaluation of potential impacts to traffic flow, traffic safety, and roadway pavement conditions. Recommended mitigation measures focused on minimizing the temporary and intermittent effects during construction work periods. ESA is preparing an EIR for the project which entails "repowering" of the existing facility by replacing all of the existing turbines and civil/electrical infrastructure (except for the on-site substation) with 42 new wind turbines.

JASON MIRISE

Noise

Jason is an acoustics engineer/consultant with over 17 years of experience managing environmental and architectural acoustics projects. He provides extensive experience in completing every element of a project from field data collection and analyses to document preparation and presentation. He is proficient with an array of acoustical modeling applications, including the FAA's Integrated Noise Model (INM), SoundPLAN, the FHWA's Traffic Noise Model (TNM), and the FHWA's Roadway Construction Noise Model (RCNM).

Education

M.Eng., Acoustics, The Pennsylvania State University

B.S., Electrical Engineering, Loyola Marymount University

17 Years Experience

Professional Affiliations

Acoustical Society of America (ASA), Member

Institute of Noise Control Engineering, Member

Relevant Experience

California Department of Water Resources (DWR), North Bay Aqueduct Intake Project (EIR), Yolo and Solano Counties, CA. ***Acoustics Specialist.*** Jason is currently completing the environmental noise assessments for the project. These assessments will address noise associated with the construction of the project intake/pump facility, 28-miles of water pipeline, and water storage facilities. Additionally, the analyses will address daily operation of the intake/pumping facility.

Lennar Urban, Amendments to the San Francisco Bay Conservation and Development Commission (BCDC) San Francisco Bay Plan, San Francisco, CA. ***Acoustics Specialist.*** Jason completed environmental noise assessments to address proposed amendments to the BCDC San Francisco Bay Plan. These assessments addressed construction, stadium (football game and concert), traffic, and commercial/industrial noise impacts and mitigation.

San Joaquin County, Munn & Perkins Quarry Excavation Permit (Extended Asphalt Plant Operating Hours), San Joaquin County, CA. ***Acoustics Specialist.*** Jason completed the noise section for the project EIR addressing nighttime noise exposure associated with the operation of the project asphalt plant and haul trucks. The project addressed the potential for sleep disturbance (awakenings) from project haul truck operations using ANSI/ASA S12.9-2008.

Vancouver Ground Run-up Enclosure Baseline Noise Assessment and Acoustic Acceptance Testing, ***Project Manager.*** Jason is serving as project manager for this project. He will manage the project team, keeping tasks and overall plan preparation on-schedule and within budget. Jason will also help to manage the field noise level measurement, complete project calculations, and pen the project reports. The Airport Authority is constructing the GRE as part of an initiative in its 2009-2013 Noise Management Plan. Services will include an assessment of community baseline noise levels and acoustical acceptance testing of the enclosure.

NTD Architecture, Butte County Office of Education South County Educational Facility Architectural Acoustics Assessment, Oroville, CA. ***Project Manager and Acoustics Specialist.*** Jason managed and performed an architectural acoustics assessment for a school facility in Butte County to comply with Collaborative for High Performance Schools (CHPS) acoustical requirements. The CHPS standards addressed background noise levels in

Relevant Experience (Continued)

classrooms, reverberation times (RT60) in classrooms, and sound insulation from adjacent uses and the outdoor environment to provide for the best possible learning environments. This particular project included mechanical equipment noise level modeling using the Trane Acoustics Program (TAP).

Experience Prior to Joining ESA

Prior to joining ESA, Jason was a Senior Consultant with the acoustical consulting firm of Brown-Buntin Associates, Inc. (1996-2003) and a Senior/Principal Consultant with the acoustical consulting firms of Bollard & Brennan, Inc. and Bollard Acoustical Consultants, Inc. (2003-2010). With these companies, Jason managed more than 500 environmental and architectural acoustics projects.

Jason has managed or contributed to projects involving aircraft (FAR Part 150 studies, noise contour modeling, residential sound insulation), train/light rail (FTA), traffic (Caltrans), agricultural, community, commercial, and industrial noise sources. A sample of the Jason's project work is presented below.

- *Target Store in Davis, CA (EIR), Yolo County, Davis, CA*
- *Tahoe Forest Hospital Improvements and Expansion, Truckee, CA*
- *Yuba County/Recology Rail Spur (EIR), Wheatland, CA*
- *Yucca Loma Road Transportation Improvement Project (Caltrans NSR), Apple Valley, Victorville, San Bernardino County, CA*
- *Blueberry Crossing Commercial Development (EIR), Livingston, CA*
- *Southeast McCarran Boulevard Corridor, Reno, NV*
- *City of Williams General Plan Update (Noise Element) and EIR, Williams, CA*
- *San Joaquin County General Plan Update (Noise Element), San Joaquin County, CA*
- *SPPCo. Emergency Generator Building, Kings Beach, CA*
- *NRCA RRD Freight Rail Project (EIR/EIS), Northern CA*
- *Diamond Springs Parkway EIR, El Dorado County, CA*
- *Streets of Brentwood Commercial Development (MND), Brentwood, CA*
- *South Lathrop Specific Plan EIR, Lathrop, CA*

MATTHEW J. MORALES

Project Description, Air Quality and Greenhouse Gas Emissions

Matt prepares technical analyses for numerous planning and environmental projects related to redevelopment, natural resource management, and facility expansion. Trained in air quality, including greenhouse gas and climate change, as well as noise analysis, he is adept at applying noise and air quality models, such as Urban Emissions Model (URBEMIS) and the Federal Highway Administration (FHWA) Traffic Noise Prediction Model, to perform quantitative analyses for sections of National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) documents.

Education

B.S., Environmental Toxicology, University of California, Davis

7 Years Experience

Relevant Experience

Hanson/LeHigh Permanente Quarry Reclamation Plan, Santa Clara, CA. ***Air Quality, Greenhouse Gas and Climate Change Analyst.*** The Hanson/Lehigh Permanente Quarry prepared a draft Reclamation Plan Amendment to cover ongoing and planned activities at the East Materials Storage Area (EMSA), 89 acres that has been used for several decades for disposal or storage of overburden. The Project, which covers the EMSA site only, would involve placement of overburden and reclamation of the EMSA in three overlapping phases over an estimated six-year period. Matt analyzed air quality and greenhouse gas impacts of the Project on the community and nearby sensitive residences based on methodologies and thresholds described by the Bay Area Air Quality Management District.

CalRecycle (formerly the California Integrated Waste Management Board), Statewide Program EIR for Anaerobic Digestion Facilities, Statewide, CA. ***Air Quality, Greenhouse Gas and Climate Change Analyst.*** This Draft Program Environmental Impact Report (EIR) was prepared to assess the potential environmental effects that may result from the adoption of an anaerobic digestion initiative, a comprehensive program to foster the development of anaerobic digestion facilities to process the organic fraction of municipal solid waste and other organic wastes throughout the State of California. The Program EIR was certified in June 2011. Matt assessed the air quality and greenhouse gas impacts associated with construction and operation of anaerobic digesters under this program.

