

Introduction

On 1 October 1994, the Presidio became part of the Golden Gate National Recreation Area. Following passage of the Presidio Trust Act in 1996, the Trust negotiated with the Army to assume environmental cleanup responsibilities for the Presidio in order to expedite the environmental remediation efforts. Since 1998, the Presidio has been jointly managed by the National Park Service (NPS) and the Presidio Trust.

Treadwell & Rollo was selected by the Presidio Trust in 2000 for an as-needed environmental consulting services contract that will likely extend through 2005. Work performed to date includes soil and groundwater sampling investigations; preparation of remedial action plans (RAPs), work plans, and design specifications; field oversight of remedial activities; community relations; and report preparation for remedial actions and site closure at petroleum, landfill, and firing range sites. The Presidio environmental remediation program is focused on restoring sites for recreational, residential, and commercial use. In 2000, we were also awarded the Presidio-wide groundwater monitoring program contract involving quarterly groundwater monitoring and reporting for a network of almost 200 monitoring wells.

The National Park Service is involved in all aspects of the environmental program at the Presidio from plan development to review of all of our work products. We work with Trust and NPS representatives during all facets of our work at the Presidio including natural resource, hydrology, and planning representatives as well as program managers, giving us a thorough understanding of Trust and NPS values and natural and cultural resource protection goals.

THE Presidio

of San Francisco

Landfill Remediation

A number of former landfills exist at the Presidio, most resulting from Army activities from about 1946 to 1981. Treadwell & Rollo is preparing remedial action plans (RAPs) for clean closures of five landfills, based on feasibility studies and proposed cleanup levels.

The California Department of Toxic Substances Control (DTSC) is the lead regulatory agency for the landfill sites. We evaluated Applicable, Relevant, and Appropriate Requirements (ARARs) for the potential remedial alternatives and proposed cleanup levels based on established Presidio-wide background metal and land use specific risk-based levels.

Potential remedial alternatives were screened and the selected alternatives were evaluated relative to the nine National Contingency Plan (NCP) and six California Health and Safety Code Section 25356.1 specified criteria. We estimated costs for each

potential remedial alternative for use in the comparison and evaluation.

Concurrently, Treadwell & Rollo prepared work plans outlining the steps and methodologies for RAP implementation at four landfills. We are also assisting the Presidio Trust with community relations activities including Proposed Plans, Restoration Advisory Board presentation material, and site walks.

Plans and specifications in Construction Standard Institute format for the remedial actions are being prepared by Treadwell & Rollo, and we will assist the Trust with contractor bid documents, selection, and oversight and field sampling activities. We will then prepare excavation reports documenting the clean closure. Both the Presidio Trust and the National Park Service review and comment on the work products prior to revision and distribution to the regulatory agencies and the public.



Photograph by Michael A. Chamberlain

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ENVIRONMENTAL RESTORATION OF CRISSY FIELD

Located on the spectacular northern bay shoreline of the Presidio, Crissy Field has a long and rich history. The Yelamu, an Ohlone tribe, were occupying the area now known as Crissy Field when the Spanish arrived and established the Presidio in 1776.

Following the California Bear Flag Revolt of 1846, the Presidio became a U.S. Army outpost and the cornerstone of military operations on the West Coast. More than 80 years ago, Crissy Field was well on its way to becoming the most significant site of aviation development in the western United States. In 1921, the permanent airfield was built, with a length of about 3,300 feet.

In 1926, the airfield length was extended to about 4,300 feet, and in 1927, two Navy seaplanes made the first successful flight from the

mainland to Hawaii. During the period of 1936 to 1945, Crissy field was used as an assembly area for the mobilization of troops. Starting in 1946, the site was open only to light airplanes and helicopters. After 1974, the shoreline of Crissy Field was transferred from the Army to the National Park Service.

When the restoration project began in 1998, the site was covered with asphalt and overgrown with nonnative vegetation. Today the area includes a 20-acre tidal marsh, the 1.3-mile Promenade along San Francisco Bay, dedicated bike lanes, and a 28-acre grass field to be used for large public events or daily recreation.

One of the main goals of the restoration project has been to restore native vegetation and to recreate the native wetlands that were filled in during the early 20th century. To that

end, nearly 70 acres of asphalt were removed to reestablish a portion of the tidal marsh, and the material was used as the foundation for the coastal bike path.

More than 120 species of birds have been seen in the park, including great blue herons, peregrine falcons, and red-tailed hawks. Some of the birds are attracted by prey species such as bay shrimp and Dungeness crab that have also returned, re-establishing the natural ecosystem.

