
Environmental Assessment

St. Paul's Area/Tidewater Gardens Choice Neighborhood Implementation (CNI)

Norfolk, Virginia

RESPONSIBLE ENTITY

City of Norfolk, City Manager's Office of
St. Paul's Transformation

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Acronyms

ACM	Asbestos Containing Materials
ASD	Acceptable Separation Distance
CBPA	Chesapeake Bay Preservation Area
CEQ	Council on Environmental Quality
CWA	Clean Water Act
CZM	Coastal Zone Management
DCR	Virginia Department of Conservation and Recreation
DEQ	Virginia Department of Environmental Quality
DGIF	Virginia Department of Game and Inland Fisheries
DHR	Virginia Department of Historic Resources
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
HUD	US Department of Housing and Urban Development
IPaC	US Fish and Wildlife Service Information, Planning, and Consultation
LIHTC	low income housing tax credit
NEPA	National Environmental Policy Act
NRCS	National Resources Conservation Service
NRHA	Norfolk Redevelopment and Housing Authority
PCA	Physical Conditions Assessment
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
UST	Underground Storage Tank
VaFWIS	Virginia Fish and Wildlife Information Service



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Introduction: Purpose and Need

Introduction

The Norfolk Redevelopment and Housing Authority (NRHA) and the City of Norfolk (City) received funds from the United States Department of Housing and Urban Development (HUD) for its Tidewater Gardens community in the St. Paul's Area. These funds are through the Choice Neighborhoods Initiative (CNI) grant. In addition to the CNI grant, the City intends to use Community Development Block Grant funds for the project. Norfolk, acting through the NRHA, is assuming environmental responsibility for the St. Paul's Area/Tidewater Gardens Choice Neighborhood Implementation project in accordance with regulations on the Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities (24 CFR Part 58). To comply with its obligations under these regulations, NRHA in partnership with Norfolk has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969 (NEPA) and regulations of the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). The Proposed Action is subject to compliance with NEPA because federal funds would be used for demolition and redevelopment activities.

NRHA, together with the City and other major partners, have developed a plan to address the impacts of poverty and implement real change within the extended St. Paul's area of the City. This EA has been prepared to identify potential environmental effects and to provide agencies and the public the opportunity to review and comment on the proposed project.

NRHA is a national leader in community revitalization. As the largest redevelopment and housing authority in Virginia, NRHA's mission is to provide quality housing opportunities that promote sustainable mixed-income communities.

The first component of the St. Paul's project is the redevelopment of Tidewater Gardens plus the addition of nearby City owned properties known as the Snyder Lot, the Transit Area and the proposed renovation of the Willis Building. The project location is outlined on the enclosed quadrangle map and consists of approximately 58 acres (See Appendix A, Figure 1). Tidewater Gardens, located at 450 Walke Street, is a 618-unit NRHA-owned public housing community situated on approximately 44 acres in Norfolk, Virginia. The existing housing community is located west of Tidewater Drive, north of City Hall Avenue, east of Fenchurch Street, and south of Brambleton Avenue.

The Snyder Lot is located in the southwest quadrant of the four-way intersection created by East City Hall Avenue and St. Paul's Boulevard. This site is proposed for redevelopment as a mixed-income and mixed-use development with market-rate, affordable, and assisted residential units along with commercial space (Figure 2).

The Transit Area located immediately north and south of East Charlotte Street between the intersections with Fenchurch Street and St. Paul's Boulevard is proposed for mixed-use redevelopment with commercial retail space and multi-family residential units (Figure 2).

The Willis Building, constructed in 1988, is a 60,000 square foot commercial space that is currently vacant. It is located north of Tidewater Gardens at the corner of Church Street and E. Brambleton Avenue.

This document has been prepared in accordance with NEPA, as amended; regulations of the CEQ (40 CFR 1508.9); and regulations on the Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities (24 CFR Part 58).

Statement of Purpose and Need for the Proposal

The Proposed Action is the first step in a long-term strategy for the redevelopment of aging public housing and the deconcentration of poverty. The concentrated low-income housing design has failed to achieve the program's goal of serving as a stepping stone for its residents to escape high crime and poverty-stricken areas. The concentration of poverty in Tidewater Gardens has not aided upward mobility of its residents out of poverty, instead generations of residents have remained in the community.

Built circa 1953 using low-cost materials, the housing units in Tidewater Gardens have slowly deteriorated over many decades of continuous habitation. Due to age of the original construction, combined with 25 years of continuous use since the last renovation and presence of hazardous materials, the living conditions in the housing units are becoming unhealthy and unsafe. The buildings are now in poor physical condition. Over half of the 618 distressed housing units located within 78 buildings, are located within the 100-year floodplain. The extent of deficiencies in the structures and building systems along with overall infrastructure deficiencies is such that major modernization is not recommended. Due to the general state of disrepair, the isolation resulting from the existing site layout, and the

obsolete unit sizes and amenities, demolition and subsequent redevelopment is the most practical approach.

The Tidewater Gardens community was built on fill material in what was previously Newton Creek. The community experiences regular flooding from storm events and, when these events coincide with high tides, tidal flooding, as well. Roads often become impassable even during regular rainfall events. The effects of tidal flooding are expected to worsen given anticipated sea level rise of approximately 2.5 feet in the Norfolk area by the year 2065 (based on the National Oceanic and Atmospheric Administration intermediate rate for sea level rise forecast).

In 2005, a planning effort led by the City of Norfolk began and included goals such as improving the quality of life for residents of the community through better housing, reduced crime, and better access to the greater community. The purpose of and need for the project were further refined through a Choice Neighborhood Initiative planning effort between 2010 and 2014. Between 2017 and 2018, the transformation plan was again refined through community meetings and charrettes to develop the plan submitted for the CNI implementation grant application submitted September 17, 2018. The planning efforts since 2005 have established the following:

- Transformation from a community with the largest concentration of poverty in the region to a mixed-income (including assisted, affordable, and market rate housing), mixed-use, sustainable neighborhood
- Transformation from a community experiencing extensive flooding, to one that has a system of parks, open space, and streets that both manage stormwater and flooding for its watershed and provide the neighborhood with recreational, cultural, and educational amenities
- Transformation from a community with multiple unaccredited schools, to one with a laboratory school that will innovate to provide the Commonwealth of Virginia with solutions to equitable education and student achievement
- Transformation from a community that is segregated and isolated from the opportunities immediately around it, to one that is connected physically, socially, and psychologically to the richest collection of educational, cultural, and educational assets in the region
- Transformation from a distressed public housing community with a super-block pattern of streets, to a desirable community with a grid pattern of neighborly streets that enable residents to build social capital
- Transformation from a community of barracks-style buildings, to one with a wide range of housing types similar to the best loved neighborhoods in the City
- Transformation from a community without convenient retail and community services, to one with a lively community street lined with shops, medical, cultural, and social services, including an innovative "HUB" facility for bringing together new and existing organizations in an accessible facility

Existing Conditions and Trends

Tidewater Gardens is a 618-unit NRHA-owned barracks-style public housing community surrounded by a variety of land uses. The community is located north of Interstate 264 and the Norfolk Tides Harbor Park Stadium. East of the site is the William A. Hunton YMCA and the William Henry Ruffner Academy. To the north is the Christ Pentecostal Church and an industrial area dominated by a large United States Postal Service-owned warehouse. To the west are fast food restaurants, the Downtown Norfolk Bus Transfer Center and St. Paul's Boulevard. St. Paul's Boulevard has served as a segregation dividing line, separating the business district in Norfolk's Downtown areas to the west side and Tidewater Gardens on the east side.

