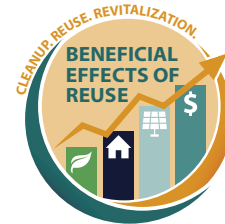


Former Nansemond Ordnance Depot

Suffolk, Virginia
EPA Region 3



Site Overview

Size and Location

This 975-acre site is in Suffolk, Virginia, near the northwestern end of State Route 135. It is on the James River at the mouth of the Nansemond River.

Previous Site Uses

- Storage, shipment, reconditioning and disposal of munitions

Current Site Uses

- Commercial businesses and hospitality
- Community-focused services
- Engineering, technology and logistics services
- Innovative water treatment services
- Residential developments

Community Information

As of the 2020 U.S. Census, about 5,000 people live within a half mile of the site. An estimated 45% of the people living on and near the site in Suffolk are people of color. Seven percent of the community is classified as low income, a rate lower than state and national averages. An analysis of the Superfund area was conducted using EPA's Environmental Justice Screening and Mapping tool (EJScreen), which identifies key factors relating to environmental justice and socioeconomic risks. At this site, most of the environmental justice and socioeconomic risk factors identified by EPA are considered lower risk compared with the state and the rest of the country.

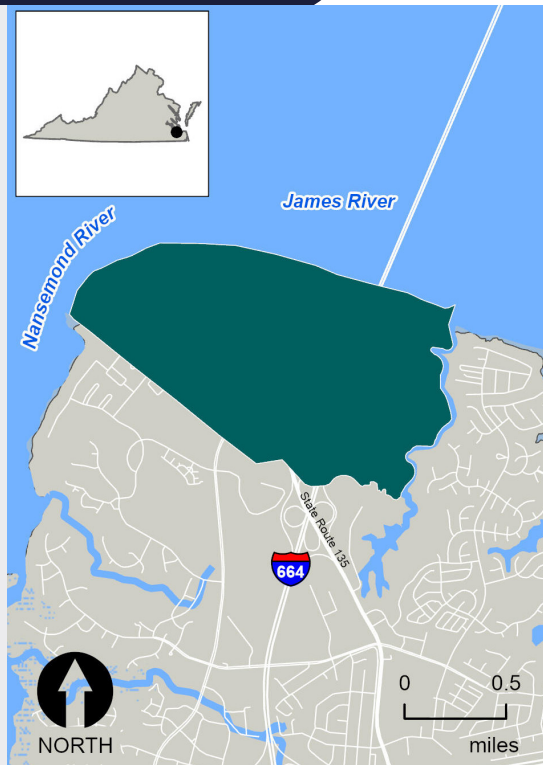
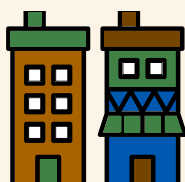


Figure 1. A map of the Former Nansemond Ordnance Depot site in Suffolk, Virginia.

Site Reuse Highlights

This case study explores the cleanup and reuse of the Former Nansemond Ordnance Depot (FNOD) Superfund site. As a Formerly Used Defense Site (FUDS) with a variety of contaminants, this site has required complex cleanup efforts and coordination by the EPA, federal agencies and local government. Throughout the process, EPA has facilitated community efforts advocating for equitable and protective redevelopment. While some cleanup efforts are ongoing, FNOD includes more than 100 different landowners supporting a wide range of new uses and forward-thinking businesses. Key site uses include the Sustainable Water Initiative for Tomorrow (SWIFT) Research Center, the Ashely Capital Bridgeway Business Center, the Tidewater Community College Center for Workforce Solutions, the Lockheed Martin Center for Innovation, and the award-winning RoadOne IntermodaLogistics facility.

Economic Benefits of Site Reuse



34

businesses



999

jobs



\$72 million

annual employment income

Introduction

Since the late 1980s, government agencies, business leaders, developers and community members have worked together to revitalize areas on and around the site. The discovery of explosive material on-site in 1987 kicked off coordinated efforts to clean up and ensure public safety. EPA, the U.S. Army Corps of Engineers (USACE) and the Virginia Department of Environmental Quality (VDEQ) continue to collaborate with developers and communities near the site to expedite cleanup, encourage private investment and facilitate community revitalization. EPA and site stakeholders saw significant economic and ecological reuse opportunities at the site. The result is a variety of innovative companies operating on-site and plans for extensive neighborhoods with access to green space. Site reuse has and will continue to support economic growth and quality of life in Suffolk, Virginia.

Site History and Cleanup

The U.S. Army built FNOD during World War I and operated it for military purposes through 1960. Originally known as Pig Point Ordnance Depot, FNOD was used for munitions storage, shipment, classification, reconditioning, loading and destruction. The depot handled up to 1,300 tons of ammunition daily. After World War II, the U.S. Navy used FNOD for the destruction of explosives, ammunition and chemicals. These practices resulted in widespread contamination of soil, sediment and groundwater.

Multiple private property transfers occurred during the 1960s. Parts of the site were conveyed to a private military academy, the Virginia Electric Power Company, the General Electric (GE) Company, Nansemond County and Tidewater Community College (TCC). In the 1980s, shoreline erosion began to expose



Figure 2. Large munitions handled at FNOD.

munitions waste. In 1987, officials found a piece of crystalline trinitrotoluene (TNT) at TCC's former Portsmouth campus. This led to a series of investigations and removal actions, or short-term cleanups, led by USACE, with oversight from VDEQ and EPA. Site inspections in the late 1980s and 1990s found extensive contamination in disposal pits, fill and demolition areas, an on-site landfill, holding tanks, trenches, and an offshore dumping area extending from the low tide line to 1 mile offshore.

Starting in 1988, several emergency response and removal actions addressed immediate threats to human health and the environment. From 1988 to 1992, USACE cleaned up the TCC Soccer Field Area, removing thousands of pounds of munitions boosters, bulk explosives and soil contaminated with lead and TNT. In 1996, 500 cubic yards of soil on the TCC campus containing fuze adapters, projectiles and mortars were removed. In 1998 and 1999, USACE conducted a removal action that included removal and off-site disposal

Site History and Redevelopment Timeline

1917

The U.S. Army constructs Pig Point Ordnance Depot for munitions management and disposal.

1929

Facility name officially changed to the Nansemond Ordnance Depot.

1960s

The depot officially ceased operations and land was conveyed to several businesses, Nansemond County and Tidewater Community College (TCC).

1987

Officials found explosive trinitrotoluene (TNT) on TCC's campus and shoreline erosion began to expose munitions waste.

