

# Dylan Duvergé, MS, PG

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dylan@stratusenviro.com, 575-342-1267

Dylan Duvergé is a California-registered Professional Geologist and environmental analyst with over 15 years' experience assessing program and project impacts to surface water and groundwater resources; geologic and hydrologic hazards; and soil, mineral, and paleontological resources. Mr. Duvergé assists large-scale planning efforts and individual project proposals through California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), Senate Bill 610, and Sustainable Groundwater Management Act (SGMA) compliance. Mr. Duvergé stands out for his versatility and resourcefulness, diversity of experience, and his ability to clearly and effectively communicate both the scientific and regulatory aspects of hydrologic and geologic issues.

Stratus Environmental. Silver City, NM. 2021-Present

**Owner.** Stratus Environmental LLC (Stratus) contributes its scientific, technical, and permitting expertise in the geosciences to promote a wholistic and pragmatic approach to natural resource stewardship in southwest New Mexico. Stratus seeks to partner with other businesses, non-profits, municipalities, and governmental agencies to address our most pressing water problems, from development of and competition for water supplies to degradation of soil resources and waterways.

Dudek. San Diego, CA. Oct 2012 – Jan 2023.

**Senior Hydrogeologist.** Mr. Duvergé prepared, contributed to, and/or peer reviewed CEQA/NEPA impact analyses, groundwater sustainability plans, groundwater resource investigations, water supply assessments, hydrology and drainage studies, geotechnical reports, Phase I Environmental Site Assessments, and paleontological resource assessments for various projects throughout California and Nevada. He served as an internal “bridge” between the CEQA/planning group and the hydrogeology group, and regularly contributed to proposals and completed scopes and cost estimates in response to RFPs and RFQs to win new work. Mr. Duvergé mentored junior staff, was a go-to person to rescue projects in trouble, and ensured internal coordination between discipline groups. Specific projects and roles are listed in Attachment 1. Services and deliverables include the following:

- **Water Resource Management:** Prepared SB 610 Water Supply Assessments and/or similar reports for about 20 renewable energy projects in San Diego, Stanislaus, Contra Costa, Kern, Imperial, and Riverside Counties, California, and Nye County, Nevada. WSAs assessed existing groundwater and surface water availability, evaluated project and non-project water demands, summarized existing water planning documents, and evaluated the sufficiency of supply over a 20-year forecast period. Conducted water resource due diligence reports for land management agencies and/or open space properties in Napa, Sonoma, and Santa Cruz Counties, California.

## **Education**

San Francisco State University, MS, Applied Geosciences, 2011

University of New Mexico Advance Field Geology, 2008

University of California, Santa Cruz, BA, Environmental Studies, 2005

## **Certifications**

Professional Geologist (PG), CA No. 9244

40-Hour HAZWOPER, as per 29 CFR 1910.120(e), and RCRA DOT

Qualified SWPPP Developer, CA No. G09244

## **Publications**

Duverge (2011). *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region*, MS Thesis. San Francisco State University. 2011.

- **Groundwater Sustainability:** Major contributing role in the writing and reviewing of some of the first Groundwater Sustainability Plans adopted by DWR in California, namely: Borrego Springs, Fox Canyon, Montecito, West San Jacinto, Santa Monica, and Ojai Valley. Evaluated and summarized administrative information, land use and population projections, basin setting information; created illustrative figures, tables, and diagrams; and developed and identified basin undesirable results and sustainable management criteria based on existing setting, monitoring data, and agency and public input. Reviewed water budgets, groundwater model results, and proposed projects and management actions to achieve sustainable management within 20 years.
- **Technical Studies:** Completed groundwater resources investigation reports for several renewable energy projects in San Diego County, as well as agricultural/open space projects in Sonoma, Ventura and San Diego counties. Scope of work generally involved gathering available groundwater data/records; overseeing pump tests; inventorying wells and monitoring water levels; incorporating pumping test data to evaluate well performance and estimate aquifer hydraulic properties; analyzing hydrologic and climatic data; determining project water demands; analyzing aquifer storage depletion; evaluating well-interference using Theis or Cooper-Jacobs methods; and analyzing impacts on groundwater-dependent ecosystems. Other technical studies included standard Phase I ESA's, as well as soil and groundwater quality monitoring reports.
- **CEQA/NEPA:** At Dudek and ESA, Mr. Duvergé has contributed to CEQA or NEPA documents in nearly every County in California, and for nearly every type of discretionary project (e.g., urban development, energy/renewables, water/wastewater, mining/industrial, agriculture, natural resource management, etc) and lead agency. Authored geology/soils, hydrology/water quality, hazards/hazardous materials, utilities/service systems, paleontological resources, and visual resources/aesthetics, and project description chapters for EIRs, EISs, MNDs, and EAs. Reviewed fellow staff and subconsultant technical studies for CEQA/NEPA adequacy; assisted CEQA PMs in evaluating data needs and coordinating needed hydrologic/geologic/ hazardous materials technical studies; worked with project proponents and lead agencies on controversial issue areas and regulatory compliance; and developed and implemented appropriate mitigation measures.
- **Project Management:** Besides regular deputy project management roles on CEQA/NEPA projects (coordination, meetings, scoping, budgeting, scheduling), Mr. Duvergé managed a \$120,000, 2-year contract for a confidential client to produce scientific review white-papers, investigate environmental constraints and feasibility, conduct an extensive State-wide site screening/selection process, and form an environmental strategy for an experimental pilot-phase renewable energy technology (confidential).