The Snyder Lot is currently a surface parking lot designated for monthly, permitted parking, which is administered by the Norfolk Division of Parking. There are 115 regular-use and 10 accessible parking spots. The paved parking area is bordered by shade trees on two and a half sides and sidewalks all around.

The Transit Area provides parking for City-owned buses and commuters. Located on the west end of the Transit Area property is the Downtown Norfolk Bus Transfer Center building where buses pick up and drop off patrons and switch out drivers between shifts.

The Willis Building, constructed in 1988, is a large commercial space that is currently vacant. It is located north of Tidewater Gardens at the corner of Church Street and E. Brambleton Avenue. The 60,000 square-foot building would be renovated for a community hub (the hub).

In the absence of the project, it is likely that St. Paul's Boulevard would continue to function as a line of segregation between the Tidewater Gardens community and the greater Downtown Norfolk. The community would remain disconnected and isolated from opportunities immediately surrounding it.

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Alternative Development

Development of Alternatives

NRHA has made it part of their mission to provide quality housing opportunities that promote sustainable mixed-income communities while deconcentrating poverty within Norfolk. The St. Paul's Area Transformation Plan calls for a decrease in density of low-income housing to accommodate NRHA's efforts to deconcentrate poverty in mainstream public housing while enhancing housing quality and diversity.

In 2017 and 2018, a series of workshops and community meetings were held with residents, the faith community, businesses, and the public (see Appendix B for a detailed list of community meetings). Site constraints, conceptual design, and schedules were discussed. The intent of meetings was to introduce the community to the project team, describe the goals for the public housing community, and receive comments from the public and answer their questions. Throughout these meetings, a primary objective of the project team was to identify opportunities to improve the community through design characteristics. These efforts led to the decision to pursue the development of a mixed-income, environmentally sustainable neighborhood through demolition of existing obsolesced housing. The People First program, which is an initiative that will allow each family to connect with a case manager for a period of 3 to 5 years to ensure successful relocation, was also developed in response to a need for services expressed by residents during the community meetings.

Key stakeholders including residents of public housing communities, agencies and city departments with regulating authority, community leaders, and the general public were

involved at each stage. Public meetings and stakeholder involvement are detailed in “Chapter 4: Consultation and Coordination” of this EA.

Alternative Elements Considered but Dismissed

During the planning process, several alternatives were considered but ultimately dismissed from further evaluation. These alternatives and the rationale behind the dismissal are described below.

Renovation of Existing Housing Units

NHRA commissioned a Section 18 Demolition Disposition Physical Condition Assessment to investigate the cost of renovations to existing housing units. The PCA documents the functional obsolescence of the existing housing units due to not meeting current building or fire codes, structural deficiencies such as lack of proper insulation and the presence of hazardous building materials (asbestos and lead), and design deficiencies such as inaccessibility for people with disabilities. The conclusion presents a total rehabilitation cost estimate to account for year 1 immediate renovation needs of \$93,440,792.39. This cost estimate only accounts for renovation to address past deterioration of housing units and does not consider market driven assets such as additional bathrooms in the 3-, 4-, and 5-bedroom units or increased marketability through the addition of site improvements such as parking. To bring all units up to marketability is estimated to cost \$126,964,392.00, a 35.9% increase over the total rehabilitation construction cost budget. As such, all renovation alternatives were dismissed as they were considered cost prohibitive and would not have met the project’s purpose and need.

Demolition Only

NRHA considered implementation of the phased demolition of 78 housing buildings in Tidewater Gardens without immediate plans for redevelopment. The site would be cleared for future development, but any redevelopment would be part of a future project and dependent on future funding sources. Relocation assistance would be provided to residents as needed through two basic options: (1) move to an available unit in another NRHA public housing community or (2) receive a housing choice voucher to seek housing in the private market. In addition to basic HUD requirements under Section 18, the City of Norfolk is funding a program called People First, an initiative that will allow each family to connect with a case manager for a period of 3-5 years to ensure successful relocation. In all choices, NRHA would provide relocation services to Tidewater Gardens residents to provide comparable housing. This alternative was considered but dismissed because one of the goals of the larger St. Paul’s Area Transformation Plan, of which Tidewater Gardens is a part, is to transform the neighborhood in a way that leads to successful outcomes for families. Demolition without CNI redevelopment of the neighborhood would not meet the goals of the project. The CNI program provides funding for replacement housing to better leverage low-income housing tax credit (LIHTC) funding to construct new assisted and affordable housing back on site, providing a substantial number of Tidewater Gardens residents the ability to return to the site if they chose to return. CNI funding is also key to achieving

mixed-income community. Therefore, this alternative was considered but dismissed from further analysis.

Alternatives Carried Forward

Two alternatives were carried forward for further evaluation. These alternatives include the No Action and the Proposed Action and are described below.

No Action

As required by CEQ and HUD regulations on impact analysis (40 CFR 1502.14 and 24 CFR 58.40(e), respectively), this EA evaluates an alternative in which the Proposed Action would not take place. This alternative is referred to as No Action. Under this alternative, the existing buildings and infrastructure would remain and would continue to be repaired and maintained as time and funding allowed; however, it is expected that these costs would continue to increase as these older buildings continue to deteriorate, and at some point, would become unsustainable.

Proposed Action

The Proposed Action includes phased demolition of 78 housing buildings and the phased redevelopment of the site with mixed-income residential properties, commercial space, associated infrastructure, and open green space (Figure 3). Additional details are described below.

Demolition and Relocation

Demolition of all existing buildings at Tidewater Gardens would occur in four phases over the course of two years (see Figure 4). A total of 78 buildings encompassing 618 residential units, a one-story management office building and all related support infrastructure, NRHA owned utilities as well as existing roads would be demolished. All hazardous material would be appropriately abated. After demolition, the existing ground elevation would be elevated to a level at or above the base flood elevation.

During demolition of the existing buildings with the goal of minimizing involuntary displacement of Tidewater Gardens residents, NRHA would provide relocation assistance through a choice of housing options that include either permanent relocation outside of Tidewater Gardens or temporary relocation until the proposed new housing units are completed. Residents would be given a choice of moving to an available unit in another NRHA public housing community, receiving a Housing Choice Voucher to seek housing in the private market, or returning to the new development once construction is complete. In addition to basic HUD requirements under Section 18, the City of Norfolk is funding a program called People First, an initiative that will allow each family to connect with a case manager for a period of 3 to 5 years to ensure successful relocation. In all choices, NRHA would provide relocation services to Tidewater Gardens residents to provide comparable housing.

Housing Redevelopment

In coordination with the phased demolition, a phased redevelopment of the site would be undertaken. Portions of the land would be transferred from NRHA ownership to a master developer for redevelopment of the neighborhood. Redevelopment would be coordinated by the master developer and would be implemented in several phases overlapping with demolition. For example, after Phase I demolition was completed and while Phase II demolition was ongoing, Phase I redevelopment would begin in the areas recently cleared by Phase I demolition. This would help expedite the redevelopment process and would minimize the temporary relocation for families that choose to return to the site.