1988

The U.S. Army Corps of Engineers (USACE) began the first of several cleanup activities.

1999

EPA added the site to the Superfund program's National Priorities List (NPL).

2004

EPA issued the first of several Records of Decision (RODs) to document long-term remedies.

2018

Hampton Roads Sanitation District (HRSD) opened the award-winning SWIFT Research Center on-site.

2023

EPA recognized Brookwood Capital Partners (BCP), Hana Engineers and other sites stakeholders with an Excellence in Site Reuse Award.

Present

Today, the site supports a wide variety of land uses, with more residential development and business facilities under construction. Site investigation and cleanup efforts are ongoing.

of 857 tons of XXCC3 material, a granular powder called impregnite used to neutralize chemical warfare agents, and associated soil from property owned by Dominion Lands, Inc. Between 2000 and 2004, USACE led a time-critical removal action to remove munitions from five site areas. To date, USACE has removed 6,200 munitions items (400 of which were considered “live”) and 200,000 pounds of munitions debris.

To address long-term cleanup and protectiveness, EPA added the site to the Superfund program’s National Priorities List (NPL) in 1999. The site’s long-term cleanup addresses six source areas, including the James River Beachfront Area, the TNT Removal Area, the Main Burning Ground (MBG), the Horseshoe Pond, the Impregnation Kit Area and the Track K Dump. Of the 21 separate projects initiated at the site, 12 have been completed. EPA has signed Records of Decision (RODs) for seven project areas, called operable units (OUs), to document that no further action for cleanup is necessary. Following cleanup of Impregnation Kit Area soil to levels deemed safe for residential use, EPA deleted the soil in that area from the NPL in March 2003. Land use controls (LUCs), which include

legal and physical barriers to minimize potential exposure to contaminants, have been agreed upon by TCC, the city of Suffolk and USACE. To address groundwater contamination, the city of Suffolk extended municipal water lines to the TCC campus.

EPA, USACE and VDEQ meet routinely with the property owners to incorporate and align cleanup and reuse goals. While site investigations and cleanup activities continue across several OUs, redevelopment initiatives in recent years have incentivized community involvement, revitalized the local economy and brought hundreds of jobs to the site.

Community Involvement at the Site

Public involvement at the site has been ongoing since 1997, when USACE sponsored the formation of a Restoration Advisory Board (RAB). It includes stakeholders from EPA, USACE, VDEQ, landowners, business representatives and residents. The purpose of the RAB is to provide a forum for discussion between government agencies and the community. Quarterly RAB meetings are open to the public and have included virtual or hybrid components since the beginning of the COVID-19 public health emergency. RAB meetings provide opportunities for interested parties to review and provide input on the progress of restoration efforts. The RAB also actively educates the public outside of meetings, with television broadcasts, newsletters, fact sheets, press releases, interviews, online surveys and a regularly updated Public Involvement Plan (PIP).

RAB meetings have informed decision-making and decision documents such as Proposed Plans for cleanup projects across the site. In 1997, for example, community representatives on the RAB identified local concerns about the Impregnite Kit area, the James River Beach area and Streeter Creek. These areas were inspected and addressed by removal actions and further investigations. The former Impregnite Kit area now hosts a condominium complex. Other RAB meetings led to community involvement in prioritizing cleanups and economic redevelopment at the Nansemond River Beachfront, Arsenic Investigation, Main Burning Ground (MGB) and GE Pond areas. Some of those areas now host the RoadOne Intermodal Logistics facility and the Bridgeway Business Center. Figure 5 shows the locations of many of the site uses highlighted in this case study.

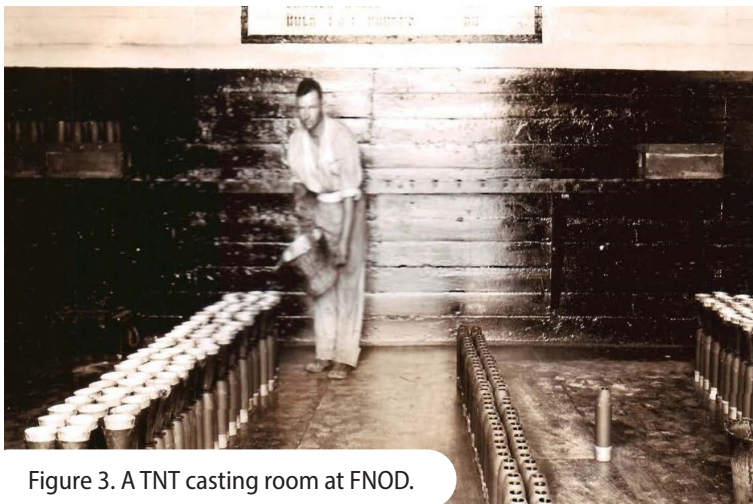


Figure 3. A TNT casting room at FNOD.



Figure 4. Cleanup activities at FNOD.