Environmental Science Associates. San Francisco, CA. 2007 – 2012.

**Senior Associate.** Reviewed and/or authored CEQA/NEPA chapters, primarily in geology, soils, and seismicity; mineral and paleontological resources; hydrology and water quality; hazardous substances; and visual resources. Also provided field-support services for archeological/paleontological studies, topographic surveys, and site reconnaissance. Specific projects and roles are listed in Attachment 1.

Tetra Tech EM Inc. San Francisco, CA. 2005 - 2007.

**Environmental Scientist.** Full-time employee at the Recycling and Solid Waste Program for the Environmental Protection Agency (Region 9) under federal contract for records management, FOIA requests, and RCRA waste identification number tracking/reporting.

# Attachment 1: Project Experience

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## Resource Management

**Lehigh Permanente Quarry Reclamation Plan EIR, Santa Clara County, Cupertino, California.** Prepared the paleontological resources, mineral resources, and the geology, soils, and seismicity chapters of the EIR. Performed field work in support of the EIR, including rock sampling for analysis of asbestos, and water quality sampling to develop data on selenium concentrations in runoff from overburdened storage areas. The reclamation plan amendment was submitted in accordance with the Surface Mining and Reclamation Act to reclaim lands within an approximately 1,095-acre area that have been affected by surface mining activities since 1975.

**Roblar Road Quarry EIR, North Bay Construction Inc., Sonoma County, California.** Reviewed and responded to public comments on the Draft EIR for the project related to issues of groundwater, slope stability, naturally occurring asbestos, and seismic hazards. The EIR evaluated a proposal to mine approximately 570,000 cubic yards of basalt annually over a 20-year use permit. The project presented a number of environmental and technical issues, including 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. The project was approved in October 2010.

**Kunzler Terrace Mine Use Permit and Reclamation Plan EIR, Mendocino County, Ukiah, California.** Assisted in a subsurface investigation and preparation of a technical memorandum addressing the potential presence of subsurface archeological resources. Logged a series of on-site test pits for soil type and evidence of paleosols, and drafted a memorandum based on the results that described the soil stratigraphy and the potential for buried archeological artifacts. The Kunzler Terrace Mine is an aggregate mining operation at the confluence of the Russian River and Ackerman Creek. The EIR analyzed the potential impacts of a quarry pit to be developed through three phases totaling approximately 30 acres with a maximum depth of 66 feet.

**Pilarcitos Quarry Expansion EIR, San Mateo County, Half Moon Bay, California.** Prepared the paleontological resources and the geology, soils, and seismicity chapters of the EIR, in which slope stability was a major issue. Located within the Coastal Zone in the Pilarcitos Creek watershed, near Half Moon Bay, the Pilarcitos Quarry produces a variety of aggregate products from a deposit of decomposed granite and plans to continue operations for 70 years. The EIR examined a substantial expansion of operation into undisturbed areas adjacent to the existing quarry.

**Sunol and Niles Dam Removal Project, San Francisco Public Utilities Commission (SFPUC), Sunol, California.** Assisted in the yearly collection of stream data along two reaches of Alameda Creek, including the collection of topographic data (profiles and cross sections) using a total station, streambed pebble counts, and photo-monitoring of the creek. The Sunol and Niles Dam Removal Project is a multiyear fish passage and geomorphology monitoring task to assess the annual change in stream characteristics following the removal of two dams on Alameda Creek.

**GSPs, Fox Canyon Groundwater Management Agency, Ventura County, California.** Developed the sections of four Draft GSPs related to population growth, land use development patterns/trends, and relevant land use goals and policies directing growth within each basin. Dudek is working with a technical advisory group to prepare four comprehensive GSPs in accordance with state requirements. The plans consist of historic basin and water use conditions and determination of sustainable basin yield, undesirable results, and thresholds for monitoring.

