

Amy McTigue PE

Principal Engineer, Vice President
31 years of experience · Walnut Creek, California

Ms. McTigue is a Principal Engineer and Vice President for Stantec. She currently manages Stantec's remediation practice in Northern California, with more than 80 staff located in 7 offices. With more than 31 years of experience, she has been involved in numerous large and small projects for industrial, government, and municipal clients. Her experience includes overseeing projects conducted at a California refinery by the historical environmental liability work group, including current and past Refinery owners; the projects include investigations, designs and/or closure of 12 historical waste sites under Title 27 regulations. She has designed covers for closure of landfills, written closure and post-closure maintenance plans, developed detailed closure drawings and specifications, observed landfill closure construction activities for compliance with plans and specifications, prepared post-closure monitoring plans for closed landfills, and overseen post-closure operations and maintenance. Her expertise also includes remedial investigation/feasibility studies (RI/FSs), remedial design, construction, and due diligence support during property acquisition and divestitures. Ms. McTigue has been involved in the design of soil vapor extraction, bioventing, dual phase vapor extraction, and groundwater extraction and treatment systems. She has extensive project management, construction management, client management and business management experience.

EDUCATION

MS/MSc, Civil and Geotechnical Engineering, University of California, Berkeley, California, 1993

BS/BSc, Civil Engineering, University of California, Irvine, California, 1990

REGISTRATIONS

Professional Engineer #C54377, State of California

MEMBERSHIPS

Board Member, Industrial Association of Contra Costa County

Member, Society of Women Engineers

Member, Association of Women in Water, Energy & Environment

PROJECT EXPERIENCE

ENVIRONMENTAL SITE REMEDIATION

Marathon On-Call Technical Support | Tesoro | Martinez, California | 2007-Ongoing | Program Manager

Amy oversees a Stantec project team at the Marathon Martinez Refinery. The project team is responsible for overseeing projects conducted by the historical liability group including LNAPL management and reporting, groundwater compliance monitoring and evaluation, Waste Management Unit (WMU) characterization, closure design and construction, and operations and maintenance (O&M) of closed WMUs. Amy reviews and comments on reports, communicates project information to Refinery staff, identifies project areas requiring Refinery input, oversees construction projects, and coordinates with other contractors performing work. Role: Program Manager

Assessment of Environmental, Regulatory and Financial Liabilities for Southern California Refinery and Logistical Assets | Southern California | 2011-2014 | Principal Engineer

The assessment program involved detailed evaluations of existing and potential environmental conditions at a large number of facilities that store and distribute crude oil, refined products, and other chemicals. Properties included a refinery, 9 terminals, and hundreds of miles of pipelines. Assessment of state and federal regulations addressing the mitigation and restoration of identified environmental conditions were conducted so that regulatory and financial impacts on facility operations for corrective actions and post-closure work could be accurately estimated. The project included a summary report documenting environmental findings and estimating costs for remediation, system upgrades, and operations and maintenance. Amy worked with the client to develop presentation slides summarizing the findings, which were used to present to upper management of the client organization. Environmental liability support was provided to the client through the establishment of environmental reserves and the first annual update to the reserves. Role: Principal Engineer

Assessment of Environmental, Regulatory and Financial Liabilities for Southern California Refinery and Logistical Assets | Tesoro | 2015 | Principal Engineer

The assessment program involved detailed evaluations of existing and potential environmental conditions at a California Refinery. Project included evaluation of tank and pipeline assets at the Refinery; the client was preparing to drop-down the assets from the Refining branch to the Logistics branch of the company. The project included a summary report documenting environmental findings and estimating costs for potential liabilities, including system upgrades, and operations and maintenance. Presentation slides were prepared to summarize the findings, which were presented to management of the client organization.