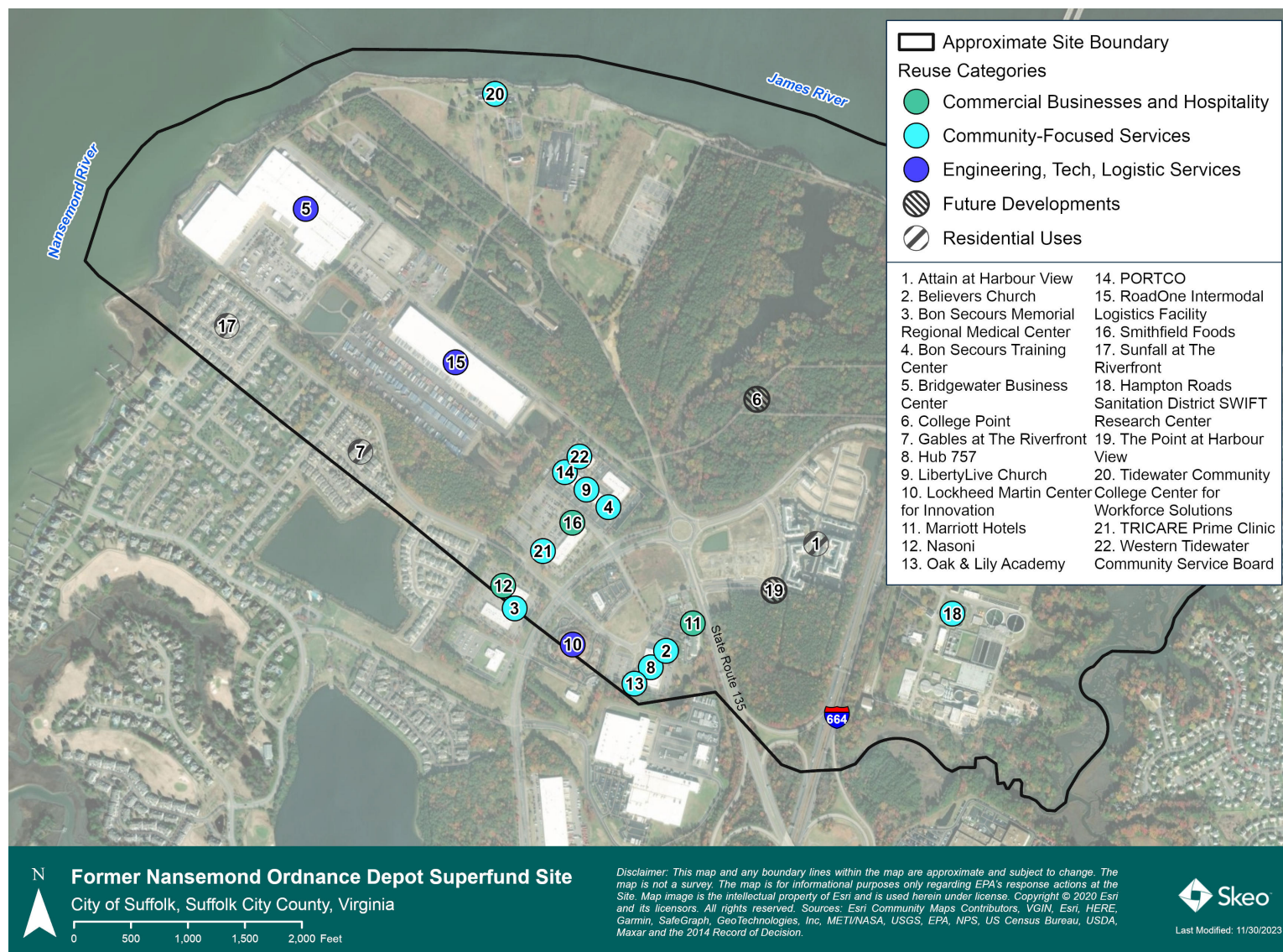


Figure 5. Points of interest at the site, categorized by land use.

Beneficial Effects

Today, there are a variety of land uses at the site. It is home to an innovative water treatment project, cutting-edge technical and engineering services, commercial businesses, hospitality, health care centers, residential developments and community-focused services. Looking forward, over 830 acres are available for redevelopment. New and long-time businesses at the site contribute to a growing local economy and help generate local and state tax revenues. This section describes the beneficial effects of continued use and reuse at the site.

Engineering, Technology and Logistics Services

RoadOne Intermodal Logistics

This facility is the product of an award-winning cleanup and redevelopment effort coordinated by several parties. In November 2021, Brookwood Capital Partners (BCP) broke ground on a 45-acre development spanning the former MGB area and the GE Pond area at the site. BCP hired Hana Engineers and Consultants to engage with EPA, USACE and other stakeholders for the cleanup effort. EPA issued a comfort letter enabling BCP to remove contaminated sediment from the pond in order to construct a larger stormwater management system.

Two layers of sediment from the pond were removed, segregated and sampled to determine if any material could be reused as fill during construction of a warehouse and stormwater feature. Around 2,000 tons of contaminated sediment was taken off-site for disposal, and several hundred cubic yards were reused on-site. The project allowed for the closure of the pond without the need for more remediation. The 338,000-square-foot warehouse facility was built over the former MBG, covering it and raising the site's elevation.

The RoadOne IntermodaLogistics facility opened on site in 2023. Construction and operation of the facility created more than 300 jobs. The business generates nearly \$4 million in annual sales revenue. It has several sustainability initiatives at the facility, including the use of electric forklifts and a planned rooftop solar farm. A pilot study evaluated the potential use of electric, renewable natural gas and hydrogen-powered trucks.

EPA Excellence in Site Reuse Award

In September 2023, EPA Region 3 recognized BCP and Hana Engineers and Consultants for their cleanup and redevelopment efforts at a reuse award ceremony. RoadOne IntermodaLogistics, USACE, VDEQ, the city of Suffolk and the Port of Virginia were also recognized for their contributions and collaboration. About 45 people attended the event. Their efforts reflect the commitment of EPA and project partners to build a promising future for the community at the site.

BCP and Hana Engineers and Consultants were selected for the award by excelling across the following criteria :



1. Enhancement of the selected remedy:

Construction of the warehouse and parking lot over the area eliminated exposure pathways for ecological risk.



2. Reduction of EPA's long-term stewardship responsibilities:

The removal action conducted by BCP expedited cleanup as USACE does not need to address any other contamination in the GE Pond area.



3. Benefit/effect on the local community:

Removal of hazardous substances addressed potential ecological risk, and reuse of the site property provides jobs and tax revenue for the community.



Figure 6. Exterior view of the RoadOne IntermodaLogistics facility.



Figure 7. The interior of the RoadOne IntermodaLogistics facility.



Figure 8: The retention pond at RoadOne IntermodaLogistics, part of a stormwater management system.



Figure 9: Participants at the site reuse award ceremony in September 2023.



4. Implementation of sustainable practices:

They included repurposing removed sediment in the cleanup process, a planned solar farm, electric forklifts and a pilot study for alternative energy trucks.



5. Design of reuse complementary with long-term implementation of the selected remedy:

Commercial/industrial reuse of the site property complements adjacent landowners' vision of mixed-use development.



6. Enhanced monitoring of institutional controls (neighborhood watch): Effective coverage of the MBG after cleanup, helping ensure that people do not come in contact with hazardous waste.



7. Innovation in creative thinking and effective use of partnerships: BCP took the initiative to pursue the cleanup process recommended by EPA.

Lockheed Martin Center for Innovation – The Lighthouse

This 50,000-square-foot laboratory hosts research and development programs and infrastructure. The space provides a cutting-edge environment for testing ideas, analyzing concepts and collaborating on innovations for government clients. Research operations at the facility include experimentation, wargaming, tabletop exercises, modeling and simulation, and decision analysis in both real and synthetic environments. The Lighthouse is named for its 40-foot re-creation of a 19th-century lighthouse inside its atrium. The facility generates about \$17 million in annual sales revenue.