Future conditions are evaluated in terms of potential changes to land use and climate and a plan for proactive management, including data monitoring and implementation of projects and policies will be developed.

**Borrego Groundwater Sustainability Plan, County of San Diego and Borrego Water District (BWD).** Authoring the Draft Groundwater Sustainability Plan (GSP) for the critically overdrafted Borrego Valley Basin. Assisted in the compilation of current and historical data related to groundwater levels, water quality, and pumping. Working with team members to develop the basin's data management system. The Borrego Valley Basin must submit a GSP to the California Department of Water Resources (DWR) by 2020. Dudek has been assisting the County of San Diego and the BWD for years with numerous aspects of groundwater management, including technical analysis of the existing BWD Demand Offset Water Credits Policy, scientific and jurisdictional analysis of the basin boundaries to obtain a Bulletin 118 basin boundary modification, water replacement cost analysis, and analysis on managing proportional groundwater production cutbacks through a water market approach. Dudek is also providing on-call grant application preparation services and support for various projects through numerous chapters of Proposition 1 for the BWD.

**Cojo-Jalama Ranch Groundwater Sustainability, Bixby Management Inc., Santa Barbara, California.** Completed a Safe Yield Report on a 25,000-acre ranch in Santa Barbara County using county-approved soil moisture balance method to quantify recharge and sustainable groundwater production, and evaluate potential impacts on groundwater-dependent ecosystems. The study was completed to document that the water demand of the ranch's existing and future cattle operation would fall within the consolidated rock aquifer's sustainable yield, and to comply with county thresholds for determining impact significance under CEQA. The evaluation summarized the hydrogeologic setting, groundwater well distribution and depths, and the results of water level monitoring on the ranch. Prior to the acquisition of the property by the California Nature Conservancy, Dudek had been assisting the client resource evaluation work on the ranch by installing and monitoring gauges to measure rainfall, soil moisture content, and transpiration.

**Water System Improvement Program (WSIP), Habitat Reserve Program Technical Studies, SFPUC, San Francisco, California.** Conducted technical studies for geology, soils, and paleontological resources. Supported the analysis of hydrology, water quality, and hazardous materials by preparing GIS field maps, as well as figures and tables of baseline physical data, including soil units, rock type, landslide potential, and liquefaction hazards. The program will provide a coordinated and consolidated approach to compensate for habitat impacts that would result from implementation of SFPUC's WSIP facility improvement projects. The Habitat Reserve Program contemplates thousands of acres of habitat improvements located in the San Joaquin Valley, Sunol Valley, Bay Division, and Peninsula regions of the SFPUC water system.

## Energy

**San Diego Gas and Electric (SDG&E) Master Special Use Permit (MSUP) and Permit to Construct Power Line Replacement Projects, California Public Utilities Commission (CPUC) and United States Forest Service (USFS), San Diego County, California.** Dudek was contracted by the CPUC to prepare environmental documents pursuant to the CEQA/NEPA for the SDG&E CNF Electric and Reliability Project. SDG&E proposed to submit an application to the USFS for an MSUP, which combined approximately 70 special-use permits and other approvals for various electric transmission and distribution facilities located throughout the CNF into one master permit under one 20-year authorization. Analyzed transportation and hydrological impacts of the project in support of the EIR/environmental impact statement (EIS), developed a project alternative based on erosion and sedimentation impacts, and developed mitigation measures to properly design unpaved access roads in steep, remote, rural areas.

**Calpeco Transmission Line Upgrade CEQA, CPUC, Placer and Nevada Counties, California.** Dudek was contracted by the CPUC to prepare and review environmental documents pursuant to the CEQA for the proposed Sierra Pacific Power

Company 625/650 Transmission Line Project. The document also required compliance with NEPA for which USFS and the Tahoe Regional Planning Agency shared lead agency status. Reviewed portions of the EIS/EIR for consistency with CPUC requirements and obligations under CEQA, including the following chapters: visual resources, geology and soils, hydrology, utilities and service systems, and recreation. Dylan also reviewed technical reports related to erosion and soil loss, and substantially revised the analysis of impacts to visual resources.

**Desert Renewables Energy Conservation Plan (DRECP), Aspen Environmental Group, Various, California.** Dudek is assisting the California Energy Commission in the preparation and environmental analysis of the DRECP. The plan will help provide effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. The DRECP is focused on the desert regions and adjacent lands of seven California counties: Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego. Developed a new baseline dataset identifying the paleontological sensitivity of rock formations within the 22 million-acre planning area. He also authored the paleontological resources section of the EIS/EIR, which assessed the potential desert-wide effects of renewable energy development on paleontological resources.