The redevelopment would include a minimum of 710 residential units (the total may change as individual development plans are finalized; however, all changes require HUD approval) in a combination of varying property types such as apartment buildings and townhouses. The new housing available would include mixed-income units, including a combination of replacement units (project-based voucher assisted units), affordable units (income-restricted LIHTC units), and market-rate units. Some properties would be reserved for senior housing while others would be mixed-use and include retail or commercial space. Stormwater and infrastructure systems would be replaced as needed throughout the neighborhood. Replacement housing for Tidewater Gardens residents would first be offered on the redevelopment parcels outside of the existing Tidewater Gardens housing blocks (see below). These parcels include the Transit Area and the Snyder Lot, both of which are outside of the 100-year floodplain. During later phases of the project, replacement housing would be available within the Tidewater Gardens site at elevations above the floodplain to mitigate flood risk.

The majority of redevelopment within the Tidewater Gardens neighborhood footprint would occur primarily in areas outside of the 100-year floodplain. Development proposed within the floodplain will adhere to the Norfolk Zoning Ordinance, Article 3.9.7 FPCH-O: Floodplain/Coastal Hazard Overlay and would require issuance by the City of a Floodplain/Coastal Hazard Overlay District permit. New housing would include mixed-income family housing in townhomes and apartment buildings. A variety of unit sizes would be available, including studio-, 1-, 2-, 3-, and 4-bedroom units. In addition to the residential units, the redevelopment would include retail and commercial space as well as community space, a fitness center, business center, conference facilities, and multipurpose rooms.

As noted above, the redevelopment would include several lots outside of the Tidewater Gardens footprint including the Snyder Lot and the Transit Area. The Snyder Lot is located to the southwest of Tidewater Gardens on the west side of St. Paul's Boulevard. Redevelopment of the Snyder Lot would include a multi-story, mixed-income building with retail and community space on the first floor. Townhomes would wrap the remainder of the block. Because of its location, visibility, and proposed walkability, the proposed mixed-use building would serve as an important gateway between the St. Paul's area and downtown. The Transit Area is located adjacent to Tidewater Gardens to the northwest and includes the Downtown Norfolk Transfer Center. Redevelopment in the Transit Area would include housing for both seniors and families. Senior housing would be offered in a multi-story building with amenities such as a theater, fitness center, garden, and common gathering area. Family

housing would be available in multi-story apartment buildings and townhomes. Commercial retail space would be included on the first floors of the multi-unit buildings in both the senior- and family-housing areas.

Community Hub

The Willis Building, located north of Tidewater Gardens at the corner of Church Street and E. Brambleton Avenue, is a 60,000 square-foot building that would be renovated for a community hub (the hub). The multi-story building would serve as a combined social, commercial, and community facility providing the physical and programmatic infrastructure to help residents build wealth and bring in people from outside the community. The hub would be designed to match commercial activity with job creation in a facility that is accessible for residents with limited transportation resources. It would be designed to serve people in the community as well as bring in visitors from outside the community. Specific details for the renovation and reuse of the building would be determined during future project phases; however, the following provides some examples of the types of uses that may be included in the renovation: the first floor of the hub could be occupied by a food hall, culinary training facility, and/or event space. The food hall could include locally owned existing and start-up vendors, encouraging entrepreneurship. An event space could be available for local events such as arts exhibits, neighborhood meetings, or concerts. The second floor could be shared offices for services such as software and IT training, workforce development, and business incubation services. The third floor could include a flexible space for art and design studios or marketing training. Potential partnerships with local businesses, government agencies, and universities could enrich the offerings in the hub.

Road Realignment and Improvements

Roads within the project area would be realigned to create a connected pattern of neighborhood streets and blocks, replacing the existing super blocks. Streets would be realigned to connect east and west across St. Paul's Boulevard. Freemason Street would be extended to connect from St. Paul's Boulevard to Tidewater Drive, and a new signalized intersection would be added at the St. Paul's Boulevard crossing. New neighborhood streets would be of an appropriate width to accommodate parking needs and would include enhancements to improve walkability. The neighborhood would be transformed into one with a more multimodal focus with improved connections to adjacent areas. This would be accomplished through crosswalks, four-way stop signs, lower traffic speeds, and shorter curb-to-curb walking distances. Additionally, buffered bicycle lanes would be installed along Freemason Street, Transit Center Drive, and Church Street.

Church Street would be realigned in a more north-south orientation and would be restored as the heart of the community. This historic commercial corridor would be realigned to reconnect area churches that had been disconnected by roadways and redevelopment over time. Buildings along Church Street would be mixed-use with ground-level retail or community-service offices. The realignment would be at a pedestrian scale to focus on the neighborhood's walkability. It would reconnect the area to other neighborhoods to the north and would attract new neighborhood services such as pharmacies, banks, and convenience stores.

Proposed roadways within the 100-year floodplain would be elevated above the base flood elevation in order to maintain access during flood events.

Stormwater Management and St. Paul's Blue/Greenway

On the southeastern edge of the project area, an aesthetic open space designed to treat and store stormwater runoff would be created. This is known as the St. Paul's Blue/Greenway (the blue/greenway). This blue/greenway would be located within the 100-year floodplain and would replace existing buildings and impervious surfaces within the floodplain in this area. See Figure 3 for the location. The major element of this blue/greenway would be daylighting of Newton Creek through this area, which would include excavating, uncovering, and restoring the buried waterway. Newton Creek would then become a "water spine" to handle large volumes of stormwater runoff. The new natural system would serve as a water management tool in the most flood-prone area within Tidewater Gardens. The blue/greenway would also include detention ponds, dry detention basins, swales, and mature trees to treat and store stormwater. The blue/greenway would provide over 1.6 million cubic feet of upland runoff storage and would provide the required treatment of the upland redevelopment area, as well as additional removal capacity.

In addition to stormwater management, the blue/greenway would provide a new recreational parkland as well as a trail connecting to the adjacent downtown, waterfront, and area amenities. The new trail would include historic markers linking important sites honoring the African American community of the St. Paul's area such as the Martin Luther King, Jr. Monument and the Attucks Theater. The trail would connect to existing bike and walking trails in nearby Harbor Park and the broader Elizabeth River Trail network. Extending from the blue/greenway would be green streetscapes to absorb rainwater and connect residents to the Downtown Norfolk Transit Center via green walkways. Street realignment would be planned, where possible, to preserve mature specimen trees, notably along Mariner Street and Holt Street.

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Affected Environment and Environmental Consequences

This chapter describes the affected environment and environmental consequences associated with the alternatives presented in “Chapter 2: Alternative Development.” The CEQ regulations that implement NEPA require assessment of impacts on the human environment, which includes natural and cultural resources. This chapter is organized by impact topic, which distills the issues and concerns into distinct subjects for discussion and analysis.

