



**BRAC AND EPA'S FEDERAL FACILITY CLEANUP PROGRAM:**  
*Three Decades of Excellence, Innovation and Reuse*

# INTRODUCTION

EPA serves the public by supporting innovative, cost-effective cleanups at federal facilities and the return of those facilities to productive use. We work extensively with other federal agencies, state and local governments, and community representatives to ensure that facilities meet environmental standards and are ready for redevelopment.

EPA assists in the transfer of properties and provides regulatory oversight at many types of Department of Defense (DoD) sites, including Base Realignment and Closure (BRAC) sites. Because these facilities often encompass hundreds of acres with buildings, roads and other infrastructure, their effective and efficient cleanup and reuse can play a pivotal role in communities' economic development.

This report takes a closer look at EPA's work in support of DoD and its BRAC environmental restoration and reuse efforts over the past three decades. At more than 100 BRAC sites nationwide, EPA has provided resources to accelerate environmental restoration activities, maintain remedies that protect human health and the environment, support public involvement, and facilitate property transfer.

## The Big Picture: Accomplishments at BRAC Sites



Transforming military installations into centers for business, industry, residential communities and education.



Creating jobs through cleanup and reuse.



Fostering partnerships among federal, state and local governments.



Providing recreational and open space.



Involving local communities in cleanup and reuse plans.

# BRAC, DoD and EPA:

## A Quick Overview

To sustain and streamline military readiness, DoD recognized the need to close some installations and redefine the Department's mission at others. To date, DoD and Congress have implemented five BRAC rounds, in 1988, 1991, 1993, 1995 and 2005. DoD funding supported EPA's cleanup oversight, technical assistance and property transfer responsibility at the 107 accelerated cleanup installations in the first four rounds of BRAC. At BRAC round five installations that are also on the National Priorities List (NPL), EPA is working with the military services on their cleanup.

As the lead agency for environmental restoration at DoD installations, DoD requires EPA assistance to expedite a number of activities related to Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA, also known as Superfund) response actions, including work to support community involvement, facilitate property transfer, implement remedies as soon as practicable, and maintain remedies that protect human health and the environment.

The Federal Facilities Restoration and Reuse Office (FFRRO) leads these efforts for EPA. FFRRO and EPA's 10 regional offices work with DoD, the military services, other federal agencies, tribes, tribal governments, state environmental agencies and affected communities to expedite the cleanup of BRAC installations and support related property transfer activities. FFRRO also oversees the cleanup of federal facilities on the Superfund program's NPL.

## FFRRO Goals



Protect human health and the environment.



Facilitate productive reuse of federal properties.



Ensure effective stakeholder involvement.

### Federal Facilities: A Closer Look

In addition to military installations, federal facilities include former nuclear weapon complexes, abandoned mines and landfills. Types of contamination include radioactive waste, munitions and unexploded ordnance, mining waste, fuels and solvents. There are 174 federal facilities on the NPL and EPA is responsible for overseeing their cleanup under the Superfund law.






# EPA and the BRAC Program: Three Decades of Excellence

## Accelerating Cleanups...

The latest data illustrate the long-term benefits of EPA's involvement at BRAC sites. Despite these areas being some of the largest and most complex sites in the country, remedial investigations and feasibility studies take place 13 percent faster on average than at non-BRAC federal facilities. ***Across all types of sites, remedial designs and remedial actions are fastest, on average, at BRAC sites.***

**Federal Facilities Restoration and Reuse Office**  
Average NPL Remedial Investigation/Feasibility Study (RI/FS),  
Remedial Design (RD) and Remedial Action (RA) Durations  
(BRAC operable units – OUs – based on BRAC Round Year and Action Start Date)\*

| Type                             | <br>RI/FS Average<br>Duration (Years) | <br>RD Average<br>Duration (Years) | <br>RA Average<br>Duration (Years) |
|----------------------------------|--|---|---|
| Federal Facility<br>BRAC OUs     | 5.75   | .88   | 2.60  |
| Federal Facility<br>Non-BRAC OUs | 6.64   | 1.09  | 2.79  |
| Private Superfund<br>Sites       | 4.81   | 2.57  | 3.42  |

Source: Superfund Enterprise Management System (SEMS) database, 2017

\*Note: BRAC operable units only contain actions at BRAC sites started during or after BRAC round fiscal year. BRAC Round Fiscal Years = BRAC 1: 1998; BRAC 2: 1991; BRAC 3: 1993; BRAC 4: 1995





## CPRM and SWRAU

### Cross Program Revitalization Measures (CPRM)

EPA put the Cross Program Revitalization Measures (CPRM) in place to track the Agency's efforts to prepare sites to be returned to use. The information is updated quarterly.