FILL SITE 7/BUILDING 900s

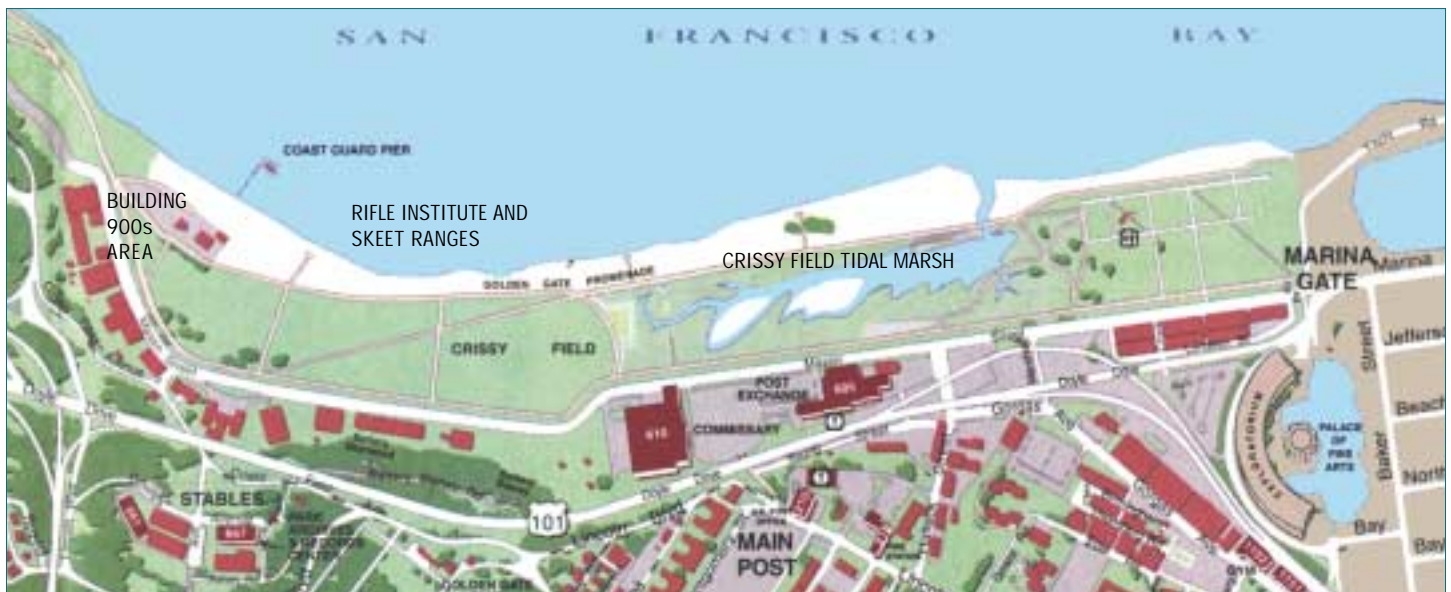
Treadwell & Rollo collected confirmation soil samples at former Fill Site 7, now the location of the Crissy Field Tidal Marsh, to document that metals concentrations in soil do not exceed cleanup levels protective of human and ecological receptors. We also conducted additional soil and groundwater sampling in the

Building 900s Area located at the west end of Crissy Field to determine if contamination associated with former vehicle maintenance and fuel distribution have affected downgradient soil and groundwater.

We are preparing a Fill Site 7 and Building 900s Area Closure Report. Following submittal of that report, we have been tasked with preparing a Crissy Field Closure Report which will document all remedial operations including work performed by the Army, the Trust, and the Golden Gate National Parks Association.

SEEPS SOURCE REMOVAL

Treadwell & Rollo assisted the Presidio Trust in performing an interim source removal operation to reduce gasoline and diesel concentrations in soil in the vicinity of the Presidio Commissary and



mitigate petroleum hydrocarbon seeps into the restored Crissy Field tidal marsh.

Groundwater containing petroleum hydrocarbons above the Saltwater Ecological Protection Zone point-of-compliance concentrations was found to be seeping into the new tidal marsh. Soil sampling and testing indicated the source of contamination was residual petroleum hydrocarbon in soil at about six feet below ground surface in an area beneath the Commissary's northwest parking lot and a portion of Mason Street.