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) - Dairy Manure Digester and Manure Co-digester Program EIR, Central Valley, CA. ***Air Quality, Greenhouse Gas and Climate Change Analyst.*** The Central Valley Water Board explored dairy manure digesters and co-digestion in a Program EIR that was the environmental documentation for a Central Valley Water Board General Order for Dairy manure digesters. The digesters control the generation of methane and allow methane to be a low-carbon fuel resource rather than a potent greenhouse gas emission that results from uncontrolled generation of methane.

The project was undertaken to reduce greenhouse gas emissions (as required by AB 32) and to help generate renewable fuels (biogas and biomethane) to help

Relevant Experience (Continued)

California utilities meet their renewable portfolio standard (RPS). The EIR considered manure digestion and co-digestion facilities on individual dairies, groups of dairies linked by gas collection systems, and at centralized locations within the Central Valley Region of California. The project had a very aggressive timeline because of the important the EIR will have in facilitating site-specific project environmental review and permitting. The EIR was certified in December 2010 and the General Order for Dairy manure digesters and co-digesters was approved. Matt assessed the air quality and greenhouse gas impacts associated with construction and operation of dairy digesters under this program.

Yuba-Sutter Disposal Inc. CEQA, Marysville, CA. ***Air Quality and Noise Analyst.*** Matt assessed air quality and noise impacts of the proposed project, which consisted of the increased usage of existing permitted solid waste handling, recycling, and composting facilities at the Yuba-Sutter Disposal, Inc. site in Marysville.

Sonoma County Compost Site Selection, Conceptual Design and CEQA, Sonoma County, CA. ***Air Quality and Noise Analyst.*** Matt analyzed air quality and noise impacts associated with construction and operation of a new compost facility proposed in Sonoma County that would replace the existing compost facility at the Central Disposal Site. As part of the air quality assessment, Matt quantified criteria pollutant and greenhouse gas emissions generated by windrow composting and aerated static pile operational alternatives.

Madera County Dairy Standards Planning Support and EIR. ***Air Quality Analyst.*** This project involved development of a programmatic EIR for the projected 279,523 cow total herd expansion potential associated with dairy development in Madera County. Matt analyzed the air quality emissions, impacts, and mitigation of ROG, NOx, PM10, PM2.5, ammonia, and methane from construction and operation of dairies on a project and cumulative level. Matt also assisted in the crafting of policies to address these impacts.

Redwood Landfill Expansion EIR, Novato, CA. ***Air Quality Analyst.*** Matt assisted in the coordination and development of responses to public comments regarding air quality impacts for the Final EIR.

Western Merced County Solid Waste Options Feasibility Study, Merced, CA. ***Air Quality Analyst.*** Solid Waste/Transfer Station Options were assessed for air quality impacts of the project construction and operation based on CEQA and San Joaquin Valley Air Pollution Control District (SJVAPCD) CEQA guidelines. Matt provided analysis of air quality impacts on the community and nearby sensitive residences, including odors from landfill and transfer station operations, toxic air contaminants, and criteria air pollutant emissions from construction/operation equipment and composting operations.

City of Merced Wastewater Treatment Plant Expansion EIR, Merced, CA. ***Air Quality and Noise Analyst.*** ESA is preparing an EIR for the Merced Wastewater Treatment Plant Expansion Project. Short-term noise measurements using dB-308 noise meters at specific locations in the project vicinity were

Relevant Experience (Continued)

performed and analyzed to determine the impacts from project construction and operation on the noise environment of nearby existing residences. Air quality impacts on the community and nearby sensitive residences were also analyzed, including criteria pollutant and toxic air contaminants generated by the expansion and operation of the treatment plant.

Jackson Valley Quarry Expansion and Reclamation EIR and Mitigation Monitoring Program, Amador County, CA. ***Air Quality and Noise Analyst.*** ESA is preparing an EIR and Mitigation Monitoring Program for the County of Amador. The applicant has requested approval of a Use Permit and Reclamation Plan to allow for the expansion of the Jackson Valley Quarry on the 86 acres to the east of the existing operations and increase rock production from 500,000 tons per year to 2 million tons per year over a 25 year period. Matt assessed the air quality and noise impacts associated with construction and operations of the Jackson Valley Quarry Expansion. Short and long-term noise measurements using dB-3080 noise meters at specific locations in the project vicinity were performed and analyzed to determine the impacts from project construction and operation on the noise environment of nearby existing residences. Matt also assessed air quality impacts on the community and nearby sensitive residences, including criteria pollutant and toxic air contaminants generated by the operation of the quarry. Direct and indirect greenhouse gas emissions were also quantified and assessed for cumulative impact significance.

Department of Water Resources North Bay Aqueduct Alternate Intake Project EIR. ***Air Quality, Greenhouse Gas and Climate Change Analyst..*** The proposed project includes the construction and operation of a new intake and pumping plant on the Sacramento River, conveyance pipeline, and inline storage to divert and convey water from the Sacramento River connecting to the existing NBA pipeline near the North Bay Regional Water Treatment Plant. Matt developed the CEQA analysis of air quality and greenhouse gas impacts from construction and operation of the project facilities and alternative options. Air quality emissions and impacts were based on calculations using the Air Resources Board OFFROAD and EMFAC2007 models.

Lehigh Permanente Quarry Reclamation Plan Amendment EIR. ***Air Quality, Greenhouse Gas and Climate Change Analyst.*** The proposed Reclamation Plan Amendment (Project) includes the reclamation of the Quarry pit, two overburden disposal areas, the crusher/Quarry office area, surge pile, Rock Plant, an area that had been disturbed by prior exploratory activities, and a restoration area adjacent to Permanente Creek. Matt reviewed and provided feedback on a Air Quality Technical Report that had been prepared for the project, and incorporated results of the Technical Report into the CEQA analysis to determine impacts of the Project on the community and nearby sensitive residences based on methodologies and thresholds described by the Bay Area Air Quality Management District.

The Arboretum Wetland Permit EIR/EIS, Rancho Cordova, CA. ***Air Quality, Greenhouse Gas and Climate Change Analyst.*** This Draft EIS/EIR was a joint document prepared for the U.S. Army Corps of Engineers (USACE),

Relevant Experience (Continued)

Sacramento District and the City of Rancho Cordova for the Arboretum Specific Plan, which proposes the development of a mixed-use, mixed-density, master planned community. The proposed action under NEPA is the USACE approval of a Clean Water Act Section 404 permit. Matt analyzed air quality and greenhouse gas impacts for nine alternatives, as well as the impact of surrounding land uses on sensitive residences to be developed under the alternatives. In addition, Matt quantitatively assessed the reduction in greenhouse gases of each alternative in comparison to the business-as-usual (BAU) scenario.

CCWD/U. S. Bureau of Reclamation Los Vaqueros Reservoir Expansion Project EIS/EIR. ***Air Quality and Noise Analyst.*** Matt provided analysis of air quality and noise impacts on the community and nearby sensitive residences associated with construction and operation of the Los Vaqueros Reservoir Expansion Project, according to the U.S. EPA and the BAAQMD CEQA guidelines. Short and long-term noise measurements using dB-308 noise meters in the project vicinity were performed and analyzed to determine the impacts from project construction and operation on the noise environment of nearby existing residences. Air quality emissions and impacts were based on calculations using the Air Resources Board OFFROAD and EMFAC2007 models.