### Sitewide Ready for Anticipated Use (SWRAU)

The Sitewide Ready for Anticipated Use (SWRAU) measure is one of these measures. It reflects the importance of considering future land use as part of the cleanup process by tracking the number of sites meeting the following criteria:

- All aspects of the cleanup are in place and have been achieved for any media that may affect current and reasonably anticipated future land uses, so that there are no unacceptable risks.
- All land use restrictions or other controls required as part of the cleanup are in place.
- Sites are NPL sites (current and deleted) or Superfund Alternative Approach sites that have reached the construction completion milestone.

## Prioritizing Redevelopment...

The latest data also highlight EPA's success in supporting redevelopment outcomes at BRAC sites. EPA's Sitewide Ready for Anticipated Use (SWRAU) measure reflects cleanup milestones linked to sites being ready for reuse. More than 80 percent of the acreage at BRAC sites has been SWRAU certified.

| Site Type                 | <br>Percentage of Total CPRM Sitewide Acres Ready for Anticipated Use | <br>Total SWRAU Acres |
|---------------------------|--|--|
| Federal Facility BRAC     | 81%  | 170,355  |
| Federal Facility Non-BRAC | 18%  | 152,900  |
| Private Superfund Sites   | 3%   | 83,040   |

# Economic Growth

BRAC sites are well suited for major economic development projects. These areas, located near utilities, roads and other infrastructure, were once vital centers of employment, providing thousands of jobs. Redevelopment projects at these sites restore them to life, revitalizing downtown districts, waterfronts and historic community resources. In turn, as new businesses bring in jobs and services that address community priorities, property values rise and generate additional tax revenues for local governments. The projects provide lasting, long-term benefits for the private and public sector.

## Davisville Naval Construction Battalion Center (NCBC) *North Kingstown, Rhode Island*

This former U.S. Navy mobilization support center is now part of Quonset Business Park, one of the largest business parks in the Northeast. Quonset Business Park includes two former Navy facilities, the former NCBC and the former Quonset Naval Air Station. The former NCBC provides about 705 acres for development, including space for business, transportation, recreation and open space. The former NCBC is home to more than 97 companies, employing nearly 2,600 people across a variety of industries. (The entire Quonset Business Park hosts 200 companies and employs over 10,000 people.)



### Commerce Park District

This area is home to the global headquarters of the Ocean State Job Lot retail chain as well as a host of other medium and small businesses. Additional redevelopment is ongoing. Permitted uses include general manufacturing, warehousing and wholesaling, research and development facilities, and office space.



### Davisville Waterfront

The Port of Davisville is Rhode Island's premiere public port and gateway to global markets. Strategically located near the mouth of Narragansett Bay, the Port is consistently one of the top 10 automobile importers in North America and a leading frozen seafood port on the East Coast.