Active Class II Surface Impoundment Evaluation | Refinery, California | 2004-2007 | Project Manager/Lead Engineer

The Active Class II Pond evaluation included a detailed site investigation to characterize the ponds and evaluate compliance with California Code of Regulations (CCR) Title 27 construction standards. The impoundments cover a cumulative 128 acres of land and have a holding capacity of approximately 220 million gallons of wastewater. The site investigations included installation of soil borings within the pond bottoms and berms and installation of perimeter wells. Soil and groundwater samples were collected for chemical evaluation, and soil samples were also collected for geotechnical samples. A second phase of investigations focused on additional geotechnical characterization of the berms and underlying native materials. The Active Class II Surface Impoundment Evaluation Report included geologic and hydrogeologic conditions of the impoundments and geotechnical calculations which were used to evaluate the compliance of the impoundments with regulations. Role: Project Manager/Lead Engineer

Data Gaps Assessment and Investigations | Southern California | 2003-2005 | Project Manager

Ms. McTigue oversaw compilation of site history and environmental data for sites at a historical testing facility. The existing site data and available facility records were assessed to determine if nature and extent of potential or known chemical impacts could be assessed adequately in the RFI reports for the sites in the various reports. Data gaps were identified and presented and summarized for the client and other responsible parties. Field investigations were scoped and detailed proposals were developed for the data gaps investigations. Ms. McTigue managed the field investigation team and data management teams during the investigations and through completion and upload to the client data management system.

Remedial Investigation Report | Southern California | 2003-2005 | Project Manager

Ms. McTigue managed the RFI report for a group of three sites at a testing facility in Southern California. The report documented chemical use at each of the sites and summarized available chemical data for each of the chemical use areas. Historical data and historical site use were evaluated and data gaps were identified. Work plans were prepared to prepare and investigations were conducted to close the identified data gaps. Historical investigation results were summarized and evaluated along with the data gaps investigation. Risk assessments were performed for each of the sites. The report recommended chemical use areas for consideration in the Corrective Measures Studies (CMS) report.

Vapor-Enhanced Extraction System Optimization | Viavi (formerly Optical Coating Laboratory and JDS Uniphase) | Santa Rosa, California | 2002-2004 | Project Manager

Groundwater and vapor sampling was performed for the Vacuum-Enhanced Extraction (VEE) System periodically from 2000 to 2004. All available system operation and maintenance (O&M) and sampling data was summarized in the VEE System Performance report (2003), and recommendations to enhance system operation were presented. VEE system performance data is summarized annually, and system operation optimization recommendations are made annually.

River/Napa Creek Flood Protection Project | U.S. Army Corps of Engineers | Napa, California | 2001-2004 | Project Manager/Design Engineer

Amy was the project manager and lead design engineer for a restoration project along the Napa River that included petroleum-impacted facilities/sites, primarily former bulk fuel terminal facilities. These sites were in the area requiring soil excavation to construct flood and marsh plain terraces for the Flood Project, so the USACE combined flood protection improvement and remedial action for this portion of the Flood Project. Field studies and design assessments were performed prior to preparation of the remedial design. The design included haul roads, staging areas, demolition, marsh/floodplain grading, and hydraulic containment during construction. Site work included installation of 2,300 lineal feet of sheet pile extending 40 feet below surface and above high tide water level in the Napa River. A 1,000 gallon per minute (gpm) de-watering and water treatment system dewatered the area behind the sheet pile wall, removing, treating and discharging 50 MG of contaminated water. Water turbidity and hydrocarbons were controlled with silt curtains and oil booms and were monitored daily in the field for regulatory compliance. A total of 237,000 CY of soil were excavated, including 102,000 CY that was beneficially reused. The terracing effort involved substantial civil grading to complete a bi-level area including a marsh plain terrace that was designed as a tidal zone which is saturated twice per day and a flood plain terrace. Role: Project Manager/Design Engineer

Napa River/Napa Creek Flood Protection Project, Consolidated Remedial Action Plan | Napa County Flood Control District | Napa, California | 2000-2001 | Project Engineer

Ms. McTigue was the project engineer for a restoration project along the Napa River that included petroleum-impacted sites, primarily former bulk fuel terminal facilities. The U.S. Army Corps of Engineers (USACE) and the Napa County Flood Control and Water Conservation District (NCFWCWD) implemented flood management features along a 7-mile stretch of the Napa River through and south of the City of Napa as part of the Napa River/ Napa Creek Flood Protection Project (Project). About a half mile stretch of the project included nine properties in the area of current and former bulk fuel facilities. Because these sites were in the area requiring soil excavation to construct flood and marsh plain terraces the flood protection improvement and soil remediation efforts were conducted simultaneously with regulatory oversight from USEPA Region 9. Stantec proposed and negotiated the contaminant clean-up levels for the project with the USEPA. NCFWCWD prepared a Consolidated Remedial Action Plan (RAP) with support from Stantec. The RAP described the conceptual remedial action approach, as part of the Flood Project terracing. The work included a Pre-Construction Site Investigation field program, preparation of volumes estimates, cost estimates, and a 3-year project schedule. Our work supporting NCFWCWD included presentations to the public, regulatory agencies and property owners, which was essential to negotiations during land acquisition for the project.