City of Oxnard General Plan and EIR, Oxnard, CA. ***Noise Analyst.*** Matt analyzed the impacts from construction and operation of development projects included in the General Plan on the noise environment of residences in the vicinity.

South Interceptor and Mather Interceptor (SIAMI) Projects, Sacramento County, CA. ***Air Quality and Noise Analyst.*** Matt provided analysis of air quality and noise impacts on the community and nearby sensitive residences associated with construction and operation of the Mather Interceptor Project, according to SMAQMD CEQA guidelines. Representative short-term noise measurements at a pump station were used to estimate projected noise values and impact from operation of the proposed pump station associated with the Project. Air quality emissions and impacts were based on calculations using the Air Resources Board OFFROAD and EMFAC2007 models.

City of Lincoln General Plan Update and EIR, Lincoln, CA. ***Noise Analyst.*** Matt performed short and long-term measurements using dB-308 noise meters at specific locations along the railroad in the City of Lincoln and developed noise contours for inclusion in the City of Lincoln General Plan Update and EIR Project.

City of Stockton General Plan Update and EIR, Stockton, CA. ***Air Quality and Noise Analyst.*** Matt analyzed the impacts from construction and operation of development projects included in the General Plan on the air quality and noise environments of the City of Stockton.

ERIC SCHNIEWIND

Geology and Soils, Hazards and Hazardous Materials

Eric has 17 years of experience as a geologist, hydrogeologist, hydrologist, and hazardous materials specialist in environmental consulting. His technical background includes geotechnical engineering, soil and groundwater contamination investigations, environmental remediation planning and implementation, and pre-acquisition site assessments. In addition, Eric has been involved in fault hazard and landslide hazard studies. His general responsibilities include providing geological, geotechnical, and hydrogeological technical support for NEPA and CEQA documents such as EIRs and EISs, and EAs.

Education

B.A., Geological Sciences, UC Santa Barbara

17 Years of Experience

Relevant Experience

Fairfield-Suisun Sewer District (FSSD) Sewer System and Treatment Plant Master Plan EIR. ***Geologist.*** Eric analyzed potential geological hazards for system-wide wastewater flow improvements. Elements included upgrading wastewater treatment plant, construction of new outfalls on soft Bay Muds, construction of new pipelines and expanding stormwater catch basin infrastructure. Eric provided analysis of potential impacts and mitigation measures to address numerous geologic hazards.

Lawrence Berkeley National Laboratory Building 51 and Bevatron Demolition Project EIR/EA. ***Geologist and Hydrologist.*** Eric evaluated geologic, hydrologic, and hazardous materials related impacts for both the EIR and EA. The project entailed dismantling and removing the Bevatron particle accelerator, a facility listed on the National Register of Historic Places for its contribution to the development of the country's atomic energy program in the 1950s. Major environmental issues being analyzed include mitigation of significant impacts to historic resources, traffic and circulation associated with hauling of demolition materials through the city of Berkeley, handling and disposal of hazardous and radioactive materials, noise, air quality, public health and safety, visual quality and land use and planning.

United Technologies Corporation-Pratt & Whitney Rocktdyne EIR, San Jose, CA. ***Hazardous Materials Specialist.*** Eric was the lead Hazardous Materials Specialist on soil and groundwater remediation of 1,900 acre solid propellant rocket motor testing and research facility. A facility wide Remedial Action Plan (RAP) was prepared for the closure of the facility in accordance with the requirements of a Site Cleanup Requirement Order from the Regional Water Quality Control Board (RWQCB). In addition, several hazardous waste storage and treatment units regulated by the Department of Toxic Substances Control (DTSC) were closed under the Resource Conservation and Recovery Act (RCRA). The EIR analyzed the potential impacts of completing the RAP for ultimate closure of the facility. The contamination present at the site includes near surface soils, subsurface soils, groundwater and soil vapor. Several different remediation technologies were proposed for the different facility operations.

Relevant Experience (Continued)

Santa Clara Station Area Plan EIR, Santa Clara, CA. ***Geologist and Hydrologist.*** Eric provided geology and hazardous materials analysis for the environmental constraint analysis for a proposed Transit Station Area Plan for the Santa Clara Valley Transit Authority (VTA). Eric also worked on paleontology analysis. The focus of the study is to examine infrastructure capacity and constraints, including the capacity for housing and employment opportunities. The result of the environmental constraints analysis will be used to develop potential land use options and alternatives surrounding a rail station adjacent to the San Jose International Airport. The proposed transit area would eventually include linkages to several modes of transportation including heavy rail, commuter rail, and airport facilities. ESA is also preparing an EIR to satisfy the requirements of CEQA.

Roblar Road Quarry Project EIR, Sonoma County, CA. ***Geologist and Hydrologist.*** Eric assisting in the preparation of an EIR for a new hard rock quarry proposed in southern Sonoma County. The Roblar Road Quarry proposes to mine approximately 570,000 cubic yards of quarry material annually over a 20-year period. Project approvals that would be required include a Mineral Resource zoning change and a Surface Mining Conditional Use Permit. The proposed project presents a number of environmental and technical issues, including geotechnical issues (including slope stability, geologic hazards, blasting impacts on slopes) and hydrogeologic issues (alteration of groundwater gradient and flow direction, seasonal seepage, surface water sources, and flows to adjacent creeks), and effects to biological resources.

Richmond Chevron Refinery Renewal Project EIR. ***Geologist and Hydrologist.*** Eric is analyzing the potential geologic and hydrologic impacts of the proposed Chevron Renewal Project at their Richmond refinery. ESA will prepare an EIR for the proposed renewal project at Chevron's refinery in Richmond and assist the City of Richmond evaluate the project's compliance with the California Environmental Quality Act. Principal components of the project include replacing the hydrogen plant, reformer, and power plant; improving hydrogen purity; and replacing or upgrading other ancillary equipment.

Palmdale Water Reclamation Plant 2025 Facilities Plan Program EIR. ***Geologist.*** Eric prepared the geology and mineral resources sections of the EIR that included analysis of potential fault hazards, encroachment on state identified aggregate mineral resources, and liquefaction hazard areas. ESA was selected by the County Sanitation Districts of Los Angeles County, District 20 (LACSD) to prepare an alternatives screening analysis and EIR for the Palmdale Water Reclamation Plant 2025 Facilities Plan.

Gateway Village Project-Specific EIR, Madera County, CA. ***Geologist and Hydrologist.*** Eric provided geology and hydrology analysis for the preparation of a Program EIR for the Gateway Village project, a mixed-use development of residential, retail, office, open space, and public facilities located north of Fresno along State Route 41 in Madera County. The EIR documented potential impacts associated with implementation of the project's Area Plan, Specific Plan and Infrastructure Master Plan and will be used to the extent feasible by Madera

Relevant Experience (Continued)

County in approving subsequent phases of the project. Key issues for the EIR included impacts associated with: agricultural land conversion, biological resources, noise, traffic, public services and utilities.