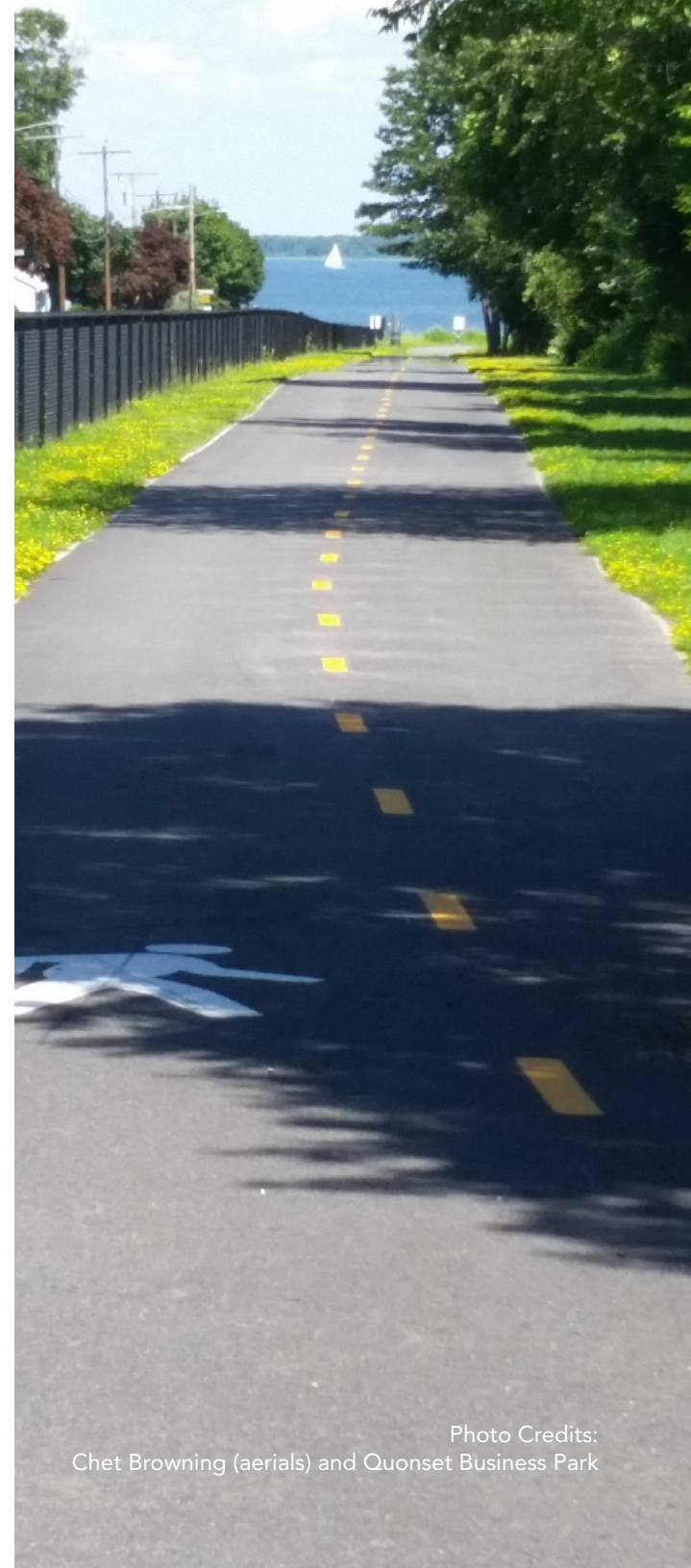


Photo Credits:  
Chet Browning (aerials) and Quonset Business Park





## Gateway

This mixed-use center along the Route 1 commercial corridor includes a hotel, several department stores, office space, a daycare center and small retail spaces. Walking and biking paths connect the area with North Kingstown and the nearby Seebee Museum and Memorial Park.



## West Davisville

Major industrial center home to small and large businesses, with a focus on office, manufacturing facilities, and warehouse/distribution operations.



## North Davisville

Light industrial facilities offering development sites ranging in size up to 12.5 acres.



## Site Facts: A Closer Look

Davisville was the original home of the Seabees, the construction forces of the U.S. Navy.

Quonset huts – the all-purpose, lightweight buildings in use worldwide for decades – were first designed and built at the site. More than 32,000 huts were made at the two naval facilities for the U.S. military.



## Looking Forward

The former NCBC is a vital part of the Quonset Business Park, which remains a key driver of economic development in the region, with new companies continuing to locate at the business park. Quonset's comprehensive site-readiness program, which allows companies to have shovels in the ground within 90 days of lease signing, and its innovative lease incentives are positioning both former Navy facilities for the future.



# Strong Foundations for the Future – Core Infrastructure and Public Services

BRAC projects bring communities together. The reuse of former military facilities creates opportunities for much-needed public services in business districts and historic neighborhoods as well as new transportation connections that provide local and regional benefits.



## Fort Ord Marina, California

The U.S. Army's 27,827-acre Fort Ord was an infantry training and staging facility from 1917 to 1994. Following the base's closure, the Fort Ord Reuse Authority (FORA) was created to lead reuse planning, funding and implementation efforts. Extensive community engagement laid a strong foundation for FORA's redevelopment efforts, while local, state and federal grants funded building removal, infrastructure improvements and collaborative redevelopment projects.

When construction finishes, Fort Ord will be home to 37,000 residents, host 18,000 jobs and offer 3 million square feet of public services and commercial space.

- To date, over 5,000 homes have been built or restored – 14,600 people live on site. Many of the residential units are designed to be affordable for the local workforce.

- More than 660,000 square feet of commercial and nonprofit space has been redeveloped – 4,200 people work on site.
- A veteran's medical clinic, a shopping center, federal agency offices, housing complexes, a hotel and movie theater, and other businesses have opened their doors.
- Fort Ord National Monument and Fort Ord Dunes State Park provide the community with open space and recreation areas.
- FORA has made major road improvements and established the California Central Coast Veteran's Cemetery on site.

Future redevelopment efforts include a resort, golf courses, and additional mixed-use projects and housing.

Fort Ord Dunes State Park offers access to 979 acres of dunes and four miles of ocean beach with beautiful views of Monterey Bay. It is part of a network of six parks that link 21 miles of the California coastline.