Methodology

The CEQ regulations require consideration of context, intensity, and duration of adverse and beneficial impacts (direct, indirect, and cumulative) and measures to mitigate for impacts. Potential impacts are described in terms of type (beneficial or adverse), context (site-specific, local or regional), duration, and level of intensity (negligible, minor, moderate or major). Both indirect and direct impacts are described; however, they may not be identified specifically as direct or indirect. These terms are defined below. Overall, these impact analyses and conclusions were based on the review of existing literature and studies, information provided by on-site experts, on-site reconnaissance, and other government agencies, and best professional judgments.

Type

Impacts can be beneficial or adverse. Beneficial impacts would improve resource conditions, while adverse impacts would deplete or negatively alter resources.

- Beneficial:** A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
- Adverse:** A change that moves the resource away from a desired condition or detracts from its appearance or condition.
- Direct:** An impact that is caused by an action and occurs at the same time and place.
- Indirect:** An impact that is caused by an action but is later in time or farther removed in distance, but still reasonably foreseeable.
- Cumulative:** The full impact on the environment that results from the compilation of the incremental impact of the action when added to other actions. This type of impact analysis and the cumulative actions identified are described in more detail at the end of this chapter.

Context

Context is the setting, within which an impact occurs and can be site specific, local or region wide. Site-specific impacts would occur at the location of the action, local impacts would occur within the general vicinity of the project area and region wide impacts would extend beyond project area boundaries.

- Site specific:** The impact would occur within project site.
- Local:** The impact would occur within the general vicinity of the project area.
- Regional:** The impact would affect localities, cities, or towns surrounding the City of Norfolk.

Duration

Impacts can be either short-term or long-term. A short-term impact would be temporary in duration and would be associated with the construction process. Depending on the resource, impacts would last as long as construction was taking place, or up to one year after construction is completed. Long-term impacts last beyond the construction period, and the resources may need more than one year after construction to resume their previous condition. Impact duration for each resource may differ and is presented for each resource topic, where applicable.

- Short-term:** Impacts that occur only during construction or last less than one year.
- Long-term:** Impacts that last longer than one year.

Resources Dismissed from Detailed Analysis

Air Quality

The project is located in Norfolk, which is in attainment status for all criteria pollutants. The project would follow all local permitting requirements for stationary sources, such as pump stations, as needed. The proposed project is in compliance with the Clean Air Act of 1970. Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Airport Hazards

The proposed project site is not located within 15,000 feet of a military airport or 2,500 feet of a civilian airport. Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Coastal Barrier Resources

According to the US Fish and Wildlife Service (USFWS) Coastal Barrier Resources System Mapper, there are no Coastal Barrier Resources Systems located in Norfolk. Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Coastal Zone Management Act

Coastal zones consist of tidal and non-tidal wetlands, fisheries, subaqueous lands, coastal lands, dunes and beaches and various pollution concerns that might impact the above. The Chesapeake Bay Preservation Act (CBPA) designates resource protection and management buffer areas around resources that, if mismanaged, pose heightened impact risk to water quality. These resources include shorelines, perennial water bodies, and contiguous wetlands.

VHB initiated consultation with the Virginia Department of Environmental Quality (DEQ) on behalf of NRHA to determine potential impacts to the coastal zone associated with this demolition and redevelopment project. DEQ is responsible for reviewing and responding to federal consistency certifications submitted in accordance with the Coastal Zone Management Act to ensure that federal projects are constructed and operated in a manner that is consistent with the Virginia Coastal Zone Management (CZM) Program.

Based on its review of the proposed project, DEQ provided concurrence that the project is consistent with the Virginia CZM Program a letter dated March 16, 2020 stating that the proposed project would not impact subaqueous lands, wetlands, fisheries dunes or point source pollution (see Appendix C). The proposed project would remain consistent provided all applicable permits or approvals listed under "Enforceable Policies of Virginia's Coastal Zone Management Program" are received prior to construction. Given compliance with the applicable programs and regulations, the proposed project would not have an impact on coastal zone resources. Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Endangered Species

A search of the U.S. Fish and Wildlife Information Service (USFWS) and the Virginia Department of Game and Inland Fisheries (DGIF) Virginia Fish and Wildlife Information Service (VaFWIS) database shows the occurrence of one species listed as state threatened within 2 miles of the project site: peregrine falcon (*Falco peregrinus*). The list in its entirety is included in Appendix D. Based on the habitat requirements of this species and since the project site does not provide nor contribute to those habitat requirements, this species is not expected to be present at the site. Further consultation with DCR has determined that there are no known occurrences of peregrine falcons within the project area and that neither peregrine falcon nor any other state or federally listed species are likely to be impacted by the proposed project. The USFWS online project review process resulted in a no effect determination; and therefore, no impacts to federally listed species or habitats are anticipated. This coordination is documented in Appendix D. Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Explosives and Flammable Hazards

There are inherent potential dangers associated with locating HUD-assisted projects near hazardous facilities which store, handle, or process hazardous substances of a flammable or explosive nature. Project sites located too close to facilities handling, storing, or processing conventional fuels, hazardous gases, or chemicals of an explosive or flammable nature may expose occupants or end-users of a project to the risk of injury in the event of an explosion.

An assessment and inventory of all facilities listed as having an aboveground storage tank (AST) within a 1-mile radius of the site was conducted utilizing state and federal database results. Sixteen active AST facilities were identified within the search radius. The Acceptable Separation Distance (ASD) is the area beyond which the explosive or combustible hazard would not cause thermal radiation or blast overpressure damage to buildings or individuals. HUD requirements detailed in 24 CFR Part 51 Subpart C state that for projects resulting in new outdoor recreational spaces, an analysis considering the vulnerability of recreational users be considered. The ASD for each aboveground storage tank was calculated using HUD's online ASD Electronic Tool.

Of the sixteen identified facilities listed on the Virginia AST database, one was located within the ASD for people. The Plaza East 7423 facility, owned by Sun Trust Bank, contains a 10,000-gallon heating oil AST within the vicinity of the Snyder Lot. The thermal radiation distance was calculated for this tank. The ASD for people is 721.77 feet, and 145.78 feet for buildings. The distance from the Snyder Lot site boundary to this AST was 456 feet. Although the AST is not diked, the containment measures indicate that the tank is in a concrete vault under the sidewalk.

Because the tank is in a concrete vault under the sidewalk there is no line of sight to the project area. Additionally, there is a building located in between the facility and the Snyder Lot boundary. Therefore, no impact to the Proposed Action is anticipated as a result of the tank identified at the Plaza East 7423 facility. No further review is required for this resource topic for compliance with 24 CFR 58.6.

Farmland Protection

The importance of farmlands to the national and local economy requires the consideration of the impact of activities on land adjacent to prime or unique farmlands. The purpose of the Farmland Protection Policy Act (7 USC 4201 et seq, implementing regulations 7 CFR Part 658, of the Agriculture and Food Act of 1981, as amended) is to minimize the effect of federal programs on the unnecessary and irreversible conversion of farmland to nonagricultural uses. According to the National Resources Conservation Service (NRCS) Web Soil Survey, there is no farmland within the vicinity of the proposed site. Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Flood Insurance

The redeveloped communities will be participants in the National Flood Insurance Program. All future buildings within the FEMA designated 100-year floodplain would be required to have flood insurance. See Appendix E for a FEMA Flood Insurance Rate Map of the area. Therefore, no further review is required for this resource topic is required for compliance with 24 CFR 58.6.