George Air Force Base Landfill Post-Closure Maintenance Plans, USAF PA/RD DO50 | Air Force Center for Environmental Excellence | Victorville, California | 1998 | Design Engineer

Ms. McTigue prepared the Long-Term Monitoring and Maintenance Plan for the landfill in accordance with Title 27 regulations. The plan included requirements for monitoring and maintenance of the landfill cover-integrity, and for groundwater monitoring. The cover-integrity requirements included descriptions of the landfill site inspections, maintenance and repairs, reporting requirements, and five-yearly iso-settlement maps.

Culvert Assessment and Improvements | Tosco Refining Company | Port Costa, California | 1996-1997 | Design Engineer

Ms. McTigue performed a surface water hydrology assessment to evaluate the hydraulic capacity of an existing 36-inch diameter culvert section that extends under a railway line. She evaluated various options for repairing or replacing the culvert section so that hydrocarbon product that was entering the stormwater system from between the joints in the existing culvert would be sealed outside of the culvert. A cured-in-place pipe (CIPP) was selected as the preferred alternative for repairing the culvert.

Presidio of San Francisco, Landfill Design Summary Report | U.S. Army Corps of Engineers | San Francisco, California | Project Engineer

Project Engineer for the Presidio of San Francisco Landfill Design Summary Report. Researched historical documents and records to determine site history and usage. Historical topographical maps were used to estimate landfill boundaries and volumes of waste in Microstation.

Presidio of San Francisco Building 637 Corrective Action Plan | U.S. Army Corps of Engineers | San Francisco, California | 1998-1999 | Project Engineer

Ms. McTigue prepared a corrective action plan (CAP) for a former gasoline station site. The CAP utilized local regulatory guidance that has not been applied at many military installations in the San Francisco Bay Area. The guidance recommended the implementation of a "low-risk" approach for evaluating fuel-contaminated groundwater at the site. This approach resulted in the recommendation of a groundwater monitoring program to protect receptors in a nearby wetlands. Ms. McTigue also evaluated various treatment alternatives for the fuel-contaminated soil remaining at the site.

Fort Irwin Landfill Closure and Post-Closure Maintenance Plans | U.S. Army Corps of Engineers | Fort Irwin, California | 1998-1999 | Design Engineer

Ms. McTigue was the design engineer for the CERCLA closure of two abandoned landfills (FTIR-02 and FTIR-04) at Fort Irwin, California. The selected remedial action for the landfill sites included the installation of a 2-foot native soil cover. CAD tools were used to generate the grading maps for the landfills and to optimize the cut and fill operations in order to reduce cost. She performed watershed modeling and designed perimeter drainage channels to control surface water run-on and run-off. She prepared the Closure and Post Closure Maintenance Plan, including detailed design drawings and specifications.

Stockpile Closures | Exxon | Benicia, California | 1996-1997 | Design Engineer

Ms. McTigue was the design engineer for a stockpile site closure at the Exxon Refinery in Benicia, California. She designed and wrote specifications for soil covers, drainage channels, erosion control blankets, and revegetation. Site grading plans were designed using CAD tools. Remedial action at one site included grading to reduce the potential for erosion, and installing a topsoil cover; the other site was graded to reduce erosion, and a compacted clay layer and topsoil layer was installed. Site drainage was controlled through terraces, cap channels, perimeter channels, erosion control blankets, and revegetation. Ms. McTigue performed construction observation with periodic site visits to document that closure activities were conducted in accordance with project plans and specifications, and the City of Benicia Grading Permit requirements. Following construction activities, she prepared a closure documentation report, including as-built drawings.

Removal Action at Installation Restoration Program Sites 1, 4 and 11 | Department of the Navy, Navy Facilities Engineering Command | Point Mugu, California | 1996-1997 | Engineer

Ms. McTigue was the project engineer for closure of two sites at NAWS Point Mugu, California. The sites included a landfill (Site 1) and a maintenance/storage yard (Site 4). The selected removal action for the landfill was construction of a riprap wall to protect further erosion of the shoreline and contamination of the lagoon with landfill materials. Additionally, a new storage yard was constructed on the landfill. The selected removal action for the maintenance/storage yard was excavation of the metals- and PCB-contaminated soil. Upon completion of the removal action, the maintenance/storage yard was demolished, and a mud flat, sand island, marsh and tidal creek was constructed at the site to provide wetlands habitat for endangered bird species. Ms. McTigue prepared the Site 1 removal action plan and designed the riprap wall and storage yard. She also prepared the limits of excavation and sampling drawings for Site 4 and participated in the design of the wetlands habitat.