Ashley Capital Bridgeway Business Center

The Ashley Capital Bridgeway Business Center converted the former GE plant into a 708,000-square-foot hub for warehousing uses. Businesses at the center include Dupre Logistics, Coastal Logistics, UPS and a Virginia DMV testing location. The largest employer is AMSEC LLC, a full-service supplier to the U.S. Navy and commercial maritime industries, providing logistics and engineering services. In total, the Ashley Capital Bridgeway Business Center supports nearly 200 jobs and generates \$7.7 million in annual sales.



Figure 10. Project partners receiving EPA Region 3's Excellence in Site Reuse Award at the ceremony.



Figure 11. Award recipients at the ceremony.



Figure 12. The Lockheed Martin Center for Innovation.



Figure 13. Signage at the Ashley Capital Bridgeway Business Center.

Community-Focused Services

The Sustainable Water Initiative for Tomorrow (SWIFT)

The Hampton Roads Sanitation District (HRSRD), located on the eastern side of the site, has managed wastewater in the area since 1940. HRSRD is home to the SWIFT Research Center, which opened its doors in May 2018. It initiated SWIFT to protect the region's environment and to enhance the local groundwater supply through sustainable methods. SWIFT reserves highly treated water that would otherwise be discharged to local waterways and filters it through advanced carbon-based treatment processes to meet drinking water quality standards. The water is then added to the Potomac Aquifer, the primary source of groundwater for eastern Virginia. SWIFT currently adds up to a million gallons of water each day to the aquifer, which serves 1.7 million residents in the area. Once SWIFT is fully implemented in 2032, HRSRD intends to recharge the Potomac Aquifer with up to 100 million gallons per day. EPA has committed \$1 billion in loan assistance over 10 years from the Water Infrastructure Finance and Innovation Act (WIFIA) to support the \$2 billion initiative.



Figure 14. The SWIFT Research Center.

SWIFT addresses local ecological issues as well as challenges posed by sea level rise. Taking water out of the ground at the current rate has led to the sinking of land, called land subsidence, in some parts of eastern Virginia. This makes that land more vulnerable to rising sea levels and associated impacts. By replenishing the aquifer, SWIFT water can help slow or reverse land subsidence.

The long-term health and productivity of the Chesapeake Bay depends in part on reducing the nutrients (such as phosphorus and nitrogen) and sediment entering its waters.

At full capacity after multiple planned projects, SWIFT will eliminate an estimated 90% of HRSRD's discharge to local waters. This effort will significantly diminish the excess input of nutrients and sediment from human activities into the Chesapeake Bay.



Figure 15. Operations inside the SWIFT Research Center.

The site also supports a new HRSRD Force Main Project pipeline that extends from the Newport News area and connects to the Hampton Roads Sewer Authority plant. USACE expedited removal of soil contaminants in this area to facilitate construction of the pipeline. USACE began a time-critical removal action in September 2022 to remove contaminated soil from the area where HRSRD's pipeline would be installed. The site team worked quickly to approve the work plan and address liability concerns and VDEQ cleanup requirements to meet the project pipeline installation date (January 2023). Over time and with expanded capacity, SWIFT will continue to provide significant benefits for the local economy as well as sustainability and climate resiliency.

"EPA is proud to work alongside USACE as the lead agency for the site cleanup and see the incredible economic benefits the cleanup and redevelopment have on the community. There is still plenty of room for growth at the site, and we look forward to assisting the landowners and community as they expand their redevelopment plans at FNOD."

Jackie Kondrk, EPA RPM and Region 3 Superfund Redevelopment Coordinator

Health Care Centers

In 2018, the Naval Medical Center Portsmouth opened its TRICARE Prime Clinic on site, providing pharmacy, laboratory, physical therapy, radiology, pediatrics and family medicine services. Bon Secours, a nonprofit Catholic health system, also operates a training center and medical center on site. Together, the Bon Secours Memorial Regional Medical Center and Training Center provide over \$6 million in estimated annual employment income.



Figure 16. The Bon Secours Training Center.

Tidewater Community College Center for Workforce Solutions (TCCCWS)

Tidewater Community College operates its Center for Workforce Solutions on-site, providing residents and businesses with resources for professional development. The center offers dozens of affordable programs to help people gain industry credentials, professional licensing and tech skills. Companies that have worked with the center include Bon Secours, Sumitomo Machinery Corporation of America and S.B Ballard Construction.



Figure 17. Signage for TCCCWS.

PORTCO

Located in the Bridgeway Technology Center, this nonprofit founded in 1991 provides transitional, supported employment and vocational services to individuals with disabilities. Employment opportunities that PORTCO pursues include janitorial and custodial, grounds maintenance, hospital, consolidated support, job training, and coaching services. The facility on-site is PORTCO's headquarters building. It generates annual sales of nearly \$4.2 million.



Figure 18. PORTCO headquarters.

Western Tidewater Community Services Board (WTCSB)

WTCSB operates the Harbour View Mental Health Center at the Bridgeway Technology Center, providing a variety of counseling services, veterans' services, rapid mobile response and clinical services to the community. The jobs supported by this on-site business provide an estimated \$5 million in annual employment income.

Churches and Academies

LibertyLive Church is an organization focused on building community ties as well as hosting learning opportunities for children and students. Just down the road, the 28,000-square-foot Hub 757 hosts a multi-purpose event space as well as the Believers Church and Oak & Lily Academy, which offers education programs for children in preschool and elementary school.



Figure 19. Hub 757, a multi-purpose space.

Commercial Businesses and Hospitality

Nasoni

This business focuses on the design, manufacturing and sales of eco-friendly water faucets. The faucets are designed to minimize water usage, reducing water utility consumption and strains on wastewater treatment systems. Nasoni has won several awards and grants since its inception in 2019 on Kickstarter, a platform that helps creative businesses launch through crowdfunding. In 2020, it was recognized as a finalist in Fast Company's World Changing Ideas Awards.

Marriott Hotels

A 92-room Courtyard by Marriott opened on-site in 2007. A neighboring TownePlace Suites by Marriott opened shortly after, designed for government contractors, military and extended-stay travelers. The hotels are conveniently located near several engineering and technology firms, health centers and River Stone Chophouse restaurant. Combined, the hotels provide nearly \$4 million in annual employment income.



Figure 20. Marriott TownePlace Suites.

Smithfield Foods

This food processing company leased a 20,000-square-foot space in the Bridgeway Technology Center, providing sales and logistics jobs at the site. The office generates about \$46 million in sales. This location consolidated company offices from Missouri and Illinois.



Figure 21. Smithfield Foods' new offices.