Based on discussion with the relevant regulatory agencies and the Restoration Advisory Board, the Presidio Trust authorized the source removal by excavation of contaminated soil as an interim removal action. Treadwell & Rollo prepared remedial design documents, reviewed contractor

solicitation bids, provided contractor oversight and field sampling, and prepared the report documenting the remedial activities.

We have prepared a draft site investigation work plan for the entire Commissary and Post Exchange, the former Presidio Motor Pool, and will prepare a corrective action plan following the investigation.

SHORELINE FIRING RANGES

An excavation effort was conducted by the Army in 1997 related to two firing ranges formerly located on the Crissy Field Beach. The Army reported visible skeet fragments and lead shot, as well as detected concentrations of polycyclic aromatic hydrocarbons (PAHs) in shallow soil at the excavation boundary on Crissy Field Beach.

Treadwell & Rollo conducted a site investigation in August 2000 to further delineate PAH

impacts in soil from skeet fragments. The site investigation was conducted coinciding with a low tide event, in order to access all beach locations down to the mean lower low water line.

Following the site investigation, we prepared a work plan for the upcoming remedial action involving additional excavation and off-site disposal of impacted soil.

We conducted a pre-excavation sampling program in May 2001, coinciding with a low tide event, to more precisely delineate the horizontal extent of the excavations. Due to the site setting, partial submergence of sand and continual wave action, traditional confirmation sampling cannot be conducted without extensive shoring. By performing pre-excavation sampling at closely spaced locations and to adequate depths, we eliminated the need for confirmation

sampling in areas that may be partially submerged during excavation. Excavation boundaries were revised to extend to sample locations and depths.

Soil removal in the beach area is being performed using a track-mounted excavator. Trucks with balloon tires are used to haul soil along the beach to avoid impacts to the Promenade. The excavated materials are then transported to a paved area for stockpiling pending off-haul and disposal. The excavation work will be completed in summer 2002. We are performing contractor oversight and confirmation sampling in upper beach areas and report preparation.

The Treadwell & Rollo environmental project team for the Presidio includes Dorinda Shipman, David Dixon, Philip Smith, Michael Chamberlain, Joshua Graber, Sigrida Reinis, Colleen Haraden, and Jeff Ludlow. Our associated consultants include Michele Dermer of Waterstone Environmental, Wendell Minshew of Minshew Engineering Ridge Patton of Kennedy Jenks, and Alvin Greenberg of Risk Science Associates.

Photograph by Jennifer Coats, Presidio Trust



Building 900s Groundwater Sampling with Low Impact Vehicle

Photograph by Michael A. Chamberlain



Commissary Phase I Seeps Source Removal Action

Groundwater Monitoring

As part of its responsibilities under base closure legislation, the Army initiated actions to address environmental conditions at the Presidio, including a comprehensive base-wide groundwater monitoring program. In late 2000, Treadwell & Rollo was retained by the Presidio Trust to continue the groundwater monitoring program started by the Army.

Field tasks include: collecting groundwater level measurements and samples from the existing monitoring well network and storing purge water, and maintenance of the almost 200 wells at 20 separate sites. Other field tasks in the program include: drilling and soil sampling using a hollow stem or Geoprobe rig; groundwater monitoring well installation, maintenance and abandonment; and

installation, operation, and management of well data loggers.

Prior to Treadwell & Rollo assisting the Trust with management of the project, the Army groundwater sampling events were conducted and the associated reports were prepared for each site or groups of sites each quarter. Treadwell & Rollo worked with the Trust to streamline the programmatic

approach by conducting a single Presidio-wide quarterly sampling event over a two-week period and preparing a single data report for all 20 sites. This approach has helped standardize the field methodologies and quality control program, improve the comparability of data between adjacent sites, reduced field work costs, and eliminated the extra time and expense of producing and reviewing multiple reports.



Additional Treadwell & Rollo environmental project team members include Eric Deratzian, Claire Keane, Dustyne Sutherland, Rhonda Richards, Marianne Gibbons, Brian Moore, and David Kleesattel.



Raven's Manzanita

Editor: F. Anthony Cerny
Coordinator: Andrea M. Oman
Reviewer: Donald D. Treadwell

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amoman@treadwellrollo.com

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Treadwell & Rollo
Environmental and Geotechnical Consultants

501 14th Street
Third Floor
Oakland, CA 94612
510.874.4500
510.874.4507 FAX

555 Montgomery Street
Suite 1300
San Francisco, CA 94111
415.955.9040
415.955.9041 FAX

2 Theatre Square
Suite 216
Orinda, CA 94563
925.253.4980
925.253.4985 FAX