**Soitec Solar Development, Soitec Solar Inc., Boulevard, California.** Dudek was contracted by a confidential client to prepare an EIR and supporting technical studies for the development of four solar energy projects with a combined electrical generating capacity of 170 megawatts (MW) in eastern San Diego County. Served as part of the team that prepared the Groundwater Investigation Reports for each project, and he authored the Groundwater Inventory and Allocation Plan that addressed cumulative impacts to groundwater supply in eastern San Diego County. He also authored the hydrology and water quality sections of the Draft EIR.

**Rio Mesa Solar Electric Generating Facility CEQA Studies, BrightSource Energy, Inc., Riverside, California.** BrightSource Development LLC, based in Oakland, California contracted with Dudek in October 2012 to perform environmental consulting services on behalf of and under the direction of the Bureau of Land Management (BLM) and BrightSource, specifically to provide support services to complete an EIS and California Desert Conservation Area Plan Amendment for its Rio Mesa Solar Energy Generating System. Authored several chapters of the administrative draft of Draft EIS, including visual resources, geology and soils, paleontology, and recreation. Additionally, performed extensive quality control and consistency review of the entire document and coordinated production, including figures, formatting, and editing.

**Utility-Scale Solar Energy Development (Five Projects), BLM, Desert Region, California.** Played a key role in analysis of visual resources for five fast-track solar energy projects in BLM's California Desert District: (1) the 1,000-MW Blythe Solar Power Project EIS, (2) the 250 MW Genesis Solar Energy Project EIS, (3) the 500 MW Palen Solar Power Project EIS, (4) the 550 MW Desert Sunlight Solar Project, and (5) the 750 MW McCoy Solar Energy Project. Identified and resolved critical data gaps, crafted a workable approach to visual resource management (VRM) issues, and coordinated directly with BLM's National Lead for VRM to ensure proper assessment and mitigation of visual resource issues. Provided technical review and support for the analysis of geology and soils, paleontological resources, and mineral resources. Prior to the EIS phases of these projects, conducted application for certification and plan of development reviews in the areas of geology, soils, mineral resources, paleontological resources, and visual resources.

**Casa Diablo IV Geothermal Development Project EIS/EIR, USFS and BLM, Mammoth Lakes, California.** Wrote the geologic hazards, soil resources, mineral resources, and paleontology portions of the EIS and provided geographic information system (GIS)/graphics support. Mammoth Pacific LP proposes construction of a 33 MW geothermal power plant, adding up to 16 geothermal wells to their existing well field, internal access roads, pipelines, and a transmission line on National Forest System land. The USFS would authorize the transmission line and make changes to the forest transportation system. The Bishop Field Office of the BLM is the lead agency for NEPA compliance and has jurisdiction to approve development of the power plant, well field, and pipelines.

**SCE Lakeview Substation Project, CPUC, Riverside County, California.** Wrote the geology, visual, paleontological resources, and mineral resources sections of the EIR; provided GIS/graphics support; and assisted with technical review. This project involves the construction of a new 115/12-kilovolt (kV) substation, installation of two new 115 kV subtransmission source line segments, construction of two new underground 12 kV distribution getaways, installation of fiber-optic routes, and decommissioning of two existing substations to serve the growing Riverside County communities of Lakeview and Nuevo. Key environmental issues include construction-related air emissions and conversion of agricultural land. The Draft EIR was issued for agency and public review in January 2012.

**SCE Falcon Ridge Substation Project, CPUC, San Bernardino County, California.** Authored the geology, visual, paleontological resources, and mineral resources sections of the EIR; provided GIS/graphics support; and assisted with technical review. This project includes construction of a new 66/12 kV distribution substation, two new 66 kV subtransmission source lines, three new underground 12 kV distribution getaways, and new telecommunications facilities to ensure that safe and reliable electric service is available to serve utility customer needs in and near the cities of Rancho Cucamonga, Rialto, and Fontana, as well as surrounding areas of unincorporated San Bernardino County. The Draft EIR was issued for agency and public review in January 2012.