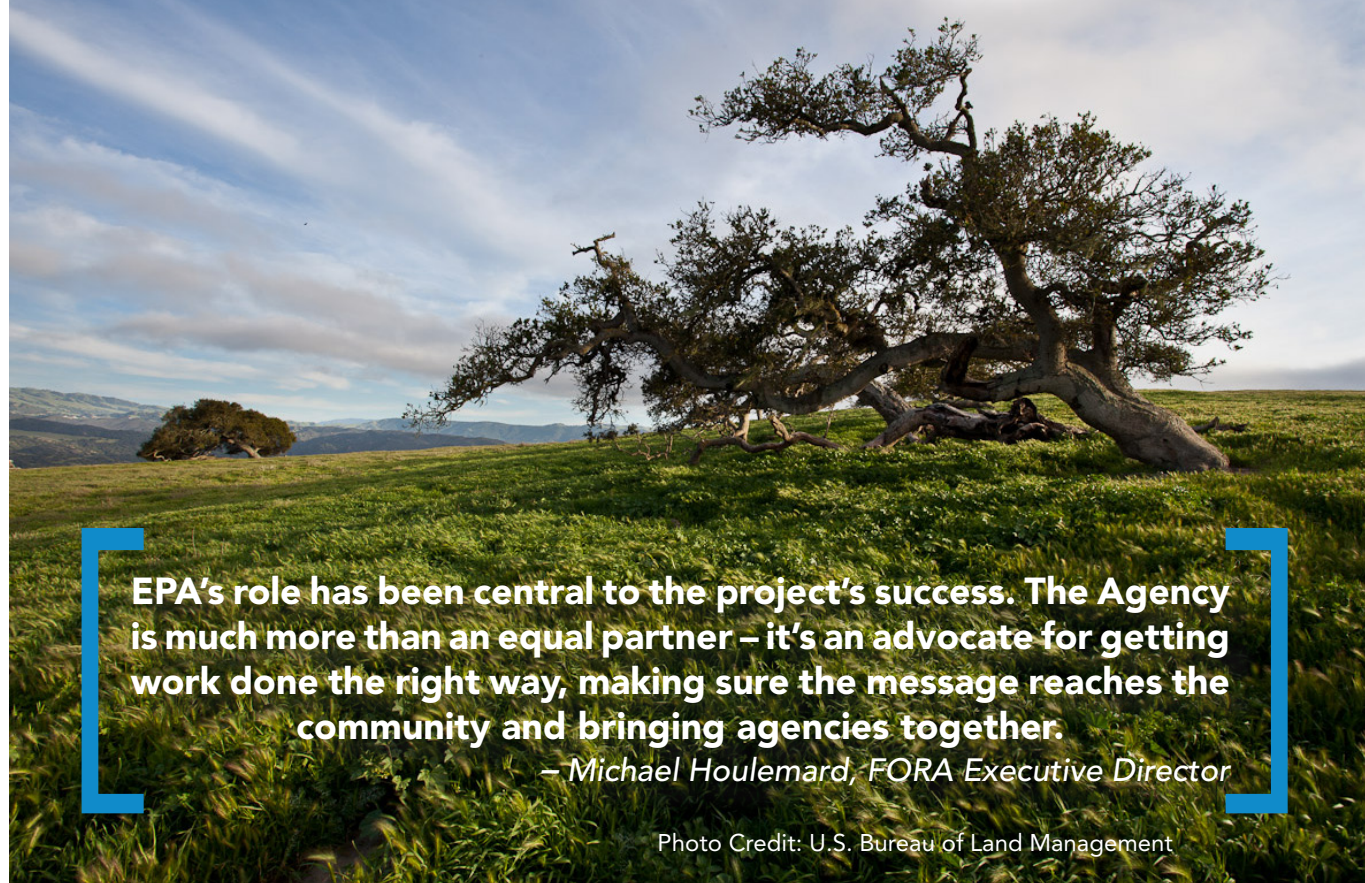
Photo Credit: Rob Starobin





Fort Ord National Monument opened in April 2012. This coastal area preserves some of the last undeveloped natural areas and public lands on California's Monterey Peninsula. More than 86 miles of trails provide opportunities to hike, bike or ride horses through rolling hills, pockets of chaparral and oak woodlands. Diverse habitats include streamside corridors, grasslands, maritime chaparral, oak woodlands and seasonal pools.