Residential Uses

The Riverfront at Harbour View – Sunfall and Gables

The Riverfront at Harbour View is a large residential community encompassing 2 miles of the Nansemond and James rivers. It includes a golf course, waterfront parks, biking trails and many other amenities. Sunfall at The Riverfront is a condominium complex of 85 homes that offer resort-style living. Gables, located partially on-site, is The Riverfront's newest neighborhood. It features affordable single-family detached and attached homes.

Attain at Harbour View

Located in the Wynnewood neighborhood, Attain at Harbour View is a high-rise community offering luxury one-, two- and three-bedroom apartments. Amenities such as a business center, pool and dog park are available to residents. The project is the first major residential facility to open as part of the larger planned development The Point at Harbour View.



Figure 22. Attain at Harbour View.

Future Developments

The Point at Harbour View

The Point at HarbourView is a special initiative in an area adjacent to Interstate 664. The property is owned by the Suffolk Economic Development Authority (EDA) and is considered a premier site for redevelopment due to its proximity to waterfront vistas and access to major roadways. The area features 55 acres zoned for mixed-use development, with plans for retail, office, hotel and residential properties. A mixed-use core district will provide an urban setting. Residences include the luxury apartments Attain at Harbour View and the forthcoming Harbour View Townes townhouses. Development at The Point and continued population growth in Suffolk will likely serve as a catalyst for future building projects at College Point, an adjacent property.

College Point and Shoreline Park Redevelopment

College Point is the largest undeveloped area at the site. It is owned by TCC’s Real Estate Foundation (TCCREF) and encompasses much of the former TCC campus, including the current TCC Center for Workforce Solutions. A study by the Urban Land Institute found that a large-scale, mixed-use project would be an optimal future use of the area, proposing commercial uses and residential units. USACE remains active in the area, with multiple cleanup projects and plans to stabilize the shoreline while maintaining greenspace to sustain the local environment. TCCREF and the City of Suffolk have plans to redevelop the shoreline into a park and community promenade with access to the waterfront and outdoor activities.



Figure 23. Harbour View Townes Development.



Figure 24. Construction at Harbour View Townes.



Figure 25. Homes for sale at Harbour View Townes.

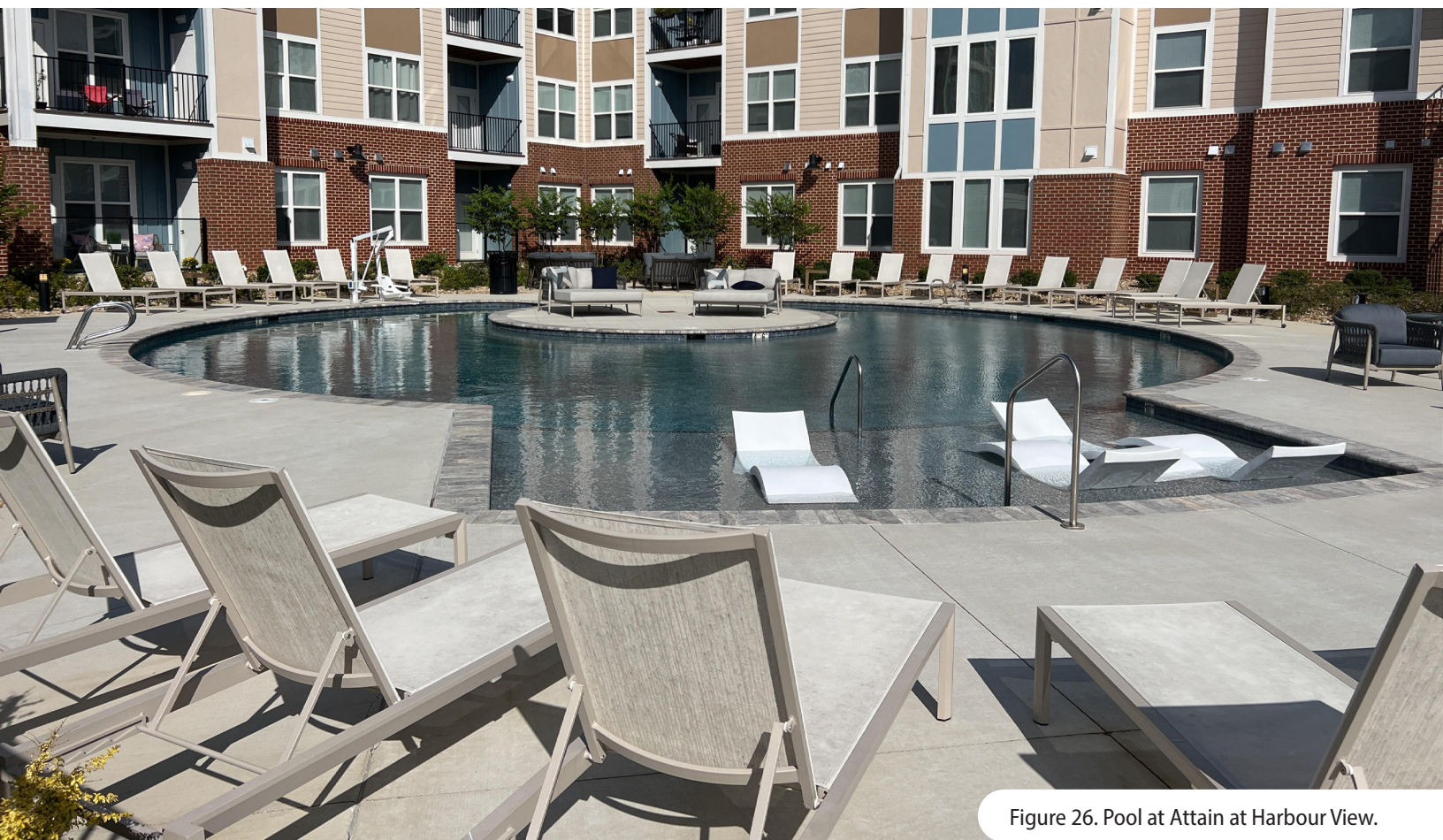


Figure 26. Pool at Attain at Harbour View.

Property Values and Tax Revenues

On-site properties help generate property tax revenues that support local government and public services. Today, site properties have a combined value of about \$273 million. In 2022, site properties generated about \$2 million in total property tax revenues. On-site businesses also generate tax revenues through the collection of sales taxes, which support state and local governments.



\$273 million

combined total
property value



\$2 million

total property tax revenues
generated

Conclusion

After two world wars and another 15 years of U.S. Navy activities, operations at the site left behind pollutants and materials that were dangerous to public health. Cleanup at the site demonstrates how coordination among government agencies, developers, community members, and business owners can protect human health and the environment and support the revitalization of once-contaminated properties.