Natural Features

Surface Water

The closest surface water feature is a stormwater management feature located approximately 350 feet to the north of the site, across the parking lot associated with the USPS facility. All soil-disturbing activities that would occur under the Proposed Action would be done in accordance with approved plans to reduce erosion and runoff and is addressed under the impact topic of "Land Development" below. Based on the implementation and strict adherence of these plans, impacts to surface water due to soil erosion during and immediately following demolition and construction activities would be negligible. Additionally, construction of stormwater features within the blue/greenway would create new surface water within the project area. These stormwater features would be buffered by green space and created wetlands, which would improve water quality and reduce flood risk. Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Unique Natural Features and Agricultural Lands

The project site is located within an intensely developed area and has been developed for over 50 years. Neither of the alternatives considered propose land disturbance to natural communities. Therefore, no adverse impacts are anticipated to these natural resources due to the scope of the project. Additionally, the soil types within the Tidewater Gardens community have all been disturbed and are not designated by NRCS as Prime or otherwise Important Farmland. Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Vegetation and Wildlife

The project site is currently developed, with a modest amount of landscaped, grassy open space. The vegetation at the site consists mostly of lawn with scattered trees and some ornamental shrubs. The tree species at the site are mostly oaks (*Quercus* sp.). Potential habitat for terrestrial wildlife and birds on the site is limited to this sparse landscaped vegetation within the urban setting. Most species using this urbanized habitat are common to the region and have adapted to the presence of human development. Proposed demolition activities associated with the Proposed Action would alter some of the existing landscape by increasing vegetative surfaces, particularly within the footprint of the blue/greenway. These activities would not represent a loss of any significant or unique vegetation or habitat but rather an increase in lawn area. Finally, no federally listed species would be impacted by this project due to lack of habitat. Overall, long-term impacts to wildlife and vegetation would be negligible. Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Sole Source Aquifers

Aquifers and surface water are often drinking water systems and may be impacted by development. The Safe Drinking Water Act of 1974 requires protection of drinking water systems that are the sole or principal drinking water source for an area and which, if contaminated, would create a significant hazard to public health.

Sole Source Aquifer designations are one tool to protect drinking water supplies in areas where alternatives to the groundwater resource are few, cost-prohibitive, or nonexistent. The designation protects an area's ground water resource by requiring US Environmental Protection Agency (EPA) review of any proposed projects within the designated area that are receiving federal financial assistance. All proposed projects receiving federal funds are subject to review to ensure they do not endanger the water source. Based on mapping available through the EPA, there are no Sole Source Aquifers within the vicinity of the proposed project (EPA 2019). Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Wetlands Protection

Based on aerial photography and on-site reconnaissance performed by environmental professionals, no wetlands or other waters of the U.S. are located within the boundary of the St. Paul's Area/Tidewater Gardens project site. Therefore, ground disturbing activity would have no impacts to wetlands and no further review for this resource topic is required for compliance with 24 CFR 58.6.

Wild and Scenic Rivers

The Wild and Scenic Rivers Act (16 USC 1271-1287) provides federal protection for certain free-flowing, wild, scenic, and recreational rivers designated as components or potential components of the National Wild and Scenic Rivers System. The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 USC 1271 et seq., as

amended) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. HUD-assisted activities are subject to the requirements of the Wild and Scenic Rivers Act (16 USC 1271 et seq.). There are no Wild and Scenic Rivers, Study Rivers, or river segments on the Nationwide Rivers Inventory in the project area vicinity. The nearby Eastern Branch of the Elizabeth River is not designated as a Wild and Scenic River. Therefore, no further review for this resource topic is required for compliance with 24 CFR 58.6.

Contamination and Toxic Substances

Affected Environment

HUD's policy states that all properties proposed for use be free of hazardous materials, contamination, toxic chemicals and gasses, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property.

The Tidewater Gardens community was constructed circa 1953; therefore, use of lead-based paints, later banned in 1978, is anticipated. Demolition of the public housing would eliminate contamination risks associated with obsolesced structures. All generated debris containing lead-based paint would be appropriately disposed of in accordance with applicable EPA requirements. Asbestos containing materials (ACMs) were also prevalent in construction practices commonly used in 1953. Therefore, it is presumed that ACMs are present within the Tidewater Gardens community. Demolition activity and removal of ACMs would be performed by a licensed asbestos abatement contractor in accordance with applicable local, state and federal guidelines.

Four Phase I Environmental Site Assessments (ESAs) were completed (by others) on the project area (Tidewater Gardens, the Snyder Lot, the Transit Area and the Willis Building Renovation). A Phase I ESA performed on the Willis Building concluded that no Recognized Environmental Conditions (RECs) were identified that could pose contamination risks to the project site. Tidewater Gardens, the Snyder Lot, and the Transit Area sites each contain RECs that could impact the redevelopment site, as described in more detail below. Phase II ESA investigations would be conducted to determine the risk of contamination from these RECs to the project area and to inform mitigation efforts needed to satisfy HUD requirements.

Willis Building

The Willis Building is a 4-story commercial retail building situated on an approximate 1.5-acre parcel. According to the Phase I ESA state regulatory record search, no underground or aboveground storage tanks, groundwater monitoring wells, or environmentally significant features were located on the project site. Nine off-site facilities were investigated to rule out any other potential contamination impacts within 1/8th of a mile from the project site. Of the 9 facilities, only one was flagged as a contamination concern to the Willis Building project site. A former drycleaner known as Williams Thomas Cleaner is located approximately 475 feet north of the site and is now a Metro PCS dealer. This business was in use from 1970-

2013. Because of the long-term use of the property, history of chemical waste on site, and the up-gradient location of the former business from the site, there is a potential for vapor intrusion onto the project site due to subsurface contamination. No RECs were identified and the Phase I ESA report (by others) did not recommend additional investigation.

Tidewater Gardens

The Tidewater Gardens property is developed and contains 79 separate structures and multi-family residential apartments on approximately 44 acres. Before 1910, two commercial properties consisting of wood yards and coal were located on the northeastern portion of the site. A Virginian Railroad yard was located to the south of the property until the 1950s. Redevelopment occurred, and the site remains as the Tidewater Gardens apartment complex with a separate office and maintenance facility, pump house, and a portion of the YMCA.

State records and historical information indicated that environmental releases occurred during removal of multiple underground storage tanks. A pollution complaint case was opened, and remediation measures were implemented. A no further action letter was issued in 1994, but residual contamination levels were about the level of concern of 100mg/kg to remain on site per VDEQ requirements. The release is considered a REC. Further testing on the contamination levels would be completed during the Phase II ESA to rule out any environmental concerns in the soil and groundwater.

Two 10,000-gallon USTs containing heating oil are located at the Tidewater Gardens maintenance facility. The tanks are made of fiberglass-reinforced plastic and are double-walled. The heating oil is used to supplement the dual-fuel burners owned and operated by NRHA. Although there is no indication of current environmental issues, the age of the tanks, and the lack of subsurface data indicate a REC on the project site. The existing two 10,000-gallon USTs on site would be removed and remediated per all federal regulations. Testing of the surrounding subsurface conditions would be completed during the Phase II ESA.