Canyon Rock Quarry Expansion Project EIR, Sonoma County, CA. ***Geologist and Hydrologist.*** Eric analyzed and prepared Response to Comments relating to geology, hydrology and water quality concerns in the DEIR for the FEIR. Issues of the expansion included potential impacts to the groundwater supply and potential impacts to neighboring water supply wells, water quality impacts to the nearby creek, groundwater recharge, and adequacy of retention basins, as well as traffic, air quality, noise, and water quality (potential sedimentation into an adjacent creek). In addition, the document will serve as a project-specific EIR for the proposed Northern Expansion option with all pertinent environmental topics analyzed.

Marina Center Mixed-Use Development EIR, Eureka, CA. ***Geologist, Hydrologist, and Hazardous Materials Specialist.*** Eric prepared the CEQA analysis that incorporated technical analysis from subcontractors for the Geology, Hydrology and Hazardous Materials resource areas for this EIR for a former railroad turntable yard in Eureka, California. The 43-acre project site, located west of the Eureka Old Town district, included numerous issues including liquefaction hazards, seismic groundshaking, tsunami hazards, sea-level rise flooding hazards, contaminated soils and groundwater, and increased runoff and water quality. The proposed project would include retail, restaurant, office, museum, and light industrial space, as well as 54 multi-family residential dwelling units. The proposed project would provide surface and structured parking, pedestrian amenities, including a pedestrian and bicycle trail, roadway improvements, landscaping throughout the site, and new on-site infrastructure.

Northeast Rohnert Park Specific Plan EIR, Sonoma County, CA. ***Geologist and Hydrologist.*** Eric is providing technical data on geology and hydrology for the EIR for the City of Rohnert Park for its proposed Northeast Area Specific Plan. The specific plan calls for development of a residential community of approximately 1,060 dwelling units in a variety of housing densities and types, 18-acres of parks and bikeways, and nearly 57-acres of other open space on an approximately 272-acre site adjacent to the northeastern edge of the city. The property consists primarily of former agricultural land, and contains a number of old buildings as well as two riparian corridors.

Oak to Ninth Avenue Waterfront Development EIR, Oakland, CA. ***Geologist, Hydrologist, and Hazardous Materials Specialist.*** Eric analyzed subsurface soil stability, soil and groundwater quality, shoreline erosion potential, effects of dredged sediments for use as fill, and the presence of contaminated groundwater and potential impacts to the public. The project would redevelop this underutilized maritime industrial area along the Estuary and the Embarcadero in Oakland into a mixed use revitalized area. The issues analyzed in the EIR included redevelopment on poorly engineered fill materials and Bay Muds, contaminated soils and groundwater from range of constituents,

Relevant Experience (Continued)

use of dredged materials as fill, and shoreline improvements to protect from erosion.

PG&E Lakeville-Sonoma Transmission Line Upgrade. ***Geologist and Hydrologist.*** Eric prepared the geology and hydrology sections of the EIR. Reviewed PG&E documents to prepare a CEQA document that evaluated the potential impacts from the proposed project. The PG&E Lakeville-Sonoma Transmission Upgrade Project is the environmental review of a proposed upgrade to PG&E's existing 7.2 mile 115 kV transmission line between Petaluma and Sonoma. ESA will review PG&E documents and prepare a CEQA document to evaluate potential impacts from the proposed project. ESA will monitor construction of the project after approval.

Santa Rosa General Plan EIR, Santa Rosa, CA. ***Geologist, Hydrologist, Hazardous Materials Specialist.*** Eric is preparing the regional CEQA sections for the Geology, Hydrology, and Hazardous Materials sections for a new EIR to analyze effects of a focused update to the General Plan 2020, including preparation of a new Housing Element and incorporation into the General Plan of recently adopted area plans, circulation plans, and strategic plans. ESA prepared the original EIR for the City's General Plan 2020, which addressed elements of natural and biological resources, land use policy, urban design, conservation of open space, scenic highways, fire hazards, air quality, noise, and energy conservation.

Site B South Bayshore Subsequent EIR, Emeryville, CA. ***Hazardous Materials Specialist.*** Eric was the lead Hazardous Materials Specialist to provide analysis of proposed construction on contaminated site. The site included both contamination of onsite soils and groundwater from previous industrial uses as well as groundwater contamination from offsite sources that had migrated onsite. Remediation activities proposed were overseen by the Department of Toxic Substances Control (DTSC) and Regional Water Quality Control Board (RWQCB).

Treasure Island Development Plan EIR, San Francisco Bay, CA. ***Geologist and Hazardous Materials Specialist.*** Eric was the lead Geologist and Hazardous Materials Specialist to provide analysis of a proposed base wide development plan. The site has been a military base for many decades and has had a long history of hazardous materials releases some of which have undergone remediation and some that are still in the process. The geologic hazards present at the artificially created site include liquefaction, settlement, and ground shaking. ESA is conducting several technical analyses for the Treasure Island and Yerba Buena Island Redevelopment Plan Project EIR. The proposed project is a nearly 10-year, phased redevelopment of existing low-density residential and vacant, underutilized non-residential structures to create a new mixed use community.

DANIEL T. SICULAR, Ph.D.

CEQA Alternatives/Other CEQA Considerations/Mitigation Monitoring or Reporting, Air Quality and Greenhouse Gas Emissions

Dr. Sicular has 20 years of consulting experience in waste management, recycling, waste prevention, and composting program planning, design, implementation, evaluation, and environmental review. He has broad experience working with governmental agencies and recycling organizations, and has managed numerous projects including environmental reviews, planning studies, waste characterization studies, surveys, program implementation and oversight, and program evaluations. Dr. Sicular is the author of numerous academic and professional papers on local, national, and international trends in the waste management industry; low-cost recycling and composting systems suitable for the third world; the history of recovery-based waste management systems in the United States; and the social geography of waste collectors and scavengers.

Education

Ph.D., Geography, University of California, Berkeley

M.A., Geography, University of California, Berkeley

B.A., Southeast Asian Studies, University of California

20 Years Experience

Relevant Experience

Acme Landfill Composting Facility Initial Study, Martinez, CA. ***Project Manager.*** Dan worked with the Contra Costa County Community Development Department to evaluate Acme Landfill's use permit application. The permit would allow the construction and operation of a green materials composting facility and stormwater detention facility in a borrow pit adjoining a closed portion of the existing Acme owned and operated landfill. Due to the site's location, just 300-feet from the nearest neighboring residence, the Initial Study evaluated hydrology, air quality, biological resources, and cumulative land use impacts affecting the landfill neighbors.

City of Berkeley Solid Waste Management Plan Update-75% Recycling Plan. ***Project Manager.*** ESA developed a plan for 75% diversion from landfill disposal (Solid Waste Management Plan Update) which presented options and strategies for achieving 75 percent diversion by 2010, and for moving toward the City's goal of Zero Waste by 2020. The Plan Update was developed collaboratively with the City's Solid Waste Management Commission (appointed by elected officials), City staff, and interested groups and individuals, through workshops and public meetings. The new plan provides a framework for program and policy development that will conserve natural resources and landfill capacity; that will enable the City to continue to comply with the State of California-mandated requirement to divert at least 50 percent of the City's generated waste from landfills, and with the Alameda County Measure D requirement to divert at least 75 percent of the City's wastes.