Today, after extensive redevelopment, the site hosts a variety of businesses and amenities that benefit area communities. Engineering, technology, logistics and other commercial businesses support high-paying jobs and generate tax revenue. Neighborhoods host residents and community-focused services such as healthcare facilities meet their needs. Overall, 34

businesses and organizations on-site provide nearly 1,000 jobs and contribute an estimated \$72 million in annual employment income. Together, site businesses generate almost \$130 million in annual sales revenue.

Looking forward, additional cleanup projects will open the door for expanded business and community opportunities. Innovative companies continue to implement sustainable practices to help manage environmental impacts in the region. Ongoing planning and collaboration among government partners, the private sector and community members will help ensure that public health, environmental protection and economic growth remain core components of long-term revitalization at the site.



Figure 27. Fit pit at Attain at Harbour View.



For information about EPA's Superfund Redevelopment Program, visit epa.gov/superfund-redevelopment.

Former Nansmond Ordnance Depot

Technical Appendix

Employment Information for On-Site Jobs

EPA obtained the data included in this appendix directly from reputable sources and reported the data as presented by those sources. Information on the number of employees and sales volume for on-site businesses came from the Hoovers/Dun & Bradstreet (D&B) database.¹ D&B maintains a database of over 300 million businesses worldwide. When Hoovers/D&B database research was unable to identify employment and sales volume for on-site businesses, EPA used the Reference Solutions database.² These databases include data reported by businesses. Accordingly, some reported values might be underestimates or overestimates. In some instances, business and employment information came from local news articles and discussions with local officials and business representatives. While sales values typically exceed estimated totals of annual income, sales can sometimes be lower than estimated income. This could be attributed to a number of business conditions and/or data reporting.

Wage and Income Information for On-Site Jobs

EPA obtained wage and income information from the U.S. Bureau of Labor Statistics (BLS). Part of the U.S. Department of Labor, the BLS is the principal federal agency responsible for measuring labor market activity, working conditions and price changes in the economy. All BLS data meet high standards of accuracy, statistical quality and impartiality.

EPA used the BLS Quarterly Census of Employment and Wages database to obtain average weekly wage data for businesses at the Former Nansmond Ordnance Depot Superfund site. Average weekly wage data were identified by matching the North American Industry Classification System (NAICS) codes for each type of business with weekly wage data for corresponding businesses in Suffolk City. If weekly wage data were not available at the county level, EPA sought wage data by state or national level, respectively. In cases where wage data were not available for the six-digit NAICS code, EPA used higher-level (less-detailed) NAICS codes to obtain the wage data.

To determine the annual wages (mean annual) earned from jobs generated by each of the selected businesses at the site, EPA multiplied the average weekly wage figure by the number of weeks in a year (52) and by the number of jobs (employees) for each business.

¹ <http://www.dnb.com>

² <https://www.thereferencegroup.com>

Table A-1. Former Nansemond Ordnance Depot Superfund Site: Information for 34 On-Site Organizations and Businesses

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2022) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Income ^d	Annual Sales (2023) ^b
Amsec LLC (Huntington Ingalls Industries Technical Solutions, Hii Fleet Support Group LLC)	541330	Engineering Services	176	\$2,181	\$113,412	\$19,960,512	\$6,926,000 ^{e,f}
Apogee Engineering, LLC	541330	Engineering Services	NA	\$2,181	\$113,412	NA	NA
Apple Eight Hospitality Management, Inc. (Courtyard Marriott, Suffolk, Chesapeake)	721110	Hotels (except Casino Hotels) and Motels	64	\$653	\$33,956	\$2,173,184	\$1,930,000 ^e
Apple Eight Hospitality Management, Inc. (TownePlace Suites by Marriott, TownePlace Suites Suffolk-Chesapeake)	721110	Hotels (except Casino Hotels) and Motels	50 ^f	\$653	\$33,956	\$1,697,800	\$4,989,000 ^f
Attain at Harbour View	531110 ^g	Lessors of Residential Buildings and Dwellings	NA	\$888	\$46,176	NA	NA
Believers Church	813110	Religious Organizations	20	\$402	\$20,904	\$418,080	\$3,910,000
Bon Secours Training Center	623110	Nursing Care Facilities (Skilled Nursing Facilities)	50 ^f	\$915	\$47,580	\$2,379,000	\$2,084,000 ^{e,f}

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2022) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Income ^d	Annual Sales (2023) ^b
Bon Secours-Memorial Regional Medical Center, Inc.	622110	General Medical and Surgical Hospitals	50 ^f	\$1,433	\$74,516	\$3,725,800	\$6,596,000 ^f
Centex Homes	236115	New Single Family Housing Construction	1 ^f	\$1,005	\$52,260	\$52,260	\$732,000 ^f
Coastal Logistics, Inc.	531130	Lessors of Miniwarehouses and Self-Storage Units	15	\$787	\$40,924	\$613,860	\$612,000 ^{e,f}
Command Post Technologies, Inc.	541618	Other Management Consulting Services	15	\$2,559	\$133,068	\$1,996,020	\$2,700,000
Department of Motor Vehicles CDL Testing Location	926120	Regulation and Administration of Transportation Programs	NA	\$815	\$42,380	NA	NA
Dupre Logistics	484121	General Freight Trucking, Long-Distance, Truckload	NA	\$1,266	\$65,832	NA	NA
Hampton Roads Sanitation District (Nansemond Treatment Plant)	221320	Sewage Treatment Facilities	17	\$1,197	\$62,244	\$1,058,148	NA
Hub 757	711310 ^g	Promoters of Performing Arts, Sports, and Similar Events with Facilities	10	\$1,565	\$81,380	\$813,800	\$490,200 ^e

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2022) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Income ^d	Annual Sales (2023) ^b
Ivy Rehab for Kids	621111	Offices of Physicians (except Mental Health Specialists)	NA	\$1,700	\$88,400	NA	NA
Kelly M. Barnhart Chapter 13 Trustee	525920 ^g	Trusts, Estates, and Agency Accounts	NA	\$3,188	\$165,776	NA	NA
Layer 9, Inc.	541512	Computer Systems Design Services	26	\$1,891	\$98,332	\$2,556,632	\$3,110,000
LibertyLive Church	813110 ^g	Religious Organizations	NA	\$402	\$20,904	NA	NA
Lockheed Martin Services, LLC (Lockheed Martin)	541330	Engineering Services	30 ^h	\$2,181	\$113,412	\$3,402,360	\$17,063,793 ⁱ
Nasoni LLC	541490	Other Specialized Design Services	5	\$1,289	\$67,028	\$335,140	\$237,140 ^e
Oak and Lily Academy	611110	Elementary and Secondary Schools	9	\$854	\$44,408	\$399,672	\$70,740 ^e
Parrish-Layne Design Group	531210	Offices of Real Estate Agents and Brokers	3	\$1,238	\$64,376	\$193,128	\$94,990 ^e
Peraton	334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	NA	\$3,096	\$160,992	NA	NA