In accordance with the Phase I ESA for the site, leaking USTs off-site from the USPS, Tidewater Elementary School, and the former Runnymede corporation are considered RECs. Residual contamination was identified after initial reduction efforts. Evaluation of contamination that has potentially impacted the project site would require additional investigation during the Phase II ESA to rule out moderate vapor encroachment risks.

Snyder Lot

The parcel known as the Snyder Lot is located on an approximate one-acre parcel and is currently in use as a surface parking lot. A Phase I ESA was conducted and no aboveground tanks, water wells, groundwater monitoring wells, or environmentally significant features were located on the property. Historical records showed that the subject property was part of a larger land tract that contained an opera house, drug store, candy store, furniture store and housing. Commercial and residential developments were later built on the site. The most recent use of the property was the L. Snyder Department store. The surface lot was developed and has been in use since 1974.

Three RECs were identified during the site assessment. The use of the project site as an automotive operation, including garages, auto repair facilities, use of a gasoline pump and storage constitutes an environmental concern to the project site. There was also an additional underground storage tank depicted on historical maps that was not found. The Phase II ESA would investigate potential impacts that would be addressed further.

Two off-site RECs were identified that have the potential to impact the project site. The first being a former gas station known as the Virginia Power facility which is located adjacent to the site to the west. The three underground storage tanks that were used for gasoline and surrounding contaminated soils were removed, but groundwater was not analyzed. The lack of testing represents an environmental concern. Therefore, a Phase II ESA would assess groundwater conditions, and the results would determine if mitigation measures are required. The other off-site facility of concern is known as the City of Norfolk – E. Plume Street and St. Paul's Boulevard. This site contains a leaking underground tank facility according to the federal tank database. Petroleum contamination was identified during sewer line excavation work. Even though soils were removed, groundwater was not analyzed, and the facility represents a Recognized Environmental Condition. The Phase I ESA concluded that both off-site RECs have a moderate impact potential for vapor encroachment condition (VEC) to the subject property. Further testing and analysis would be completed during the Phase II ESA to determine environmental risks to the project site and if mitigation measures are warranted.

Transit Area

The St. Paul's Boulevard Transit Area is a developed property made up of four parcels and is approximately 17 acres. This Phase I ESA included the west side of the Tidewater Gardens project area. The current developments include two fast-food restaurants, a gas station, and the Hampton Roads Transit (HRT) bus terminal, as well as the Norfolk Fire Station No. 1, Tidewater Gardens residential units, a vacant lot, and parking lots. State regulatory agency records indicated underground storage tanks present at the project site, but no aboveground storage tanks, groundwater monitoring wells, water wells or other features of significant environmental concern. The history of the site includes past commercial buildings and dwellings that were present before 1950. After some reconfiguration, a prior gas station, auto repair shop, and dry cleaners were present. Records indicate that since 2008, the site configuration has been consistent with the present conditions.

Three underground tank facilities were identified on site. Two active underground storage tanks (USTs) (a 12,000-gallon gasoline tank and an 8,000-gallon gasoline tank) were identified at the Holiday Foods/Shell Gasoline Station. Numerous inactive tanks were also located at this facility. One active 10,000-gallon diesel emergency generator was identified at the Norfolk Fire Station No. 1. Numerous small tanks of varying sizes are located within the fire station. The substances contained include fire retardant, gasoline, and diesel exhaust fluid. These tanks are all intact, not leaking, stored in a chemical locker or designated area, and do not pose an environmental risk to the project site.

Three Historical Recognized Environmental Conditions (HREC) were recognized during the Phase I ESA. A 1995 emergency response notification for a 150-gallon surface diesel fuel spill

was identified. It was reported that the spill was contained and cleaned up, but information such as remedial actions were not identified, and is considered a data gap. The former Amoco contained an underground storage tank for petroleum. An unintentional release of petroleum into groundwater was documented, and environmental investigations were performed. The contaminant levels were low, and the Virginia Department of Environmental Quality closed the case in 1994. The release, investigation, and remedial actions are considered a HREC. A leak into the soil was discovered during removal of the underground storage tank at the Tidewater Park. Low level subsurface contamination occurred, and the event constitutes a HREC.

The historical uses of the property for an automotive repair facility known as Roland's Auto Service Center and the Dry Cleaning of Virginia Beach constitutes a Recognized Environmental Condition for the subject property due to the long-term use and potential subsurface contamination on site. Multiple long-term uses of underground storage tanks on site also indicate Recognized Environmental Conditions. The Phase II ESA would investigate potential subsurface contamination.

Environmental Consequences

No Action

Under the No Action Alternative, existing site conditions would remain unchanged. No ground disturbance would occur and hazardous materials, if present would continue to contaminate groundwater and soils.

Proposed Action

Willis Building

The Willis Building was constructed in 1988 and does not contain ACMs. The Proposed Action consists of interior renovation work. No ground disturbance is proposed, thus eliminating any hazardous material concerns.

Tidewater Gardens

Two on-site and three offsite RECs were identified in a Phase I ESA (by others). According to the ESA, leaking USTs were removed in 1991 and residual contamination occurred. A No Further Action Letter was issued by the VDEQ but is considered a REC because of the historic on-site contamination. Two 10,000-gallon USTs are in use at the maintenance facility. The tanks are over 20 years old and are therefore considered a REC. Three offsite Leaking USTs were recorded upgradient of the project area.

A Phase II ESA has been completed to investigate potential subsurface contamination. Lab results analyzing groundwater and soils samples identified constituents which have been reported to DEQ. Early review of constituent levels indicates relatively low readings that would be mitigated, if needed, through preparation of a Hazardous Waste Contingency Plan. Coordination with DEQ related to tank closure is ongoing.

Based on the lab results associated with the Phase II ESA, the proposed project is not expected to have an impact on the risks posed by hazardous materials, contamination, or toxic chemicals. The risk is minimized when the mitigation measures described above, and the disposal methods required by the appropriate agencies are implemented.

Snyder Lot

The Phase I ESA concluded that no aboveground tanks, water wells, groundwater monitoring wells, or environmentally significant features were located on the property. The surface lot was developed in 1974 and is currently still in use as a surface lot.

Review of historical records identified three on-site RECs and two off-site RECs. A Phase II ESA was subsequently performed to assess groundwater conditions and sample soils. The results of the Phase II ESA were provided to DEQ. On April 21, 2020 DEQ issued a no further action required for the Snyder Lot.

Transit Area

The Phase I ESA for the Transit Area reviewed land and associated records that are outside of the scope of the CNI grant area. It included Tidewater Gardens residential units along the western boundary, a vacant lot, and parking lots. State regulatory agency records indicated underground storage tanks present at the project site, but no aboveground storage tanks, groundwater monitoring wells, water wells, or other features of significant environmental concern. There were no tanks identified in the project area associated with the CNI grant area. A prior leak into the soil was discovered during removal of the underground storage tank at the Tidewater Park. Low level subsurface contamination occurred and constitutes a HREC. Multiple long-term uses of underground storage tanks on site also indicate Recognized Environmental Conditions.

A Phase II ESA was performed to further investigate potential subsurface contamination. The Phase II ESA found that most contaminants were found at levels that are naturally-occurring or that do not exceed applicable screening or reporting levels. No additional coordination with DEQ was warranted as a result of the Phase II investigation.