Berkeley Transfer Station Facility Environmental Engineering. ***Project Director.*** ESA conducted a review of the Berkeley Transfer Station to identify mitigation measures to reduce air pollutant emissions from the site. The Berkeley Transfer station receives solid waste from the City of Berkeley garbage collection truck fleet and also from approximately 300 self-haul vehicles daily. ESA reviewed over a year of hourly PM-10 data collected immediately downwind, made multiple site inspections to understand typical operations at the transfer station, and reviewed potential vehicle performance

Relevant Experience (Continued)

improvements. Several ideas were explored for future improvements related to the use of alternative fuels, including conversion of more vehicles to CNG, adding catalytic converters to various vehicles, and use of ultra low sulfur diesel fuel. The facility is currently using B100 biodiesel fuel. Several recommendations were also identified for reducing emissions from on-site dust entrainment and refinements to the misting system to reduce fugitive dust emissions.

City of El Cerrito Recycling Collection Program Implementation Assistance. ***Project Manager***. Assisted the City of El Cerrito in implementing their new semi-automated refuse collection and greenwaste collection program. Helped coordinate the planning and implementation of the project, prepare implementation schedule, research and recommend policies and equipment, and coordinate the efforts of the City, the service provider, the equipment supplier, and a public relations consultant.

City of San Francisco Disposed Waste Characterization Study. ***Project Manager*****.** ESA conducted the 2004-2005 characterization of all waste disposed from the City and County of San Francisco. The project involved developing methodologies for sampling and analysis, close coordination with City and County staff and with Norcal Waste Systems, the City's waste hauler; collection of data through handsorting and visual observation, and preparation of final report.

City of Santa Cruz Resource Recovery Facility Plan. ***Project Director.*** ESA developed a long term plan for the evolution of the City's recycling facilities, to provide a smooth transition to single-stream processing; increased use of the site for public education; replacement of aging buildings and equipment, and a corporation yard and shop for collection vehicles. The plan also examined options for refuse sorting and baling, green waste processing, and truck fueling and washing. Space requirements and traffic flows were analyzed; schematic drawings were prepared; a phasing plan was developed; and costs were estimated in detail, including cash outlays by phase, financing requirements, and rate impact. Several workshops were held with City staff to determine needs and preferences; and a detailed report and presentation were submitted to City Council for approval. ESA also prepared the environmental review documentation for this project.

Cold Creek Compost Facility EIR, Mendocino County, California. ***Project Director*****.** The proposed project was to expand an existing composting facility located in a remote area of rural Mendocino County. The EIR was prepared under court order after the court found a negative declaration inadequate. The draft EIR received over 500 comments, which Dr. Sicular cataloged and assigned to team members for response.

Contra Costa County Commercial Recycling and Waste Reduction Program Assistance. ***Project Manager.*** Assisted Contra Costa County Community Development Department in implementing their disposal reporting

Relevant Experience (Continued)

system; developing greenwaste collection programs, and in drafting and implementing the County's Source Reduction and Recycling Element.

Contra Costa Sanitary Landfill Closure (East Parcel) Initial Study and Mitigated Negative Declaration. ***Project Manager.*** Dan managed the environmental documentation for the project which involved development of several facilities necessary for closing this landfill, located in Antioch, California: a stormwater detention basin, toe berm, soil borrow area, and other facilities. Despite project delays due to change in ownership of the landfill during preparation of the environmental document, the project was completed in a timely fashion.

Countywide Integrated Waste Management Plan and related CEQA documentation for San Mateo, Solano and Napa Counties. ***Project Manager.*** Prepared Siting Element to demonstrate whether San Mateo County has a minimum of 15 years of combined permitted waste disposal capacity. Summarized significant waste management problems facing the County and provided an overview of the specific steps to be taken by local agencies to achieve the goals of the California Integrated Waste Management Act (Assembly Bill 939). Also prepared related CEQA documentation.

Redwood Landfill Expansion EIR, County of Marin. ***Project Manager.*** As part of ESA's preparation of the Final EIR for the proposed expansion of Redwood Landfill, which receives most of the solid waste from Marin and Sonoma Counties, Dan conducted a lifecycle analysis of greenhouse gas (GHG) emissions for the facility, from its opening in 1958 through the year 2098. The analysis examines fugitive emissions of methane, a GHG with a global warming potential 25 times that of carbon dioxide; state, national, and global inventories recognize landfill gas as a significant contributor to warming. The EIR finds that future emissions of methane will exceed 1990 levels, the baseline year set by Marin County's Greenhouse Gas Reduction Plan, and concludes that this increase constitutes a significant impact. Mitigation measures specified in the EIR include maximizing capture of landfill gas and its use for power production; increased recycling, as well as composting of organic wastes (which contribute to landfill gas generation); extending the post-closure maintenance period as long as the landfill continues to produce gas; and additional on-site and off-site off-sets. With mitigation, future emissions can be reduced to below 1990 levels.

Ostrom Road Landfill Expansion EIR. ***Project Manager.*** Dan prepared a Draft and Final EIR on proposed modifications to the landfill's existing Conditional Use Permit, Solid Waste Facility Permit, and Waste Discharge Requirements. Analysis included geology, hydrology and water quality, air quality, traffic circulation and safety, hazardous materials, noise, and aesthetics for a revised site grading plan that would increase the maximum allowable daily tonnage limit from the current maximum of 1,000 tons per day to 3,000 tons per day, and increase the allowable number of trucks delivering wastes to the facility. The EIR successfully withstood legal challenge.

Relevant Experience (Continued)

South Bayside Waste Management Authority Facilities and Operations Consulting. *Project Director*. In 2000, the South Bayside Waste Management Authority purchased a large transfer station, recyclable materials processing plant, and ancillary facilities, including the collection truck maintenance shop, from the local refuse collection company, which continues to operate them. After a competitive selection process, ESA was chosen to inspect the buildings, yards, and equipment periodically to assure they are well maintained and are performing optimally. ESA scrutinized the entire facility once each month and provided summaries to the operator and the Authority; ESA also developed specifications for major maintenance activities such as floor repaving and equipment replacement. The working relationships among ESA, the Authority, and the facility operator were highly cooperative throughout this effort, which continued through 2008.

South San Francisco Scavenger Company MRF/Transfer Station EIR. *Project Manager*. Dan evaluated land use for the project, which would consolidate the functions that occurred at two locations in the City, and provide increased opportunities for waste diversion, as mandated by AB 939. The site location on the shore of San Francisco Bay in an area zoned Coastal Commercial/Light Industrial was inconsistent with the type of uses identified for this location in the City's *East of 101 Area Plan*. Dan also managed evaluation of site's biology, air quality, traffic and traffic safety, aesthetics, recreation, public health and safety, geology, and hydrology.

Yolo County Central Landfill Expansion and Full-Scale Bioreactor EIR. *Project Manager.* ESA prepared a Draft and Final EIR for proposed modifications to the Yolo County Central Landfill, including a height extension and use of both anaerobic and aerobic bioreactor technologies in future cell development. The EIR focused on impacts to aesthetic, biological and air resources, and examined in detail the effectiveness of bioreactor technology for reducing methane emissions and maximizing energy recovery. The Final EIR was certified in March 2005.