**Pacific Gas and Electric Company Hollister Transmission Line Project, CPUC, San Benito and Monterey Counties, San Benito and Monterey Counties, California.** Wrote the following chapters for the project's MND: geology, soils, and seismicity; hydrology and water quality; mineral resources and paleontological resources. The project included replacement of approximately 36 existing towers with new lattice steel towers, replacement of 154 single-circuit wood poles with double-circuit tubular steel poles and light-duty steel poles, relocation of an existing 115 kV line segment out of the San Benito River floodplain, installation of steel-supported aluminum conductor on both the tower and pole segments, and upgrade of the Hollister Substation. The CPUC approved the MND and the project on January 27, 2011.

**Tres Vaqueros Wind Energy Project, County of Contra Costa, California.** Supervised and peer-reviewed the hydrology, geology, and hazardous materials sections of the EIR, and wrote the paleontological resources section. The EIR analyzed the "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. Key environmental issues included biological resources (primarily avian and bat species), aesthetics, hydrology, and public safety. The County certified the EIR and approved the project on April 26, 2011.

**Vasco Wind Energy Project, County of Contra Costa, California.** Supervised and peer-reviewed the hydrology, geology, and hazardous materials sections of the EIR, and wrote the paleontological resources section. The EIR analyzed the repowering of an existing wind energy facility on an approximately 4,267-acre site in the Altamont Pass Wind Resource Area. The project decommissioned approximately 435 aging turbines and related infrastructure and replaced them with fewer, larger, and more efficient turbines that are expected to reduce avian impacts. Key environmental issues included biological resources (primarily avian and bat species), aesthetics, hydrology, and public safety. The County certified the EIR and approved the project on April 26, 2011. The project was constructed and is in operation.

**McHenry Solar Farm Project EIR, SunPower, Modesto, California.** Supervised and peer-reviewed the geology and soils and visual resources sections, and wrote the hydrology and water quality, paleontological resources, and mineral resources sections for this EIR. This project consisted of installation of photovoltaic panels, an operations and maintenance building, parking, a substation, transmission gen-tie, and other ancillary facilities on a 167-acre site previously used for agricultural production. The energy production would be used by the local utility to meet its renewable energy portfolio goals in response to state and federal policies. The project was constructed and is in operation.

## Municipal

**Santa Rosa Courthouse IS/MND, California Administrative Office of the Courts, Santa Rosa, California.** Assisted with the cultural resources investigation of the site by completing lithologic logs of six 20-foot-deep soil borings. The project would upgrade the courthouse to meet seismic standards, expand facilities, and install an underground parking garage.

**Marin County Emergency Operation Facility Program EIR, Marin County, San Rafael, California.** Wrote the hydrology and geology sections of the EIR. Key issues on the project were ensuring compliance with SB 1953 and associate seismic design requirements, fairly deep subgrade facilities and potential for structural dewatering, and contamination issues. The Emergency Operation Facility includes a 54,600-square-foot Sheriff's Department, a 10,800-square-foot fire station, ancillary building(s), parking, landscaping/plaza, and a 27,700-square-foot essential services building.

## Water/Wastewater

**Pure Water Program EIR/EIS and the Pure Water Program North City Project EIR/EIS, City of San Diego Development Services Department and the Bureau of Reclamation, San Diego, California.** Prepared the hydrology and water quality sections of the Pure Water Program EIR/EIS and the Pure Water Program North City Project EIR/EIS. As the first project in California to undertake potable reuse using surface water augmentation, evaluated the impacts to water quality and fisheries associated with discharge recycled wastewater into a City-owned municipal water reservoir. Supported the City's effort to receive waste discharge requirements from the RWQCB and permits from CDFW. Pure Water San Diego is the City of San Diego's phased, multiyear program that will provide one-third of San Diego's water supply locally by 2035. Phase 1 of the Pure Water Program includes several projects that will clean recycled water to produce 30 million gallons per day of high quality purified water starting in 2023, reducing the City's dependence on imported water (North City Project). Dudek prepared the Pure Water Program EIR/EIS and the Pure Water Program North City Project EIR/EIS. The North City Project was approved by the City Council in April 2018.

**Steephollow Creek and Bear River EIR, Nevada Irrigation District, Grass Valley, California.** Dudek prepared the EIR for the Bear River Sediment Removal at Rollins Reservoir Project for the Nevada Irrigation District. The project would restore and maintain reservoir capacity in Rollins Reservoir on an ongoing basis through re-establishment of gravel skimming operations on the Bear River below the confluence with Steephollow Creek. Completed a technical review of the hydrological and geomorphology studies completed for the project, and authored the geology and soils and the hydrology and water quality chapter of the EIR.

