OAKLAND GLOBAL NEWS
Monthly Updates on the Oakland Global Trade & Logistics Center Project

Issue 20

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# Oakland Global News, May 2014

Dear Reader,

Oakland Global News is a monthly newsletter for readers interested in staying current as the Oakland Global Trade & Logistics Center (former Oakland Army Base) project evolves.

## Oakland Global water treatment system saves money and potable water

The Oakland Global construction project is building a temporary water treatment plant to collect as much as 50 million gallons of ground water extracted through the digging of trenches and other underground work, allowing the project to treat and reuse water as the State of California endures its most severe drought since the 1970s.

"The water treatment plant is another example of how the Oakland Global construction project is being conducted with sound financial and engineered solutions as well as sustainable

practices that respond to current environmental issues facing California," said Chris Nelson, an environmental consultant on the project.

The unearthed water may be affected by fuels, chemicals and metals that are leftovers from the land's use as an Army Base from 1941 to 1999. But the plant will treat the water so that it can be used for dust control and other construction-related needs, allowing the recycled water to save money in two ways: 1) The project will not have to purchase dust control water; 2) The project will not have to pay for water to be treated by the East Bay Municipal Utilities District (EBMUD) so that excess can flow into storm drains.

The water treatment plant also features a clear environmental benefit that will last throughout the four-year project. Without it, the only viable alternative for dust control water would be EBMUD potable water, which could otherwise be used for general circulation.

50 million gallons of extracted water could fill 76 Olympic swimming pools or supply approximately 153 suburban homes with water for a year, so the treatment plant will operate extensively. The plant's system will consist of several components, including tanks, filters and piping.

The first step in treating the water is to pump it via underground piping to the treatment system. The system then uses three phases to treat the groundwater: Settling, flocculation and polishing (also known as carbon absorption).

In settling, water storage and gravity causes large sediment particles to descend through the water to the bottom of the tank. The next step, in a second tank, removes fine particles. This process, flocculation, includes further settlement and an additive to remove particulate from the groundwater. Finally, the water is pumped to a third tank where it is circulated through activated carbon, "polishing" the water by removing organic material.

Once the water is passed through the third tank and activated carbon, it can be contained in water trucks and used for dust control. Any excess water can be discharged to the storm drain (under a permit).

## Wicking helps stabilize soil for construction

An example of wick drains

Sections of the Oakland Global project will sit directly on top of bay mud that is subject to liquefaction if not compressed before it is built upon. To solve the problem the project is undertaking a process called "wicking," in which about 1,000 cubic yards of dirt will be placed on top of existing soil and wick drains, which are driven vertically into the mud.

The pressure of the dirt will literally push water out of the mud and through the drains. The water is then sent through horizontal drains and captured and treated to reuse on the project or sent to storm drains (see the article above). The wick drains don't clog with dirt because they feature a filter fabric around a plastic core.

Like much of waterfront development around the San Francisco Bay, the former Oakland Army Base sits atop a significant amount of mud and fill in areas that naturally were shallow tidal zones.
Without the wicking, the compression process would occur naturally, but could take as long as 50 years, according to Dan Nourse, the soils manager on the project.

Liquefaction is when saturated or partially saturated soil substantially loses strength and stiffness in response to an applied stress, usually earthquake shaking or other sudden changes in stress condition, causing it to behave like a liquid. As an example, sections of bay fill along waterfront suffered severe liquefaction during the 1989 Loma-Prieta earthquake, which led to the damage and collapse of nearby buildings and homes.

## Safety Day at Oakland Global

The Oakland Global Project will join other construction projects around the U.S. on Monday June 2 for the 10 Annual Turner Safety Stand-down, an event that allows workforces on construction projects to focus specifically on workplace safety issues.

Turner is one of three firms that comprise the joint venture executing the Oakland Global infrastructure project. The others are Top-Grade and Flatiron.

This year's safety topic is "Proper Pre-Task Planning for Safety," according to Oakland Global Safety Manager, Richard Bowles. A barbeque lunch will also be provided with the support of California Capital & Investment Group, the City of Oakland's project development partner.

## Oakland Global's environmental measures

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Of the Bay Area's several military base reuse projects, Oakland Global features the most extensive environmental measures, including numerous air quality mitigations.

Other local former military base developments include the Hunters Point Shipyard, Alameda Point and Treasure Island. All have completed final environmental impact reports required under the California Environmental Quality Act (CEQA), but only Hunters Point and Oakland Global have broken ground.

A survey of the four projects shows that Oakland Global features more than 600 environmental mitigations, while the others are pursuing fewer than 500. Alameda Point, for instance, includes 350.