Historic Preservation

Affected Environment

The analysis area for historic preservation, known as the area of potential effect (APE), was delineated based on where historic resources may be affected, both directly and indirectly. For direct effects, the APE is considered the entire project area where demolition and construction for redevelopment would take place. For indirect effects, the APE includes the project area plus adjacent properties from where the redevelopment would be visible. This indirect APE takes into account the potential changes to views from historic properties into the redevelopment area. The direct and indirect APEs are shown on Figure 5.

Tidewater Gardens was originally developed circa 1953 and is associated with the Tidewater Gardens South Public Housing Historic District (DHR ID #122-5416). A Phase I Cultural Resource Survey was performed on the historic district in 2009. It was determined that although the neighborhood is an example of early public housing in Norfolk, the buildings do not possess any unique characteristics that would separate them from other public housing facilities in Norfolk or the Tidewater region. The Virginia Department of Historic Resources (DHR) concurred with the Phase I Report and recommended that the resource was not eligible for listing in the National Register of Historic Places (National Register) in a letter dated June 12, 2009 (DHR 2009). Therefore, Tidewater Gardens is not considered a historic resource and is excluded from this analysis. An archives search was performed utilizing the DHR database to identify historic resources within the vicinity of the project area. According to the results of the search, there are no historic resources within the APE for direct effects.

Several architectural resources were identified within the indirect APE but outside of the project area footprint. The proposed redevelopment has the potential to affect the setting and views of the project area from these resources. These resources include the following:

- DHR ID #122-0024, Basilica of Saint Mary of the Immaculate Conception, ca. 1857
- DHR ID #122-0025, St. Paul's Episcopal Church, ca. 1739
- DHR ID #122-0211, St. John's African Methodist Episcopal Church, ca. 1887
- DHR ID #122-0776, Colonial Revival House, ca. 1915
- DHR ID #122-0033, Willoughby-Baylor House, ca. 1794

The Basilica of Saint Mary of the Immaculate Conception, known as St. Mary's Church, is located immediately adjacent to the project area to the southeast. St. Mary's Church is a circa 1857 Gothic Revival Catholic church that is listed in the National Register and Virginia Landmarks Register. The church is significant for its association with the proliferation of Roman Catholicism in 19th-century Tidewater Virginia, for its association with an African American congregation in the mid-20th century, and as an excellent example of Gothic Revival architecture (DHR 2017).

St. Paul's Episcopal Church is located to the southwest of Tidewater Gardens and to the northeast of the Snyder Lot. St. Paul's is a 1739 brick church designed in a Colonial Ecclesiastic style in a Latin cross form. It is listed in both the National Register and the Virginia Landmarks Register. The church is significant for its association with early development of Norfolk and as an excellent example of Colonial Ecclesiastic architecture (DHR 1971).

St. John's African Methodist Episcopal Church is located north of the Transit Area Site and southeast of the Willis Building. It is a circa 1887 church in the Romanesque Revival/Richardsonian style. It is listed in the National Register and the Virginia Landmarks Register (DHR 1986). Immediately adjacent to St. John's is the Colonial Revival House. This house was constructed circa 1915 and is one of the very few surviving Colonial Revival residences in this area of Norfolk, which has been largely redeveloped (DHR 1994).

The Willoughby-Baylor House is located west of Tidewater Gardens and southwest of the Transit Area Site. It is a circa 1794 Federal/Adamesque style residence. It is listed in the

National Register and the Virginia Landmarks Register and is significant for its distinctive characteristics of architecture and construction (DHR 1980).

Other resources were identified within the indirect APE that were either determined by DHR to be not eligible for listing in the National Register or are no longer extant. Therefore, these resources are not considered to be historic and were excluded from this analysis.

Although the DHR database search identified several archaeological resources within the indirect APE, these resources are outside of the project footprint for demolition and/or construction. There is no potential for impacts on archaeological resources outside of the project footprint; therefore, these archaeological resources were excluded from this analysis.

Environmental Consequences

No Action

Under the No Action, there would be no changes to the project area; therefore, there would be no new impacts to historic architectural or archaeological resources. The current conditions of historic resources would remain the same. In particular, St. Mary's Church would remain isolated and its integrity of setting would continue to be diminished due to the non-historic development and large highway exit ramp directly adjacent to the church.

Proposed Action

Under the Proposed Action, there would be no direct impacts on historic resources within the project area. The demolition and subsequent redevelopment of the Tidewater Gardens neighborhood and additional lots would, however, result in indirect impacts on historic architectural resources within the APE.

St. Mary's Church is located immediately adjacent to Tidewater Gardens on its northeast and southeast boundaries. Demolition and redevelopment of the neighborhood would alter the immediate setting of St. Mary's Church. However, the integrity of setting has been compromised through decades of development, including the original construction of Tidewater Gardens in the 1950s (DHR 2017). Additionally, the design of the redevelopment would be subject to a site plan review by the City of Norfolk for consistency with applicable city design and building standards. This would include review and approval by the city's Architectural Review Board to ensure new construction is compatible with the architectural character of the area. Depending on the final design, the setting of St. Mary's may be improved by construction of buildings more compatible with the overall architectural character of the area.

Although no physical changes would occur to St. Mary's Church, Church Street would be realigned with its terminus at the front of St. Mary's Church. This realignment would alter the existing spatial relationships between the church and other areas of the Tidewater Gardens neighborhood. Church Street would become one of the major roads through the neighborhood for both vehicle and pedestrian circulation. Being located at the southern terminus of this main road would put St. Mary's Church at a focal point of the community and improve its spatial relationship with the neighborhood. St. Mary's Church would have a

more direct connection with the broader neighborhood, including with the Christ Pentecostal Church and the St. John's African Methodist Episcopal Church, which would be located close to the realigned Church Street. Currently, St. Mary's Church has a somewhat diminished integrity of feeling due to an intrusive raised highway exit ramp southwest of the property (DHR 2017). Realigning a main road to extend northward from the front of the church would also provide a visual focus away from the intrusive highway exit ramp and towards the connection to the rest of the neighborhood. In addition, a new green plaza space along this part of Church Street and the orientation of Chapel Street will also restore some of the church's integrity of feeling that has been lost through decades of development.

For the remaining historic resources within the indirect APE (St. Paul's Church, St. John's Church, the Willoughby-Baylor House, and the Colonial Revival House), the redevelopment of Tidewater Gardens and additional lots would result in indirect impacts of lesser intensity than those on St. Mary's Church. The proposed redevelopment would be visible from the historic resources, which would change existing views of the area from these resources. New buildings that are larger or more vertical in scale than the existing buildings may dominate the viewshed more than the existing two-story buildings. The proposed redevelopment of the Snyder Lot would be visible across City Hall Avenue from St. Paul's Church; however, existing vegetation on the St. Paul's property would screen some of the redevelopment from view and lessen the visual impact. Redevelopment of the Transit Area Site would be partially visible from St. John's Church and the Willoughby-Baylor House; however, existing development would partially screen the redevelopment from view and would lessen the visual impact. Existing development, including St. John's Church itself, would screen the redevelopment from view from the Colonial Revival House.