*Photo Credit: U.S. Bureau of Land Management*



**EPA's role has been central to the project's success. The Agency is much more than an equal partner – it's an advocate for getting work done the right way, making sure the message reaches the community and bringing agencies together.**

*– Michael Houlemard, FORA Executive Director*

*Photo Credit: U.S. Bureau of Land Management*



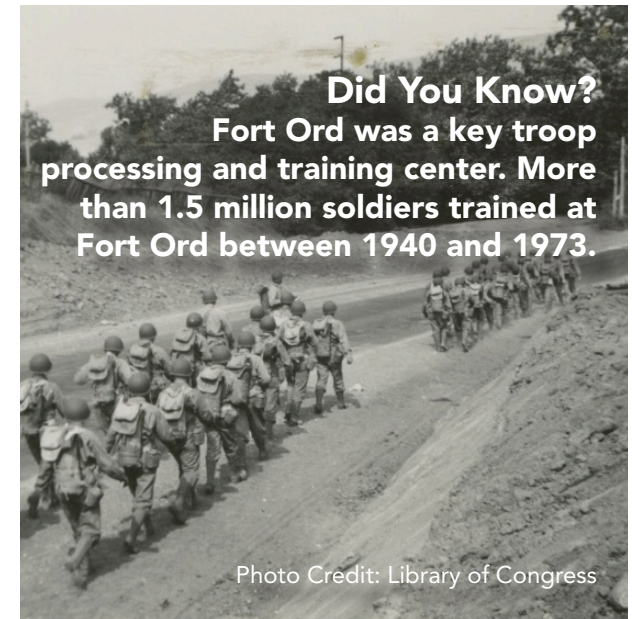
FORA continues to guide and oversee all redevelopment efforts at Fort Ord. FORA's governing body comprises 25 representatives from area cities, Monterey County, special districts, public educational institutions, the military, and state and federal legislators.

*Photo Credit: FORA*



View of The Dunes project under construction on site. Designed in phases, this mixed-use retail, commercial and residential project will include 1,237 housing units – apartments, townhomes and single-family residences – and create new jobs in commercial, professional, hospitality, recreation and support services for the region.

*Photo Credit: FORA*



**Did You Know?**  
Fort Ord was a key troop processing and training center. More than 1.5 million soldiers trained at Fort Ord between 1940 and 1973.

*Photo Credit: Library of Congress*



# Mixed-Use Redevelopment

Many former military facilities are large, covering hundreds or thousands of acres. Their size presents a major opportunity – to locate multiple uses on site, addressing multiple community priorities at one time. At some sites, former administration buildings, barracks, warehouses and even runways can be renovated and adaptively reused, lowering project costs and accelerating redevelopment.



## Philadelphia Navy Yard Philadelphia, Pennsylvania

Following the U.S. Navy and EPA's cleanup of this historic resource, the revitalization of the United States' first federal naval shipyard has been rolling along for more than 16 years. Since acquiring the site in 2000, Philadelphia's public-private economic development corporation, Philadelphia Industrial Development Corporation (PIDC), has leveraged \$150 million in site infrastructure development to spur \$1 billion in private development investments.

Today, this dynamic 1,200-acre waterfront development is one of the largest mixed-use projects in the United States. Over 7.5 million square feet of redeveloped space includes office complexes, industrial and distribution facilities, state-of-the-art research laboratories, renovated historic buildings, a riverfront greenway, and parks. Large ships docked at the Navy's maintenance facility provide a strong visual reminder that the site's maritime tradition continues.



*The Philadelphia waterfront has a rich maritime heritage, dating back to leasing of land by the Continental Congress to support naval defense in the late 1700s. Shipbuilding began at the Navy Yard location in 1801. During peak production in WWII, the shipyard employed as many as 25,000 workers.*

*Photo Credit: Library of Congress*



**Available commercial space includes historic officers' quarters along the riverfront. New development and renovated historical facilities are located throughout the Navy Yard.**

Photo Credit: PIDC



Over 150 tenants call the facility home, including pharmaceutical companies, clothing retailers, manufacturers, food companies, technology groups, federal agencies, engineering firms, medical product companies, academic institutions and small businesses. Together, these organizations employ more than 11,000 people.

- The Navy Yard remains a hub of shipbuilding activity, with Navy and commercial facilities on site. The U.S. Navy's Naval Ship Systems Engineering Station features a propeller shop and foundry. At its 114-acre waterfront facility, the Philly Shipyard employs 1,000 workers and has produced over \$2 billion in sales.
- Several pharmaceutical firms call the Navy Yard home, including GlaxoSmithKline, which has 1,200 employees at its \$140 million facility.
- Other tenants include Tastykake Bakery, which has called Philadelphia home since 1914; Urban Outfitters, whose headquarters on site has been recognized with multiple architectural awards; and Jefferson University Hospitals.
- Design features include LEED-certified construction, adaptive redesign of historic facilities, and 20 acres of parks.

Looking forward, plans call for the development to double in size over the next decade, to more than 13 million square feet of office and industrial space, 10,000 more jobs, and 1,000 multi-family residential units.