MONICA STRAUSS, RPA

Cultural Resources

Monica is the director of ESA's Southern California Cultural Resources Group and is based in the Los Angeles office. She has 15 years of experience in cultural resources management and has directed numerous archaeological investigations throughout Southern California and the Channel Islands. She directs prehistoric and historic field and research projects for public agencies and private developers and is proficient in CEQA and Section 106 compliance. She manages a staff of cultural resources specialists who conduct various types of compliance work including phase I surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. Monica has prepared technical documents meeting the requirements of federal, State, and local agencies in support of CEQA and Section 106 as well as cultural resources components for General and Specific Plans. She provides senior oversight and quality control of archaeological resources-focused documents for ESA staff throughout the State.

Education

M.A., Archaeology , California State University, Northridge

B.A., Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

15 Years of Experience

Professional Affiliations

Register of Professional Archaeologists (RPA)

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

Specialized Experience

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

Qualifications

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Certified in CA BLM Protocol

Relevant Experience

Metropolitan Air Park. San Diego, CA. *Cultural Resources Principal Investigator*. ESA is preparing a master development plan, EIR, and EA for Metropolitan Air Park at Brown Field Airport in the City of San Diego. The project involves a 50-year land lease from the City of San Diego for a 400-acre portion of the airport property to be developed into airport and non-airport related land uses. The project requires the approval of the City of San Diego and the Federal Aviation Administration, and is being processed as Master Planned Development Permit Project. Monica is currently directing the cultural resource component of this project. Her duties involve coordination with the City of San Diego to ensure compliance with the City of San Diego Historical Resources Guidelines and oversight of survey and identification methods and resource evaluations.

Cadiz Groundwater. San Bernardino County, CA. *Cultural Resources Principal Investigator.* ESA was retained by Cadiz Land Company, Inc. to prepare an EIR in connection with a water supply project in Cadiz Valley of the Mojave Desert. Monica directed a Phase 1 archaeological resources assessment including literature review, 42-mile long pedestrian survey, and Native American outreach to meet CEQA compliance requirements. An Archaeological Resources Technical Report was prepared that evaluated the California Register eligibility of over 40 historic-period archaeological sites that had been identified as a result of the investigation. The results of the technical report were incorporated into the EIR which included an impacts analysis and appropriate mitigation measures.

North San Pablo Bay Restoration and Reuse. Sonoma and Napa Counties, CA. *Cultural Resources Senior Oversight.* ESA was retained by the Sonoma County Water Agency to prepare an EIR/EIS in connection with a project to expand the beneficial use of recycled water in the North Bay Region. To fulfill both NEPA and CEQA requirements, ESA conducted Extended Phase I cultural

Relevant Experience (Continued)

resources identification efforts to meet CEQA and Section 106 requirements. Extending across multiple counties, the project required extensive archival research and pedestrian survey, sub-surface archaeological testing, and coordination with Native American representatives. The Section 106 component of the work was coordinated with the U.S. Bureau of Reclamation. Monica provided senior oversight to ESA archaeologists; provided quality control reviews of the survey report, testing work plan, and testing report; and helped facilitate successful coordination with the Bureau of Reclamation.

Ocotillo Wind Farm Project EIR. Imperial County, CA. ***Project Manager.*** ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Monica is specially trained in BLM protocols and procedures. She is currently assisting BLM (El Centro Field Office) staff with general oversight of the 15,000-acre cultural resources study being carried out for the Ocotillo Wind Farm project. Monica has conducted peer-review of cultural resources documents to ensure conformance with BLM requirements and is providing oversight to survey staff who are conducting compliance monitoring of the survey effort.

West Kern Water District Groundwater Recharge Project EIR. Kern County, CA. ***Cultural Resources Principal Investigator.*** Monica managed a Phase I archaeological resources survey of a 500-acre Project area proposed for groundwater recharge basins and a nine-mile pipeline in Kern County. The Project was carried out in compliance with CEQA and Section 106 of the NHPA. The survey resulted in the identification of over 20 archaeological sites. She managed the preparation of a Phase I Archaeological Resources Survey Report and Cultural Resources EIR Section that addressed the potential for site eligibility and provided an impacts analysis and mitigation measures.

California Department of Water Resources On-Call Environmental Planning Services. East Branch Enlargement EIR. Antelope Valley, CA. ***Cultural Resources Principal Investigator.*** ESA was retained by the Department of Water Resources. Monica managed a Phase I archaeological resources survey for the enlargement of 100 miles of the California Aqueduct from the Tehachapi split through the Antelope Valley and Mojave River Basin to Silverwood Reservoir. The Project was carried out in compliance with CEQA and Section 106 of the NHPA. Monica managed the survey, report effort, and preparation of the EIR section that considered Project impacts to historic architectural and archaeological resources.

Morro Bay Cayucos Wastewater Treatment Plant, San Luis Obispo County, CA. ***Cultural Resources Principal Investigator.*** ESA was retained by the City of Morro Bay-Cayucos Sanitation District to prepare an EIR for the Morro Bay-Wastewater Treatment Plant upgrade. Monica directed a Phase I Cultural Resources Assessment to identify cultural resources that might be impacted by the project. The assessment included archival research, pedestrian survey, the relocation of a number of archaeological sites, coordination with

Relevant Experience (Continued)

interested Native American parties in the area, and the preparation of a Phase I Cultural resources Technical Report. Monica facilitated in meeting with Native American tribal members and City representatives to address concerns about buried resources.

Irvine Ranch Water District Baker Treatment Plant. Orange County, CA. ***Cultural Resources Principal Investigator*****.** ESA was retained by the Irvine Ranch Water District to provide environmental compliance services. In support of an EIR for the upgrade of the IRWD's Baker Treatment Plant near Lake Forest, Orange County, ESA cultural resources staff conducted a Phase I Cultural Resources Assessment. Monica directed the archival research, a series of pedestrian surveys, and oversaw the preparation of Phase I Cultural resources Technical reports and the cultural resources section of the EIR.

CDFG Suction Dredging Permitting. Yolo County, CA. ***Cultural Resources Senior Oversight.***ESA was retained by Horizon Water and Environment LLC. to conduct a cultural resources constraints study to identify cultural resources within areas that would be impacted by the project. ESA conducted archival research and prepared section for an Initial Study and EIR. Monica provided senior technical oversight of the work and provided quality control review of the documents.

CPUC Devers-Mirage. Palm Springs, CA. ***Cultural Resources Senior Oversight.*** ESA was retained by the California Public Utilities Commission to prepare an EIR to evaluate the potential impacts from Southern California Edison's proposed Devers-Mirage 115 kV System Split project. ESA cultural resources staff reviewed and synthesized technical documents and prepared a cultural resources EIR section that provided an impacts analysis and mitigation measures. Because the project involved BLM lands, cultural resources studies were required to meet NEPA requirements in addition to CEQA. Monica provided technical oversight of the cultural resources effort and conducted quality control review of the document.