**North Norco Stage 11 IS/MND, Riverside County Flood Control and Water Conservation District, Norco, California.** Authored the bulk of the IS/MND for a stormwater channel improvement project in the City of Norco, proposed by the Riverside County Flood Control and Water Conservation District. Proposed improvements included channel deepening, road crossings, and stormwater best management practices to reduce the extent and frequency of nuisance flooding caused by inadequate channel capacity.

**System Infrastructure Protection Program EIR, Metropolitan Water District of Southern California, Orange, California.** Dudek was contracted by the Metropolitan Water District of Southern California for the preparation of two Program EIRs for Operations and Maintenance projects in the Orange County and San Bernardino County Operating Regions. Prepared the project description, scoped issues in the IS, and analyzed potential impacts to a variety of environmental resources, including hydrology and water quality.

**San Joaquin Valley Communication System Upgrade Project, SFPUC, San Francisco, California.** Served as the primary project analyst for this ongoing project, authoring over half of the technical sections of the IS/MND and

creating all figures in GIS. Provided project management support including graphics, neighborhood notice, mailing lists, and project meetings. The project would provide an upgraded communication system for SFPUC's Hetch Hetchy water system facilities located primarily within the San Joaquin Valley. The project consists of installation of new microwave antennas (parabolic dishes) on existing towers, the construction of nine new radio towers up to 140 feet tall, and installation of supporting radio and power equipment.

**San Francisco Groundwater Supply Project EIR, San Francisco, California.** The San Francisco Groundwater Supply Project is a project under the City's WSIP, and will provide the city up to 4 million gallons of local, sustainable groundwater every day. The project proposes to utilize up to six deep water wells and associated treatment facilities in the city. Dylan prepared the analysis of aesthetics in the EIR and supported the groundwater analyses and investigations of the Westside Basin with maps, figures, and GIS data.

**Bay Division Pipelines 3 and 4 Seismic Retrofit at the Hayward Fault, SFPUC, San Francisco, California.** Provided project management support through all phases of this project, from preparation of the Draft EIR through to Certification of the Final EIR and project approval. Environmental review was completed ahead of schedule, despite numerous changes in project design that required reanalysis. Provided technical review of a paleontological resources study; wrote the paleontological resources section; produced GIS figures for technical sections; prepared public comment responses; and provided general project support. Supported the analysis of hydrology and water quality by collecting stream flow data, watershed boundaries, and wetland delineations for two intermittent creeks. The Bay Division Pipelines 3 and 4 seismic retrofit at the Hayward Fault involves the replacement and retrofit of pipeline segments crossing the Hayward Fault, including the installation of an articulated vault designed to accommodate movement on the fault.

**The Crystal Springs Pipeline No. 2 Project, SFPUC, San Francisco, California.** Prepared the hydrology and water quality chapter of the Draft EIR. Helped prepare the physical setting for the geology, soils, and seismicity chapter, and completed the paleontological resources analysis for the cultural resources chapter. In support of these analyses, prepared all GIS figures for the hydrology, geology, and hazardous materials chapters. This project proposed a series of pipeline replacements, cathodic protection measures, and general improvements in order to increase its seismic reliability. The Administrative Draft EIR for this project received praise from the client, partly due to the series of GIS figures produced in support of the hydrology, geology, and hazards chapters.

**San Antonio Backup Pipeline, SFPUC, Alameda County, California.** Wrote the analysis of impacts to paleontological resources and prepared several GIS figures and data tables in support of the geology and soils impact analysis. The San Antonio Backup Pipeline consists of installation of an approximately 1.3-mile long pipeline in Sunol Valley. The backup pipeline would provide reliable conveyance capacity for emergency discharges of Hetch Hetchy water during facility outages or during water quality events and would increase operational flexibility and delivery reliability during emergencies or planned maintenance.

**CalAm Coastal Water Project EIR, CPUC, Monterey County, California.** Prepared the aesthetic resources section of the EIR. Site visits and photographs from key observation points established the visual context, and visible project elements were simulated into site photographs to evaluate project impacts and define appropriate mitigation measures. The project goals are to increase water supply capacity and reliability for CalAm customers.

**Enlargement of the East Branch of the California Aqueduct, Department of Water Resources, Palmdale, California.** Performed an analysis of the paleontological productivity of rock units and associated project impacts, based on mapped geology, fossil collection database searches, and the depth and extent of project-related excavations. The project would enlarge over 98 miles of the California Aqueduct from Tehachapi through the Antelope Valley, Palmdale, and the Mojave River Basin. The goal is to increase the conveyance capacity by over 40% to Southern



California State Water Contractors that are served by the aqueduct, including the Metropolitan Water District of Southern California.