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2022) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Income ^d	Annual Sales (2023) ^b
PORTCO, Inc.	624190	Other Individual and Family Services	38	\$589	\$30,628	\$1,163,864	\$4,192,667 ⁱ
Reed Integration, Inc. (Reed)	541330	Engineering Services	12	\$2,181	\$113,412	\$1,360,944	\$4,790,000
River Stone Chop House	722511	Full-Service Restaurants	25	\$461	\$23,972	\$599,300	\$2,130,000
RoadOne Intermodal Logistics	484110	General Freight Trucking, Local	34 ^j	\$1,131	\$58,812	\$1,999,608	\$3,957,113 ⁱ
Smithfield	311999 ^g	All Other Miscellaneous Food Manufacturing	170 ^k	\$1,246	\$64,792	\$11,014,640	\$45,998,077 ⁱ
Tidewater Community College (Center for Workforce Solutions)	611210	Junior Colleges	20 ^f	\$767	\$39,884	\$797,680	\$12,566,000 ⁱ
Tricare Prime Clinic Suffolk	621111	Offices of Physicians (except Mental Health Specialists)	70 ^l	\$2,157	\$112,164	\$7,851,480	NA
UPS Suffolk Village	492210	Couriers and Express Delivery Services	4	\$659	\$34,268	\$137,072	\$184,470
Virginia Department of Transportation	488490	Other Support Activities for Road Transportation	4	\$1,428	\$74,256	\$297,024	NA

On-Site Business	NAICS Code ^a	NAICS Title	Number of Employees ^b	Average Weekly Wage (2022) ^c	Annual Wage (Mean Annual) per Employee	Total Annual Income ^d	Annual Sales (2023) ^b
Western Tidewater Community Services Board	813319	Other Social Advocacy Organizations	81	\$1,193	\$62,036	\$5,024,916	\$4,430,000 ^e
Totals			999			\$72,021,924	\$129,794,190

^a NAICS code provided in the D&B database, unless otherwise noted.

^b Data are from the D&B database, unless otherwise noted.

^c Average weekly wage per employee based on BLS 2022 Average Weekly Wage data.

^d Total annual income figures derived by multiplying "Number of Employees" by "Annual Wage (Mean Annual) per Employee".

^e While sales values typically exceed estimated totals of annual employee income, annual reported sales can sometimes be lower than estimated annual income. This atypical condition of estimated income exceeding sales can be a result of business conditions, estimated business wages not accurately reflecting actual wages for the site-specific business, annual sales being under-reported, a business loss for the year or a combination of those factors.

^f Data are from the Reference Solutions database.

^g NAICS code assumed based on business type.

^h Employee number provided by "Inc." news article: <https://www.inc.com/kevin-j-ryan/lockheed-martin-lighthouse-military-innovation-lab.html>.

ⁱ Annual sales value calculated using the "Sales Per Employee" method. In cases where information sources do not provide annual sales data, an estimated annual sales value was calculated using the "Sales Per Employee Method". This method involves dividing the company-wide sales value by the number of employees that work at all branches of the business. That value equals an estimated business sales value per employee for the entire company. That value is then multiplied by the number of employees at the on-site business location to calculate an estimated annual sales value for the site-specific business location.

^j Employee number provided by business contact on September 19, 2023.

^k Employee number provided by local news article: <https://www.the-riverfront.com/2019/02/smithfield-foods-bring-170-new-jobs-harbour-view>.

^l Employee number provided by news article: https://www.militarynews.com/norfolk-navy-flagship/news/navy_medicine/nmcp-announces-new-tricare-prime-clinic-to-open-in-suffolk/article_66651454-34e8-518b-af3d-e0f3eb7a8d22.html.

NA = not available.

Property Values and Local Tax Revenue Generated from Property Taxes

EPA obtained data on the most recently assessed values for property parcels at the Former Nansemond Ordnance Depot Superfund site in September 2023 through property records accessible through Suffolk County's online property appraisal database.³ EPA also obtained 2022 property tax information for the site parcels.⁴



Table A-2. Property Value and Tax Summary for Taxes Payable in 2022

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
304218200	\$15,534,900	\$0
306001420	\$10,797,600	\$0
306002998	\$383,100	\$4,415
304925400	\$6,222,700	\$82,762
306000193	\$7,726,800	\$102,766
301301000	\$24,077,600	\$320,232
304935300	\$16,000	\$213
305008300	\$2,644,800	\$35,176
304573000	\$200,500	\$0
304940300	\$11,875,700	\$83,130
306000451	\$5,210,500	\$34,650
306000450	\$3,863,600	\$25,693
306000452	\$200	\$3

^a Parcels with no account number are excluded. Parcels exempt from property taxes have a property tax value of \$0.

³ <https://property.spatalest.com/va/suffolk#/>

⁴ <https://suffolkvatax.us/#/WildfireSearch>

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
304835100	\$11,637,500	\$154,779
306001334	\$2,522,700	\$32,280
306001336	\$1,777,800	\$23,645
306002633	\$2,557,400	\$35,804
306002587	\$530,800	\$6,556
306002581	\$545,900	\$6,745
306002586	\$550,600	\$6,805
306002580	\$549,300	\$6,789
306002571	\$596,800	\$7,381
306002578	\$677,200	\$4,194
306002577	\$657,100	\$8,138
306002579	\$673,100	\$8,336
306002570	\$712,500	\$8,833
306002569	\$543,900	\$6,719
306002568	\$645,300	\$7,991
306002727	\$360,300	\$4,763
306002573	\$5,000	\$0

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
306002572	\$583,300	\$7,213
306002588	\$528,800	\$6,490
306002728	\$336,900	\$4,299
306002740	\$339,500	\$4,332
306002739	\$359,300	\$4,750
306002760	\$348,500	\$4,447
306001417	\$11,800	\$0
306002563	\$594,600	\$7,355
306002561	\$597,600	\$7,393
306002562	\$588,200	\$7,276
306002560	\$575,800	\$7,120
306002559	\$620,600	\$7,970
306002758	\$354,900	\$4,691
306002738	\$331,700	\$4,234
306002732	\$359,200	\$4,748
306002790	\$321,000	\$4,031
306002791	\$318,000	\$3,994

