
2017 Safety Award

Partnership in Asbestos Materials Mitigation (PAMM) Team
Emily Freeman, Steve Gonzales, and Bill Nuanes
Department of Environmental Health, and Parks & Recreation

Nomination submitted by Scott Gilmore

In May 2016, a joint team comprised of Emily Freeman and Steve Gonzales - Department of Environmental Health (DEH) and Bill Nuanes - Department of Parks & Recreation (DPR), came together to create a highly innovative response and inter-departmental approach to address regulated asbestos containing soils incidents throughout the city. This team collaborated to create the “Partnership in Asbestos Materials Mitigation” (PAMM) which includes bringing together resources, capitalizing on DEH’s environmental management and asbestos expertise, and developing a wholly new technology that DPR now utilizes as a real-time tracking and mapping database. PAMM is truly a Safety program because its primary focus is improved “safety” in Denver’s parks by ensuring regulatory compliance, reducing financial liability from potential future incidents, reducing environmental impacts in our Parks, and reducing human health risk for our employees and residents.

Many of Denver’s parks are built on land that was historically used as a ‘dump’ for trash, including buried asbestos building materials. The State’s Solid Waste Management regulations (6 CCR 1007-2, Section

& Section 7) addresses the removal of asbestos-contaminated soil. DPR had incidents that were not in compliance with the state’s strict regulations, and worked with DEH to create PAMM as a proactive response to several asbestos soils citations. In the past six years, asbestos soils penalties from the state totaled over \$533,000. DEH and DPR agreed that asbestos soils are a major safety and financial concern, and worked together to develop PAMM as the city’s solution.

Asbestos soils are a health and safety issue that DPR regularly encounters when replacing playgrounds, installing irrigation, or repairing a historic building. 95% of DPR staff work primarily in the field with the potential to work on dig projects, and DPR constantly has concurrent construction projects leading to additional safety concerns. Asbestos soils exposure puts everyone in the immediate area at risk for cancer-related issues such as asbestosis and mesothelioma. Digging activities can aerosolize asbestos fibers, which can enter the lungs and create a safety and health concern. Asbestos diseases are cumulative; exposure is greater with more contact. PAMM is an important safety measure to reduce the risk of exposure to staff and residents thereby substantially decreasing the risk of developing an asbestos-related disease.

Bill, Emily and Steve developed all components of PAMM from scratch including:

- Training approximately 700 DPR staff after developing an upgraded asbestos soils awareness training module with input from the City Attorney’s Office.
- Training seven (7) designated city operations employees to be Certified Asbestos Building Inspectors (CABI’s) with 24-hours of classroom training, State certification and 40-hours of field.
- experience. All seven of the employees passed the certification test and are now certified (see attachments).
- Developing a “Dig Safe” asbestos awareness reminder poster (see attachment).

- Crafting an inter-departmental ‘Memorandum of Understanding’ outlining the roles and responsibilities between DEH and DPR within PAMM (see attachment).
- Creating an online database application where the samples and reports are documented, managed quickly and safely according to State regulations.

Emily Freeman (DEH) engaged with the team through the City’s ISO 14001 certified Environmental Management System to document the issue and create a 9-step preventative action plan, which included forming PAMM. Steve Gonzales (DEH) is the city’s leading expert in asbestos soils and building materials, and provided technical expertise in regulation interpretation and was key to providing descriptors and reporting requirements for the mapping program. Bill Nuanes (DPR) led DPR’s efforts to secure top management support, appropriate staff resources, and identify funds for supplies and required staff trainings/certifications.

Bill, Emily and Steve worked together to build online asbestos mapping database application. The application is an interactive reporting system which tracks suspect asbestos material from initial siting, through lab analysis and to create a GPS, geo-located record of any sample. This team worked tirelessly on the process flows, process step descriptions, and window designs to create the online application tool. This tool allows our CABI-trained employees to be the field experts, keep Parks projects moving forward with minimal disruption, and focus on the health of the public and our employees. The CABI team takes pictures with their iPads, uploads them, and creates a report of the sample in the online tool. The lab determines the sample composition and the CABI personnel enters it into a report. This creates a living database where any uncovered suspect material can be compared to previous samples in the same park area. Then a real-time determination and assessment of safety risk can be made. PAMM is the first-ever program of its type in the country to provide this innovative solution to address asbestos soils, help the city prevent future asbestos in soils citations and ensure everyone’s safety in our parks.

PAMM has made a significant impact in terms of cost savings, increased awareness, innovation for the City, and safety for the public and Denver’s employees. PAMM’s successes include:

- Saves \$13,000 per year by utilizing internal CABI staff rather than contractors; ROI achieved in less than one (1) year.
- Saves approximately \$885,000 over the next 10 years by avoided penalties from the State; assumed that PAMM will greatly minimize future penalties.
- Protects 700,000 Denver residents, visitors, and employees each year from potential asbestos exposure through PAMM’s unique approach to safety.

Park projects, from major capital improvements to irrigation or beautification projects, all disturb soil. PAMM ensures we have properly trained staff and the tools to minimize the risk of exposure and liability with asbestos soils. Parks are Denver’s direct link between our residents, employees, and health and safety. We all strive to have safe, inviting places for our children, family and friends to gather.

Bill, Emily and Steve ensured DPR and DEH took ownership and accountability of ongoing asbestos soils safety-related issues to the environment, our employees, and our residents. Both departments are ultimately responsible for maintaining and protecting the safety of our city personnel, the environment and ensuring Denver’s residents have a safe environment in which we can enjoy our parks. PAMM is the new, innovative safety net to ensure this is possible.