Metro Universal Phase I Archaeological Resources. North Hollywood, CA. ***Project Director.*** Working as a consultant for Thomas Properties Group, Monica directed archaeological resources assessment for the proposed Metro Universal project to be constructed adjacent the historic *Campo de Cahuenga* in North Hollywood. She conducted extensive literature review and archaeological survey and prepared and archaeological technical report and EIR section. Working with project engineers, she developed a scaled approach to identify varying degrees of cultural resources sensitivity across the project site and determined appropriate mitigation measures. She worked with engineers and landscape designers to inform the design to best enhance existing cultural resources. Monica attended monthly meetings with the *Campo de Cahuenga* Board of Representatives and the Thomas Properties team to address cultural resources concerns.

Olive View Medical Center Emergency Services Expansion Monitoring and Assessment. Los Angeles, CA. ***Project Director.*** Working for the City of Los

Relevant Experience (Continued)

Angeles, Department of Public Works, Monica directed archaeological monitoring and a Phase I cultural resources assessment in support of an EIR for medical center expansion in Sylmar. Two historic resources were identified and determined not significant under CEQA. Monica responded to a discoveries made by construction personnel and determined prehistoric artifacts were present in native soil within the project area.

Exposition Corridor Transit – Phase II Phase I Archaeological Assessment. Los Angeles CA. *Project Director.* Monica directed archaeological, historic architectural, and paleontological resources assessment in compliance with CEQA and Section 106 regulations. Project involved archaeological, paleontological, and historic architectural survey of six- mile alignment, production of APE maps, consultation with SHPO and the preparation of technical reports and EIR sections.

Lang Ranch Community Park Phase I Archaeological Testing and Assessment. Thousand Oaks, CA. *Project Director.* Working for the Conejo Park and Recreation District, Monica directed a Phase I archaeological survey of the 46-acre project area. Project work involved the archaeological testing at two artifact isolate locations to determine presence of sub-surface deposits and coordination with Native American representatives. Monica prepared an Archaeological Resources Technical Report and EIR section with findings and recommendations for further work, pursuant to CEQA requirements.

City of Los Angeles, Haiwee Dam Phase I Archaeological Resources Evaluation. Lone Pine, CA. *Field Archaeologist.* Working for the City of Los Angeles, Department of Water and Power, Monica participated in archaeological field survey involving the identification and recording of prehistoric and historic archaeological sites and structures in preparation for the construction of a new dam.

County of Los Angeles, Arroyo Seco Bike Path Phase I Cultural Resources Evaluation. Los Angeles, CA. *Project Director.* Working for the County of Los Angeles, Department of Public Works in connection with a project to make improvements to the Arroyo Seco Channel, Monica managed all aspects of Section 106 review in accordance with Caltrans Cultural Resources Environmental guidelines. Monica and her team evaluated the Arroyo Seco Channel, identified character-defining features, informed the design of channel improvements to retain such features, and addressed the channels' potential for eligibility as part of a larger Los Angeles Country water management district. She developed the research strategy, directed the field teams, and prepared cultural resources assessment documentation for approval by Caltrans and FHWA, as well as the cultural resources section for a Mitigated Negative Declaration.

JON WEST

Biological Resources

Jon West is an associate biologist with a wide variety of experience in biology and resource management, including habitat assessments and focused surveys for rare and special-status plants and wildlife. Jon has worked on numerous community development projects, solar and wind development, infrastructure, and water agency projects throughout Southern California and the southwest region. Other experience includes biological and mitigation monitoring, avian studies and nest searches, wetland and riparian jurisdictional delineations, vegetation mapping, terrestrial mammal trapping, and exotic plant management. Jon also has experience with GPS and ArcGIS software, and provides a variety of technical analysis functions in support of CEQA and NEPA compliance and documentation.

Education

B.A., Environmental Studies and B.A., Writing, Ithaca College, Ithaca, NY

4 Years Experience

Specialized Training

USFWS protocol-level surveys for southwest willow flycatcher presence/absence surveys and nest monitoring.

USFWS protocol-level surveys for arroyo toad presence/absence and breeding surveys.

Successful CEQA Compliance – UCLA Extension

SDG&E Sunrise Powerlink Project - Biological Monitor training.

Professional Affiliations

Association of Environmental Professionals – Channel Counties Chapter

Wildlife Society – Western Section

Los Angeles Audubon Society – western snowy plover (Charadrius alexandrinus) survey volunteer

Relevant Experience

County of Kern, Aero Lower West Biota Surveys, Kern County, CA. ***Deputy Project Manager, Technical Analyst, and Field Surveyor.*** Jon assisted ESA in performing biota surveys for a technical biological study for Aero Energy's submittal package to Kern County for pursuing wind energy development in the Tehachapi Pass Wind Resource Area. Jon helped coordinate and perform focused bird and bat studies in accordance with the California Energy Commission's *Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development*. Bat studies were conducted using digital mist netting and SonoBat software to analyze and compare high-resolution full-spectrum sonograms of bat echolocation calls. Jon assisted with coordinating field efforts and performing focused surveys for desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), and burrowing owl (*Athene cunicularia*). Jon also provided technical analysis in drafting the technical biological report.

California Department of Water Resources, Arroyo Toad Monitoring Plan, Los Padres National Forest, CA. ***Biological Technician and Technical Analyst.*** Jon assisted ESA with biological monitoring and technical analysis for DWR's monitoring program for the federally endangered arroyo toad (Anaxyrus californicus) and other special-status species including California red-legged frog (Rana aurora draytonii), southwestern pond turtle (Actinemys marmorata pallida), and two-striped garter snake (thamnophis hammondii) in middle Piru Creek in the Los Padres National Forest. Jon assisted in formulating and implementing the U.S. Fish and Wildlife Service-approved monitoring plan, and conducting field surveys to monitor A. californicus reproductive success, habitat quality, and hydrological features on Piru Creek.

California Department of Water Resources, Piru Creek Special Use Permit Renewal, Los Padres National Forest, Ventura County, CA. ***Technical Analyst and Biological Technician.*** Jon assisted ESA with completing a Biological Assessment in support of DWR's renewal of a Special Use Permit to access and maintain the Piru Creek Gauging Station in Los Padres National Forest. Presence/absence surveys and habitat assessments were conducted for special-status species including arroyo toad, southwestern pond turtle, red-legged frog, and two-striped garter snake. Jon also assisted in the technical

Relevant Experience (Continued)

analysis of biological data and project plans while drafting the document in consultation with DWR, USFS, and USFWS.

California Department of Water Resources, California Aqueduct East Branch Extension Project, San Bernardino County, CA. *Biological Technician*. Jon assisted ESA with conducting biological resources reconnaissance surveys for special-status wildlife and rare and special-status plants along segments of DWR's proposed East Branch Extension Project.

California Department of Water Resources, Templin Highway Culvert Repair, Angeles National Forest San Bernardino County, CA. *Biological Technician*. Jon assisted ESA with conducting biological resources reconnaissance surveys and performing jurisdictional wetland delineations in support of DWR's environmental compliance and federal permitting for installation of a new culvert below Templin Highway. Jon assisted in characterizing and mapping vegetation in the project area, conducting a floristic inventory and rare plant survey, and surveying for special-status wildlife including arroyo toad and coastal California gnatcatcher (*Polioptila californica californica*).