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
306002943	\$9,083,800	\$120,815
306002751	\$368,600	\$4,873
306002722	\$334,200	\$4,264
306002723	\$334,400	\$4,266
306002724	\$359,400	\$4,024
306002721	\$355,800	\$4,702
306002725	\$337,900	\$4,311
306002726	\$336,100	\$4,289
306002735	\$372,400	\$4,925
306002736	\$367,600	\$4,860
306002737	\$341,500	\$4,358
306002731	\$361,400	\$4,779
306002733	\$362,400	\$4,791
306002734	\$362,000	\$4,787
306002743	\$368,100	\$4,867
306002797	\$330,000	\$4,142
306002795	\$351,900	\$4,413

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
306002796	\$315,900	\$3,968
306002794	\$351,900	\$4,413
306002752	\$349,000	\$4,614
306002754	\$356,200	\$4,710
306002756	\$352,100	\$4,654
306002802	\$339,200	\$4,256
306002800	\$315,900	\$3,968
306002789	\$335,600	\$4,211
306002803	\$351,500	\$4,410
306002793	\$329,400	\$4,133
306002792	\$351,900	\$4,415
306002801	\$326,200	\$4,095
306002957	\$42,000	\$0
306003051	\$348,800	\$4,171
306003052	\$348,800	\$4,171
306003055	\$310,000	\$3,729
306003054	\$315,500	\$3,822

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
306003053	\$259,500	\$3,154
306002720	\$367,900	\$4,864
306002744	\$365,500	\$4,833
306002745	\$348,800	\$4,449
306002746	\$340,400	\$4,504
306002798	\$351,900	\$4,413
306002747	\$361,300	\$4,776
306002748	\$360,900	\$4,772
306002749	\$340,500	\$4,344
306002750	\$364,400	\$4,819
306002799	\$325,500	\$4,086
306003056	\$352,800	\$4,216
306003057	\$357,400	\$4,270
306003058	\$273,400	\$3,313
306003060	\$292,700	\$3,532
306003059	\$324,100	\$3,892
306003041	\$347,500	\$4,157

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
306003042	\$347,500	\$4,157
306003043	\$244,200	\$2,980
306003044	\$347,500	\$4,157
306003045	\$347,500	\$4,157
306002976	\$415,900	\$4,806
306003046	\$299,500	\$3,610
306003037	\$299,500	\$3,610
306003036	\$348,100	\$4,164
306003038	\$254,100	\$3,092
306003040	\$347,500	\$4,157
306003039	\$347,500	\$4,157
306003034	\$345,000	\$4,129
306003035	\$345,100	\$4,130
306003033	\$251,500	\$3,063
306003031	\$350,800	\$4,195
306003032	\$299,500	\$3,610
306003006	\$425,300	\$4,908

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
306003005	\$452,800	\$5,208
306003022	\$342,200	\$4,035
306003021	\$348,100	\$4,101
306003023	\$254,400	\$3,049
306003025	\$348,000	\$4,100
306003024	\$348,000	\$4,100
306002980	\$388,900	\$4,441
306002981	\$403,500	\$4,597
306003027	\$342,200	\$4,035
306003026	\$348,100	\$4,101
306003028	\$254,400	\$3,049
306003029	\$347,700	\$4,101
306003030	\$347,700	\$4,095
306003003	\$388,700	\$4,509
306002982	\$399,600	\$4,628
306003013	\$342,800	\$4,105
306003012	\$343,200	\$4,108

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
306003014	\$340,800	\$4,082
306003015	\$359,800	\$4,297
306003004	\$407,300	\$4,637
306002996	\$379,000	\$4,404
306002999	\$414,100	\$4,786
306003000	\$385,500	\$4,513
306002993	\$443,500	\$5,025
306003019	\$343,700	\$4,053
306003020	\$344,800	\$4,126
306003018	\$258,300	\$3,140
306003016	\$342,000	\$4,093
306003017	\$342,400	\$4,036
306003007	\$353,000	\$4,157
306003008	\$346,200	\$4,142
306003009	\$261,300	\$3,127
306003010	\$345,900	\$4,090
306003011	\$301,300	\$3,631

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
306002997	\$380,200	\$4,417
306004056	\$124,200	\$1,652
306002994	\$320,200	\$3,763
306003002	\$364,700	\$4,247
306003814	\$423,400	\$5,630
306003818	\$425,200	\$5,655
306003824	\$168,000	\$5,251
306003822	\$214,800	\$4,525
306003817	\$112,000	\$1,490
306003826	\$338,100	\$4,497
306003813	\$230,800	\$5,171
306003815	\$105,600	\$5,464
306003816	\$105,900	\$5,617
306003820	\$370,200	\$4,924
306003781	\$108,500	\$1,443
306000448	\$1,079,300	\$14,355
306003946	\$120,000	\$9,408

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
306002979	\$393,800	\$4,565
306003819	\$331,500	\$4,409
306003821	\$248,400	\$5,615
306003852	\$2,300	\$0
306003782	\$105,600	\$1,404
306003823	\$246,100	\$5,518
306003825	\$108,000	\$5,142
306003001	\$395,200	\$4,580
306002941	\$978,500	\$0
306001034	\$2,539,400	\$0
306003942	\$1,028,300	\$13,676
306003950	\$163,000	\$0
306003949	\$196,600	\$0
306003943	\$4,176,100	\$150,212
306003947	\$120,000	\$1,596
306003948	\$125,400	\$1,668
306002977	\$391,100	\$4,536

Parcel Account Number ^a	Total Market Value of Land and Improvements (2022)	Total Property Tax ^a (2022)
306002978	\$387,300	\$4,494
306002984	\$420,200	\$4,853
306002985	\$466,500	\$5,357
306003944	\$300,400	\$9,968
304218100	\$23,176,400	\$0
304219400	\$63,428,100	\$0
304379600	\$1,202,900	\$0
306002958	\$240,000	\$0
306002995	\$390,900	\$4,570
306003047	\$345,000	\$4,129
306003048	\$247,600	\$3,019
306003049	\$347,500	\$4,165
306003050	\$349,400	\$4,179
306002983	\$454,400	\$5,225
306002986	\$406,800	\$4,707
306003945	\$120,000	\$9,438
Totals	\$273,577,800	\$2,005,053