**Los Vaqueros Reservoir Expansion Project EIS/EIR, Contra Costa Water District (CCWD), Contra Costa County, California.** Prepared the setting and impact discussion related to paleontological resources for the Los Vaqueros Expansion Project EIR. Prepared a map in GIS relating paleontological potential of bedrock units beneath the project site to proposed project elements. Assisted the CCWD with comprehensive environmental planning and compliance services, alternatives development and screening, environmental studies, permitting, and CEQA and NEPA compliance.

**Vista Grande Drainage Basin Improvement Project, City of Daly City, California.** Assisted with constraints and opportunity analyses, alternatives analysis, and water quality sampling and analysis at Lake Merced. Daly City is proposing the project to address storm-related flooding that currently occurs in the Basin and to provide other environmental benefits, including restoration and management of water levels within Lake Merced. The proposed drainage basin improvements include partial replacement of the existing Vista Grande Canal, replacement of the Vista Grande Tunnel and ocean outfall, a lake outfall and diversion structure, and constructed treatment wetlands.

## Development

**Land Park Raley's Environmental Impact Report (EIR) Project, MO Capital, Sacramento, California.** Reviewed the hydrology and drainage study for the proposed project and authored the hydrology and water quality section of the EIR. Dudek contracted with the City of Sacramento to conduct CEQA review of a proposal to demolish a former plant nursery and two single unit dwellings for the construction of a new commercial center with an anchor tenant (Raley's) on an approximately 9.87-acre site in Sacramento near Land Park.

**Belden Barns Winery Focused EIR, County of Sonoma, California.** Dudek is preparing an EIR for the County of Sonoma for a proposed farmstead and winery project that involves winemaking, hospitality, and farmstead food production on a 55-acre parcel in unincorporated Sonoma County. Groundwater and geologic hazards were major issues for the project, as it is located on an old landslide and in an area where groundwater is the sole source of water for rural residences. Established a well monitoring network, conducted a well pump test to determine aquifer properties, and modeled the long-term cumulative effects on groundwater resources. In addition to authoring the groundwater resources technical report, Authored the hydrology and water quality chapters and geology and soils of the EIR.

**Vallejo Marine Terminal (VMT) and Orcem Projects, City of Vallejo, California.** The proposed VMT project involves construction of a new marine terminal, while the Orcem project involves reuse of the former General Mills site for the production of cement produced with less pollution than traditional cement. Conducted a peer review of applicant studies related to hydrology, water quality and geologic hazards. Authored the geology, soils and seismicity chapter; as well as the hydrology and water quality chapter of the EIR.

**Valencia-Foothill Townhomes Initial Study/Mitigated Negative Declaration (IS/MND), City of Glendora, California.** Authored the geology, hydrology and water quality and the utilities and service systems sections of the IS/MND for a development project in Newport Beach, California. The project included a zone amendment, subdivision of former industrial properties, and development of 144 new townhouses at a density of about 16.3 units per acre.

**McKinley Villages EIR, Thomas Law Group, Sacramento, California.** Dudek prepared the draft EIR for the development of a 328-unit residential project along with parks and a neighborhood recreation center on an approximately 48.75-acre site located in the City. Reviewed drainage plans, topography, flooding potential, and levee failure scenarios, and prepared the hydrology and water quality chapter of the draft EIR.

**Pacific Union College Angwin Ecovillage EIR, Angwin, Napa County, California.** Authored the geology, soils, and seismicity chapters of the EIR, and produced maps and figures for the technical sections. The project is a proposal for development of housing and commercial uses on 30.1 acres of private land owned by Pacific Union College.

**Metropark/Brown Field Airport Redevelopment Plan EIR. City of San Diego, California.** Wrote the visual resources section of the EIR for this project, which envisions a mix of aviation-related and non-aviation-related businesses on approximately 40% of the 880-acre site. The project includes development of an aviation business center, helicopter operations facility, a 50-acre solar energy park, a hotel and conference center, commercial and retail space, and relocation of the San Diego Air and Space Museum from Balboa Park.

**Fort Bragg Specific Plan EIR, City of Fort Bragg, California.** In support of EIR preparation, scoped geology, soils, hydrology, water quality, hazardous materials, and coastal hazards issues, and developed templates, maps, and figures to support the analysis. The Mill Site Specific Plan would guide all new development over a 320-acre area along the coastal bluffs west of Highway 1 in Fort Bragg. The site is a former lumberyard owned by Georgia-Pacific, and the specific plan is contingent upon successful site remediation and acquisition of water rights.