Los Angeles County Waterworks District No. 40 (LACWWD40), Regional Recycled Water Project, Los Angeles County, CA. *Biological Technician and Technical Analyst*. Jon assisted ESA with conducting biological resource reconnaissance surveys and providing technical analysis in support of LACWWD40's Program EIR for the project.

Irvine Ranch Water District (IRWD), Baker Water Treatment Plant Project, Orange County, CA. *Biological Technician and Technical Analyst.* Jon assisted ESA with conducting biological resources reconnaissance surveys and providing technical analysis in support of IRWD's Program EIR for the Project.

California Department of Water Resources, Lake Perris Remediation Project, Riverside County, CA. *Biological Technician*. Jon assisted ESA in performing protocol-level presence/absence surveys for least Bell's vireo (*Vireo bellii pussilus*) at Lake Perris and multiple mitigation sites in Riverside County. Focused surveys were preformed to assist in assessing impacts from a drawdown of the lake and to provide the basis for impact mitigation under the MSHCP.

Las Virgenes Municipal Water District, Environmental Constraints Assessment for Recycled Water Reservoir Site, Los Angeles County, CA. *Technical Analyst and Field Surveyor*. Jon assisted ESA in conducting a reconnaissance-level biological survey and drafting a constraints assessment identifying fatal flaws and significant environmental and regulatory hurdles to developing a reservoir site in the Santa Monica Mountains.

U.S. Bureau of Reclamation, Southwestern Willow Flycatcher Management Plan, Lower Colorado River, CA and AZ. *Biological Technician and Survey Coordinator.* Jon conducted USFWS protocol-level, presence/absence surveys and nest monitoring for the southwestern willow flycatcher (*Empidonax traillii extimus*) along the lower Colorado River. In addition to coordinating focused

Relevant Experience (Continued)

survey efforts for the southwestern willow flycatcher, Jon also surveyed for other special-status bird species such as yellow-breasted chat (*Icteria virens*), summer tanager (*Piranga rubra*), clapper rail (*Rallus longirostris*), black rail (*Laterallus jamaicensis*), and yellow-billed cuckoo (*Coccyzus americanus occidentalis*). Methods included collecting resight and behavioral data for *E. trailii*, analyzing microclimate conditions, and maintaining field data equipment, such as data loggers. Jon collected hydrology, vegetation, and wildlife data in the field for field reports, and used GPS to map localities of *E. trailii* and other biological resource data.

National Park Service, White Sands National Monument, NM. *Biological Science Technician.* As a member of the Exotic Plant Management Team, Jon surveyed and mitigated exotic plant species, including salt cedar (*Tamarix*) and African rue (*Peganum harmala*) in backcountry environments using foliar spray and cut-stump treatment techniques in accordance with NPS protocol and safety procedures. He used GPS and ArcMap software to document and map localities of exotic plant infestations and treatment areas, maintained and analyzed exotic plant management data, and completed a management report to the NPS Exotic Plant Management Team. He also conducting various wildlife, hydrology, and paleontology surveys in support of NPS and independent research efforts.

U.S. Bureau of Land Management, Resource Management Plan. Vernal, UT. *Biological Technician.* Jon conducted BLM protocol-level presence/status surveys for special-status plants, including Uintah basin hookless cactus (*Sclerocactus wetlandicus*) and Pariette cactus (*Sclerocactus brevispinus*) in the oil and gas fields of the Uinta basin, Utah. Jon also conducted habitat delineation surveys for Graham's penstemon (*Penstemon grahamii*) in backcountry environments. Used GPS to map habitat delineations as well as proposed oil pad and pipeline locations.

San Diego Gas and Electric (SDG&E) TL-680A Reconductor Project. San Diego County, CA. *Biological and Wetland Monitor*. Jon served as a construction monitor for biological and wetland resources for SDG&E's Project to reconductor approximately 4.5 miles of existing and new transmission and distribution lines along TL-680 in Oceanside and Carlsbad, CA. Duties included conducting pre-construction reconnaissance surveys for special-status species, nesting birds, and other sensitive biological and wetland resources. Other responsibilities included holding pre-construction meetings with crews and monitoring construction activities to assist crews in avoiding and minimizing impacts to NCCP habitats during project-related activities.

U.S. Bureau of Land Management, Desert Sunlight Solar Farm Project. Riverside County, CA. *Compliance Monitor*. Jon assisted ESA in providing BLM-third party compliance monitoring and documentation as part of the Project's Environmental and Construction Compliance Monitoring Plan (ECCMP). The project includes the construction of a 550-megawatt solar photovoltaic generating facility and 220-kilovolt generation interconnection line on approximately 4,144-acres of BLM-managed land in the Mojave Desert.

Metropolitan Water District of Southern California (MWD), F.E. Weymouth Water Treatment Plant Mitigation Monitoring and Reporting

Relevant Experience (Continued)

Program (MMRP). Los Angeles County, CA. *Construction Monitor*. Jon is assisting ESA's Consulting Mitigation Monitoring Team with providing on-site construction monitoring and reporting for MWD's Inlet Conduit Construction, Power Systems and Seismic Upgrades, and Filter Rehabilitation Demonstration Projects, respectively. Jon is monitoring construction activities and mitigation measures, and providing reporting and communication documentation in support of the Project's MMRP.

Southern California Edison (SCE) Tehachapi Renewable Transmission Project, Los Angeles County, CA. *Construction and Bird Nest Monitor*. Jon monitored construction activities and active bird nests on Segments 4-11 of SCE's Project to construct transmission lines, substations, and other support structures intended to connect renewable energy generated at the Tehachapi Pass Wind Resource Area to the Greater Los Angeles Area. Jon performed pre-construction reconnaissance surveys and monitored construction activities and active bird nests to reduce impacts to sensitive biological resources from project-related activities. Other duties included monitoring for burrowing owls and other nesting bird species, ensuring compliance with adopted BMP's, and communicating with crews.

County of Los Angeles Department of Public Works, Steven Sorensen County Park Gymnasium/Community Building Project, Los Angeles County, CA. *Biological Monitor*. Jon assisted ESA with providing biological resources mitigation monitoring and reporting for Phase III of the Project. Monitoring responsibilities included pre-construction focused surveys for burrowing owl and southern grasshopper mouse (*Onychomys torridus Ramona*). Other duties included pre-construction terrestrial mammal trapping and relocation, and implementing an employee education and awareness training program.

U.S. Bureau of Land Management, Ocotillo Wind Energy Project. Imperial County, CA. *Biological Monitor*. Jon assisted ESA with conducting pre-construction biological resources clearance surveys for meteorological tower installation in support of the Ocotillo Wind Energy Project in the Sonoran Desert of Imperial County, CA. Pre-construction clearance surveys were conducted for rare and special-status vegetation and wildlife.

Orange County Sanitation District, Newport Trunk Sewer Biological Mitigation Monitoring and Reporting Program. Orange County, CA. *Biological Monitor*. Jon assisted ESA in providing biological monitoring in support of OCSD's Mitigation Monitoring and Reporting Program for the Project located in the area of the Santa Ana River Marsh. Monitoring responsibilities included BMP inspections, special-status plant and wildlife clearance surveys, nest searches, and supporting employee education and awareness programs.