**Renderings in the Navy Yard's 2013 Master Plan Update illustrate the vision for the completed complex. Future development in the area's historic core will include an Education and Research Campus that expands existing facilities.**



Photo Credit: PIDC

**Visitors enjoying the landscaped grounds at the Navy Yard Complex. Outdoor amenities include a track, lounge chairs, hammocks and waterfront trails.**

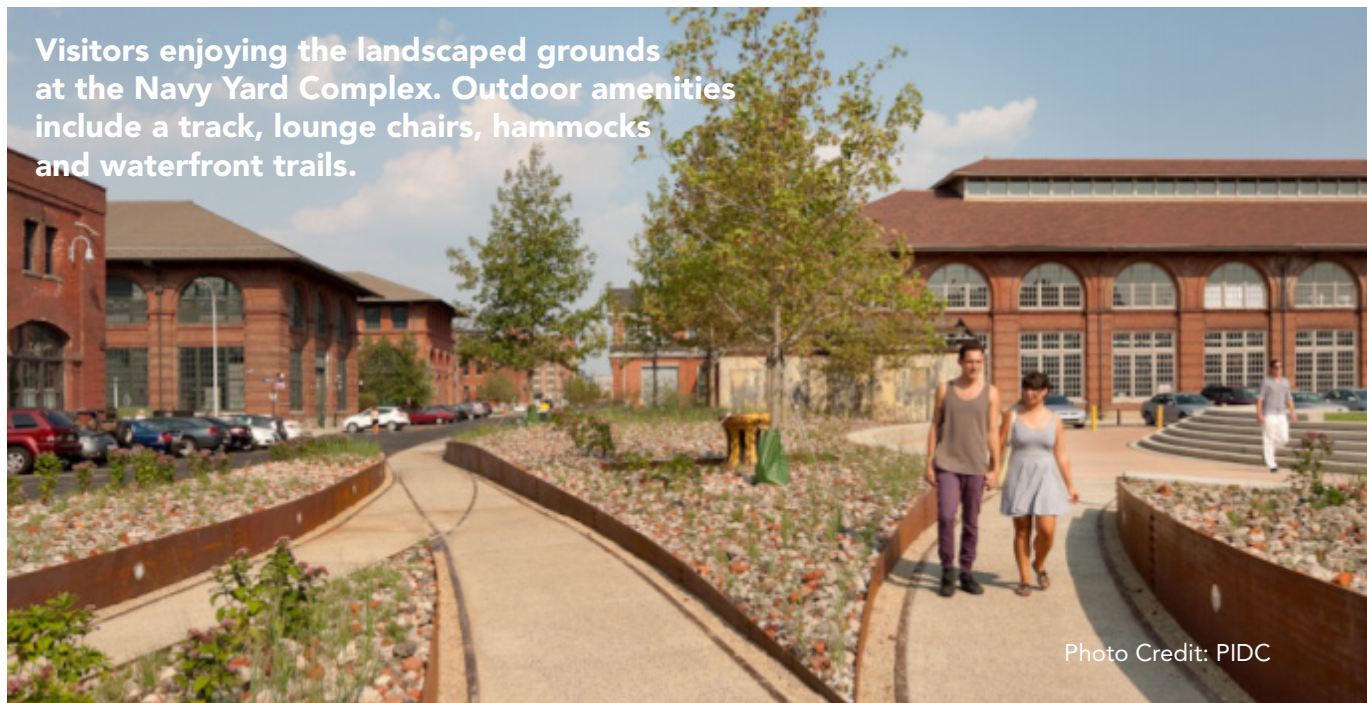


Photo Credit: PIDC



# Community Involvement and Interagency Collaboration

EPA and DoD recognize the importance of public involvement at military installations that require environmental restoration. To elicit community input, smooth the transfer process, and mitigate the social and economic impacts of a base closure, EPA and DoD work with surrounding communities through Restoration Advisory Boards (RABs).

RABs bring together people who reflect the diverse interests in each community, enabling the early and consistent flow of site and project information. RABs provide a venue for all stakeholders to actively participate in the BRAC process.



Photo Credit:  
Lans Stout/Jacksonville Airport Authority

## Cecil Field Naval Air Station *Jacksonville, Florida*

The Cecil Field Restoration Advisory Board (RAB) provided the community surrounding this former naval air station with a strong voice in cleanup and reuse activities. For more than eight years, this 25-member group held monthly meetings and circulated regular newsletters to keep the community up to date. Meetings between the Cecil Field RAB and government agencies helped develop a relationship that enabled the Cecil Field RAB to participate in the

Fast Track Cleanup Program. As a result, Cecil Field Naval Air Station was presented with the “Secretary of Defense Environmental Cleanup Award for Installation Restoration.”