**Riverside County Economic Development Administration's (EDA's) Select APNs on Hemet-Ryan and Jacqueline Cochrane Airports, California.** Assisted in the preparation of a Phase I Environmental Due Diligence Audit for Federal Aviation Administration real property transactions on the Hemet-Ryan and Jacqueline Cochrane Airports. Conducted the site visit and collected historical use data and environmental records. Assisted in the preparation of the Phase I EDA Report.

## Education

**San Diego State University (SDSU) Engineering and Interdisciplinary Sciences Building, Gatzke, Dillon and Balance, San Diego, California.** Authored the hydrology and water quality technical report for a new, five-story Engineering and Interdisciplinary Science building on the SDSU Campus. The project consists of demolition of several existing buildings, construction of a new building, and modification of an existing building. Hydrologic issues included water quality, stormwater runoff rates and volumes, and construction-related effects.

**Orange Coast College IS, Coast Community College District, Orange, California.** Technical analyst for the District's Vision 2020 Facilities Master Plan for Orange Coast Community College. Prepared the hydrology and water quality, and geology and soils sections of the EIR. Hydrologic issues included water quality, stormwater runoff rates and volumes, and construction-related effects.

**Golden West College Vision 2020 Master Plan, Golden West Community College District, Huntington Beach, California.** Technical analyst for the District's Vision 2020 Facilities Master Plan for Golden West Community College. Prepared the hydrology and water quality, and geology and soils sections of the EIR. Hydrologic issues included water quality, stormwater runoff rates and volumes, and construction-related effects.

**Hoover Elementary School IS/MND, Burlingame School District, Burlingame, California.** Wrote the geology, soils, and seismicity, and hydrology and water quality sections of this IS/MND, in which slope stability was a key issue. The project would involve seismic retrofits, and the demolition and reconstruction of existing facilities on the site to safely operate the property as a neighborhood elementary school (K-5) with a 200- to 250-student capacity.

**Palo Alto Unified School District On-Call Contract, Palo Alto, California.** Wrote the paleontological resources section for four school projects related to seismic upgrades.

## Federal

**Level 3 Powerline Road Fiber Optic Installation, HP Communications, Inc., Fort Irwin, San Bernardino, California.** Dudek was contracted to provide environmental and project management services necessary for the approval and construction of the Level 3 Powerline Road Fiber Optic Installation Project for HP Communications Inc., located in Fort Irwin, San Bernardino County, California. Level 3 Communications (Level 3), owner of a current Right-of-Way (ROW) Grant for a fiber optic communications line traversing public lands, through their agent Coastal Communications, requested to amend their ROW grant to include lands within the Fort Irwin Military Reservation administered by both the Department of Defense and the BLM. Helped craft the project description and prepared numerous technical sections of the Administrative Draft of the Environmental Assessment; he also assisted with GIS tasks, production of figures, and general project support and coordination.

**Visual Resource Inventory of Washington County, BLM Saint George Field Office, Saint George, Utah.** As part of an internship sponsored by the Geological Society of America, conducted a visual resource inventory of Washington County, Utah, intended to delineate areas of priority for the preservation of visual values. Collected GPS data paired with over 300 photographs documenting the visual quality of key observation points over a 2-month period. Developed several GIS datasets evaluating landscape exposure to highway travelers, defining distance zones, and summarizing scenic quality evaluations of photographed areas; and documented methods and procedures using ArcGIS model builder and GIS metadata. Produced numerous maps, pamphlets and other cartographic products illustrating key recreational routes, trails, and access limitations for off-highway vehicle users.

**Merced River Comprehensive Management Plan and EIS, National Park Service (NPS), Yosemite National Park, California.** Prepared the condition assessment for the geologic values of the river corridor, and prepared the EIS section addressing geology, soils, and geologic hazards. Analyzed the potential for increased visitation, foot-traffic, and social trails to denude vegetation, compact soils and subsequently lead to the development of erosional channels. The Comprehensive Management Plan for the Merced Wild and Scenic River in Yosemite National Park includes the preparation of a condition assessment of the river's outstandingly remarkable values (defined by the Wild and Scenic Rivers Act as the unique characteristics that make a river worthy of special protection), a draft and final EIS, and the accompanying Comprehensive Management Plan.

**AC34 America's Cup Environmental Assessment, NPS, San Francisco, California.** Served as technical analyst responsible for analyzing impacts to geologic and soil resources on Presidio Trust lands and within the Golden Gate National Recreational Area. Analyzed the potential for increased visitation, foot-traffic, and social trails to denude vegetation, compact soils and subsequently lead to the development of erosional channels. This was a fast-track effort to complete NEPA documentation for one of the largest sporting events ever proposed for the San Francisco Bay.