George Air Force Base Operable Unit 3 Feasibility Study | Air Force Center for Environmental Excellence | Victorville, California | 1996-1997 | Design Engineer

Ms. McTigue was involved in the conceptual design of two bioventing systems and one soil vapor extraction (SVE) system at George AFB. The bioventing systems were designed to remove hydrocarbons and BTEX constituents from vadose zone soils. The SVE system was designed to remove hydrocarbons, BTEX constituents, and TCE from vadose zone soils. She also prepared the work plans for the construction and closure of the treatment systems. The work plans included a remediation and management plan, site preparation plan, spill and discharge control plan, emission control plan, excavation plan, transportation plan, and demobilization and closure plan.

George Air Force Base Landfill Closure and Post-Closure Maintenance Plans | Air Force Center for Environmental Excellence | Victorville, California | 1995-1996 | Design Engineer

Ms. McTigue was the design engineer for CERCLA closure of five landfills at George Air Force Base (AFB), California. The selected remedial action for two of the landfill sites included the installation of a 2-foot native soil cover. The selected remedial action for the other three sites was the rehabilitation of the existing soil covers to provide at least a 12-inch soil cover. In order to reduce infiltration into the landfills, the soil covers were designed to promote surface water run-off by maintaining at least a 3 percent slope, and perimeter drainage controls were designed to divert surface water run-on around the landfill boundaries. Design objectives included minimization of impact to surrounding vegetation and habitat, and utilization of oversized drainage channels to provide soil for the landfill covers. CAD tools were used to generate the grading maps for the landfills and to optimize the cut and fill operations in order to reduce cost.

George Air Force Base Operable Unit 3 Feasibility Study | Air Force Center for Environmental Excellence | Victorville, California | 1995 | Project Engineer

Ms. McTigue conducted the pre-design for the expansion of the OU 1 groundwater extraction, treatment and disposal system. She analyzed groundwater modeling results for 15 extraction, treatment, and disposal scenarios and presented the results to the client and the regulatory agencies. The modeling scenarios were optimized to maximize TCE mass removal and to contain the contaminant plume. She was involved in the design of pipelines, pumps, and a percolation pond to discharge treated effluent.

George Air Force Base Operable Unit 3 Remedial Investigation | Air Force Center for Environmental Excellence | Victorville, California | 1993-1996 | Engineer

Ms. McTigue was the primary author of the George AFB Operable Unit (OU) 3 RI that consists of approximately 60 discrete sites. These sites include landfills, disposal sites, waste pits, spill sites, fire training areas, and other disturbed areas. She prepared site histories, discussions and results of field investigations, and contamination assessments. She was also involved in the vadose zone contaminant transport modeling and the site-specific and basewide human health risk assessments.

San Fernando Valley RI/FS | City of Los Angeles Department of Water and Power | Glendale, California | 1991-1992 | Engineer

Ms. McTigue was a project engineer for the preparation of RI/FSs for the Los Angeles Department of Water and Power. She was involved in the preparation of one RI and two FSs for two VOC-contaminated groundwater sites located in Southern California. The FSs evaluated groundwater extraction, treatment, and disposal options for remediating VOC-contaminated groundwater. Ms. McTigue was involved in the human health risk assessments and the cost analyses for the various remedial options. She also addressed regulatory and client comments on the documents.

Site Remediation and Closure* | Shell Oil Company | Vacaville, California | 1990 | Field Engineer

Ms. McTigue was the field engineer for a site contaminated with petroleum hydrocarbons. The remediation included the excavation of several thousand cubic yards of overburden and contaminated soils. She coordinated the excavation activities, the collection of excavation verification samples, and the removal of one leaking underground storage tank. Upon completion of the excavation, the stockpiled soils were sampled and clean soil was placed back into the excavation. Ms. McTigue oversaw the backfilling of the excavation and the off-haul of the contaminated soil. She also assisted in the preparation of the closure report. The site was approved by the agency for commercial development.