Today, the site is home to Cecil Commerce Center, Cecil Airport and a Florida State College at Jacksonville campus as well as other commercial, recreational and aviation uses.

**Cecil Airport is owned by the Jacksonville Aviation Authority. It serves as a base of operations for corporate aircraft, general aviation, air cargo, and National Guard and Reserve aviation.**

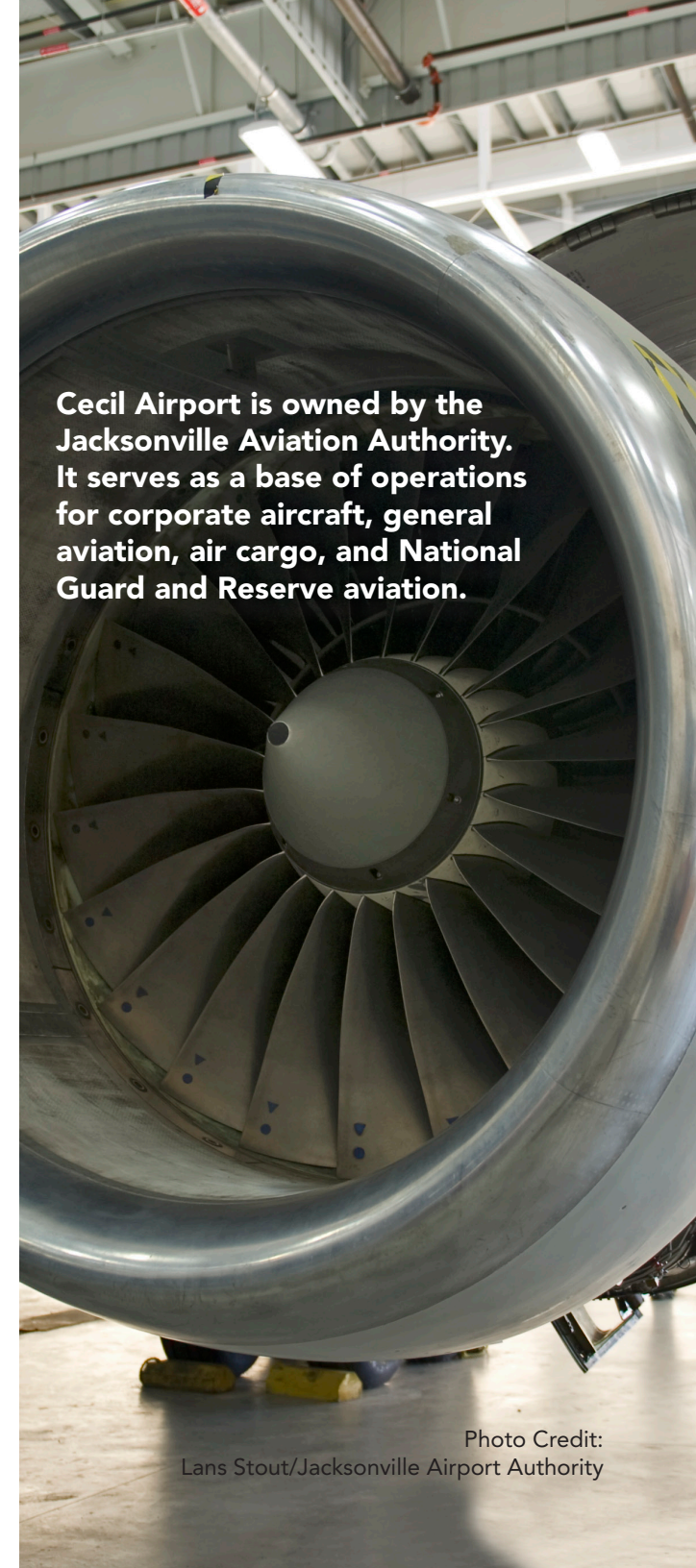


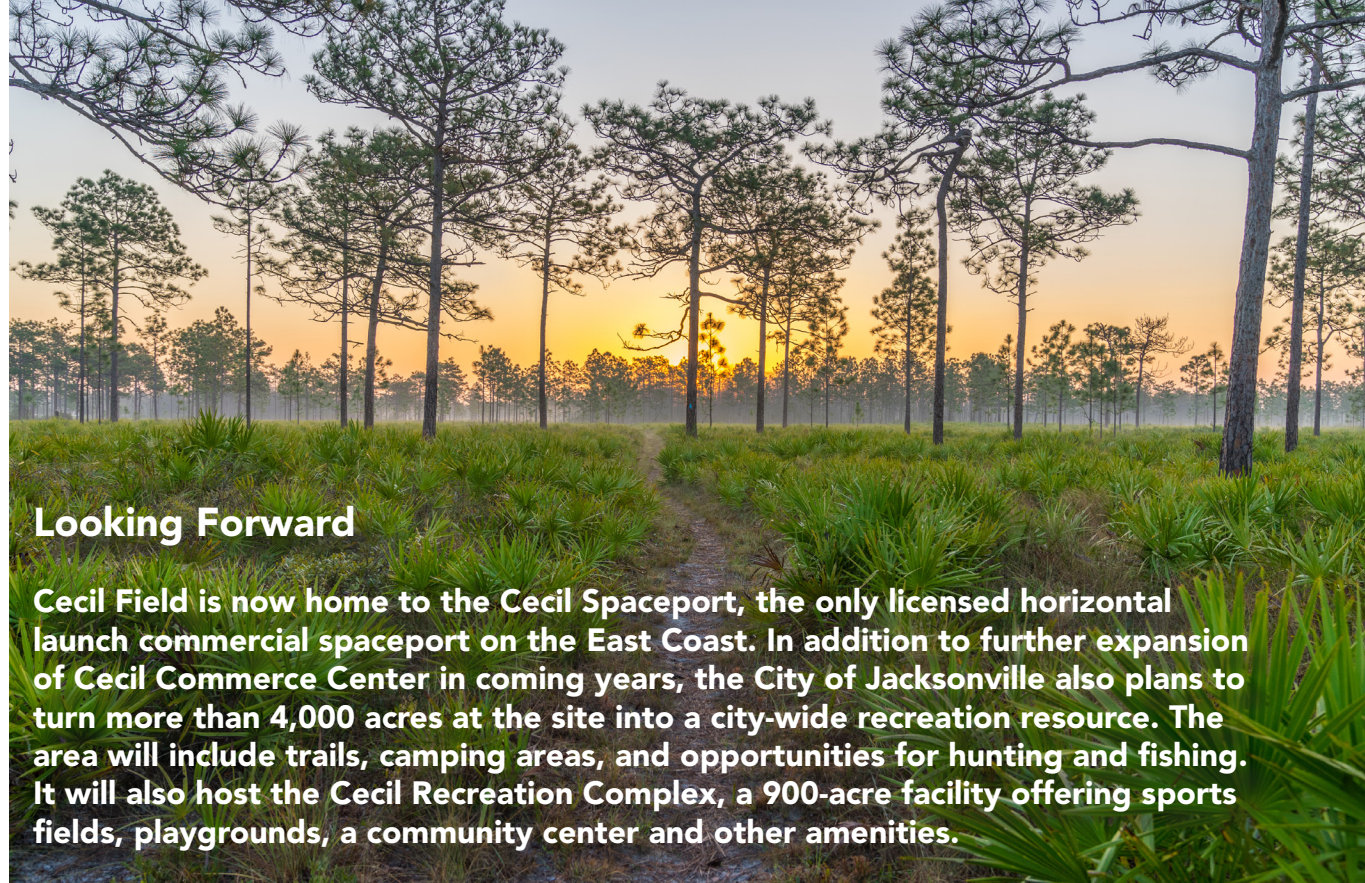
Photo Credit:  
Lans Stout/Jacksonville Airport Authority





In total, Cecil Commerce Center will provide more than 31 million square feet of commercial and industrial space. Large corporations including Boeing, Northrop Grumman, FlightStar and Bridgestone have opened production facilities at the Center. About 2,500 people currently work at the Center. In 2017, Amazon announced it would build a fulfillment center there, bringing an additional 1,000 jobs to the facility.

*Photo Credit: JAXUSA Partnership*



## Looking Forward

**Cecil Field is now home to the Cecil Spaceport, the only licensed horizontal launch commercial spaceport on the East Coast. In addition to further expansion of Cecil Commerce Center in coming years, the City of Jacksonville also plans to turn more than 4,000 acres at the site into a city-wide recreation resource. The area will include trails, camping areas, and opportunities for hunting and fishing. It will also host the Cecil Recreation Complex, a 900-acre facility offering sports fields, playgrounds, a community center and other amenities.**



Cecil Airport is owned by the Jacksonville Aviation Authority. It serves as a base of operations for corporate aircraft, general aviation, air cargo, and National Guard and Reserve aviation.

*Photo Credit: JAXUSA Partnership*



Cecil Center, the Florida State College at Jacksonville's campus on site, houses the college's aviation and commercial vehicle driving programs.

*Photo Credit: Florida State College at Jacksonville*



**The U.S. Coast Guard renovated its 32,000-square-foot building and added 150 new personnel to its drug interdiction operations based on site.**

*Photo Credit: Lans Stout/Jacksonville Airport Authority*





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