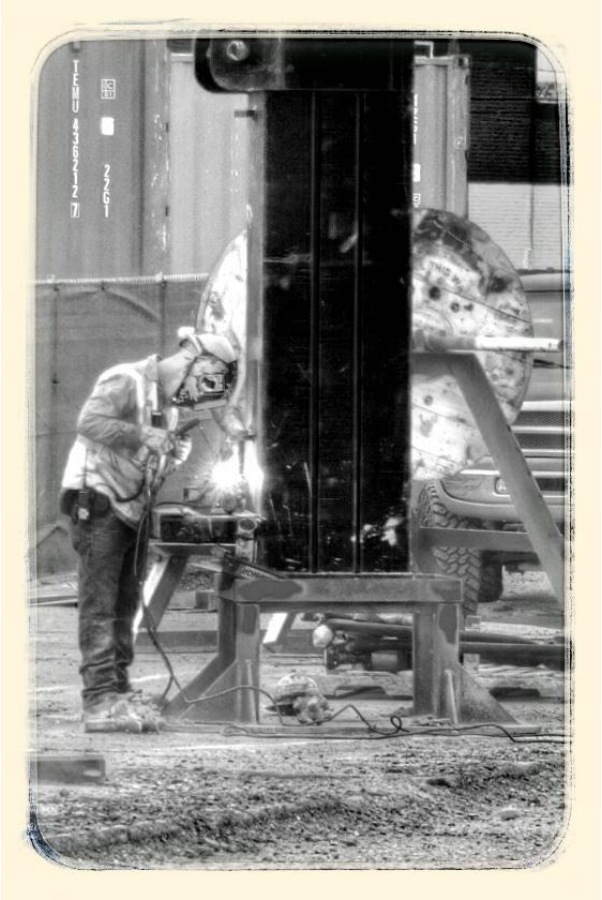
CEQA requires state and local agencies within California to follow a protocol of analysis and public disclosure related to environmental impacts of proposed development projects and to adopt all feasible measures to mitigate those impacts.

Most of Oakland Global's environmental mitigation measures were developed out of public forums and discussions, including 107 town hall meetings and 37 public hearings. Measures unique to the project include air monitoring in West Oakland, -- including real-time reports available online -- and an air quality stakeholder group that meets quarterly to discuss air and trucking plans that are then reviewed by the City of Oakland City Administrators Office and the City Council.

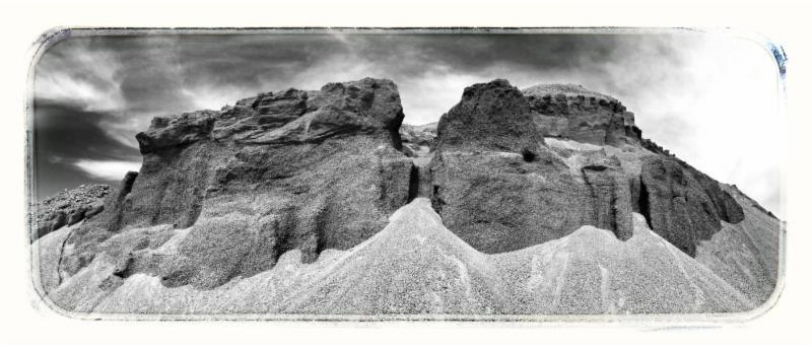
On the construction site, a compliance manager makes daily rounds to ensure that the project is following environmental protocols. The manager also oversees a program in which trucks entering the site are checked for a decal demonstrating that they are complying with current state truck filter and emissions rules.

## Army Base Photography

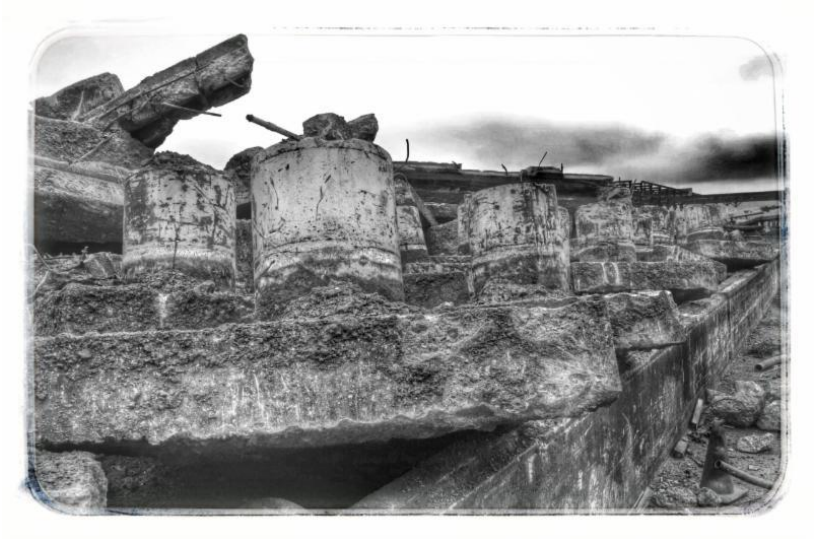
As a recurring feature, the Oakland Global News presents photography from the Army Base.The photos and captions below are by Dan Nourse.



Crane repair



Crushed concrete eroding over time



Warehouse foundations to be crushed and reused

**Dan Nourse,** a project manager with Oakland-based Roje Consulting, focuses on Oakland Global's environmental remediation, site elevation increase and site surcharging. Dan was instrumental in the redevelopment of Emeryville and West Oakland. He is a self-taught photographer and uses photography to capture the progress of redevelopment projects as well as producing artful images along the way.

## Stay informed

Thank you for taking the time to learn more about the Oakland Global Trade & Logistics Center development. I believe that the Oakland Global Newsletter will prove to be a useful tool for staying informed and current on this important project going forward.

Sincerely,
Phil Tagami