The design of the redevelopment in all proposed lots would be subject to a site plan review by the City of Norfolk for consistency with applicable city design and building standards. As mentioned above, the redevelopment would be subject to review and approval by the city's Architectural Review Board to ensure new construction is compatible with the architectural character of the area. Therefore, adverse impacts on the viewshed due to the redevelopment would be minimized or avoided during design of the new buildings. Additionally, the setting within an urban environment has been altered many times through ongoing development of the city. Views are not character-defining features of these historic resources that qualify any for listing in the National Register. Therefore, the alteration of the existing views would not diminish historic integrity of historic resources within the indirect APE. Indirect adverse impacts on historic resources would be less than minor.

Coordination with DHR for the proposed Tidewater Gardens Redevelopment project is documented in Appendix F.

Land Development

Affected Environment

Conformance with Comprehensive Plans and Zoning

The Tidewater Gardens community is zoned Multi-Family Neighborhood Scale (MF-NS) with a Coastal Resilience Overlay District (Figure 6). The purpose of the MF-NS zoning district is to provide lands that accommodate a range of multi-family development on generally smaller lots. Allowed uses include moderate-scale multi-family dwellings and parks and recreation centers. The Snyder Lot is zoned Downtown–Business Center (D-BC), the purpose of which is to recognize downtown Norfolk as a regional business, economic, and cultural center in Hampton Roads and to provide lands that support multi-family, commercial, civic, and office uses. The Transit Area is zoned Regional Commercial (C-R) and Downtown–Saint Paul's (D-SP). The purpose of the C-R zoning district is to provide lands that accommodate region-serving commercial development, and development allowed includes retail establishments, large-scale shopping centers, offices, and high-density mixed-use development. The purpose of the D-SP district is to encourage redevelopment at a scale that is conducive to pedestrian circulation and is connected and integrated into Downtown providing lands that support a range of intensely developed multi-family residential, commercial, civic, institutional, and office uses. The Willis Building, or the Community Hub, is zoned Community Commercial (C-C), the purpose of which is to provide lands that accommodate community-serving commercial development primarily along heavily traveled arterial corridors. Allowed development includes community-serving mixed-use, commercial, and office development at a moderate scale, consistent with district character.

Most of the project area, excluding the Willis Building, is contained within the Coastal Resilience Overlay District. The purpose of the Coastal Resilience Overlay District is to encourage new development within areas of the city subject to higher flood risks to actively increase resilience to sea level rise, storm-related flooding events, and other shocks and stresses related to the coastal environment. These areas are identified in *plaNorfolk2030*, a long-term plan for the development of the City over the next 20 years. The district is intended to provide tools for reducing the flood risk both to individual properties and to the surrounding community; enhance the projected lifespan of new structures; and to generally improve the coastal resilience of the city.

Compatibility and Urban Impact

The project area is urban and developed with commercial, religious, and vacant neighboring land uses. The existing development is compatible with the nearby surrounding communities.

Slope

Elevation of the project site varies from 3 feet to 12 feet above sea level. The slope of the project site is relatively flat with elevation changes from approximately 0-2 feet.

Erosion

The existing development does not have severe slopes, and vegetation is well established at several locations. Erosion is not currently a concern at the site.

Soil Suitability

Soils of the subject property consist of Altavista-Urban land complex, Tomotley-Urban land complex, Udorthents-Dumps complex, and Urban land. Altavista-Urban land complex soils are moderately well drained with depth to water table of about 18 to 30 inches. Tomotley-Urban land complex soils are poorly drained with a depth to water table of 0 to 12 inches. Udorthents-Dumps complex soils consist primarily of fill material and have a depth to water table of greater than 80 inches. Urban lands include soils that have been almost completely covered by urban development. They are in a very high runoff class and have a depth to water table of 24 to 79 inches. All soils have been previously disturbed by development or other human activity and are in a high to very high runoff class. Soils information was obtained from the United States Department of Agriculture (USDA) NRCS Web Soil Survey.

Stormwater

The project area's low elevation and proximity to the Eastern Branch of the Elizabeth River (the Eastern Branch) make it vulnerable to flooding. Nearly half of the dwelling units located within the Tidewater Gardens community are situated within the FEMA 100-year floodplain. The area experiences both inland flooding, and coastal storm and tidal flooding, especially as sea level continues to rise. Inland flooding is often a result of outdated and undersized stormwater systems. The antiquated drainage systems have become ineffective at removing stormwater runoff (in other words, draining rainwater) from the neighborhood and streets and is unable to handle the heavy loads associated with significant storms. Therefore, the area frequently faces inland flooding.

The City is experiencing an increase in severity and frequency of storms. When heavy rain events occur at high tide, the Eastern Branch backs up into the storm drain system and prevents rainfall from properly draining out of the project area, specifically within the Tidewater Gardens community. Threats from rising sea levels will increase risks from coastal inundation. Inland areas frequently become inundated by tropical storms, nor'easters, hurricanes, and other heavy rain events. When considered in combination with the lack of economic vitality and the concentration of poverty in the project area, increased flooding and threat from coastal storms coupled with sea level rise greatly undermines the resilience of the area.

Energy Consumption

The existing buildings were constructed circa 1953 using standard construction methods and materials typical for that period. The existing buildings require more energy to heat and cool than buildings constructed using modern methods and materials.

Environmental Consequences

No Action

Conformance with Comprehensive Plans and Zoning

Under the No Action Alternative, the existing buildings and land use would remain unchanged and would continue to conform to the zoning districts in place over the properties and the Coastal Resilience Overlay district. However, much of the Snyder Lot, the Transit Area, and the Willis Building stand empty and do not effectively achieve the purposes for which their zoning districts were established. Regardless, the No Action would have no impacts on the area's comprehensive plans and zoning.

Compatibility and Urban Impact

Under the No Action Alternative, the existing conditions would continue to result in adverse impacts on Tidewater Gardens and the surrounding community. The area to the east of St. Paul's Boulevard, which includes Tidewater Gardens, would remain considerably less vibrant than adjacent communities on the west side of St. Paul's Boulevard. Tidewater Gardens would remain generally isolated and removed from the Downtown area despite being directly adjacent. Tidewater Gardens would continue to contrast with nearby Downtown neighborhoods, such as the Freemason District, which is similarly situated and provides a more functional and attractive community that better serves the needs of its residents.

Slope

The No Action Alternative, would allow the existing grading and slopes to remain as is, and there would be no resulting impacts to slope.

Erosion

The No Action Alternative, would not affect existing erosion patterns at the site because there would be no land disturbance.

Soil Suitability

Under the No Action Alternative, there would be no land-disturbing activity associated with this project, and soil composition would remain as it currently exists. There would be no impacts to soils.

Stormwater

Under No Action, on-site conditions would remain unchanged. The Tidewater Gardens community would continue to experience both inland and coastal storm and tidal flooding resulting in inundated sidewalks, roadways, and dwellings. The existing stormwater system would remain outdated and undersized to accommodate removal of stormwater out of the developed community. Anticipated increased frequency of storm events and projected sea

level rise in the area would result in frequent flooding events. Impacts would occur more frequently to residents and businesses throughout the project area.

Energy Consumption

Under the No Action, there would be a minor change in energy consumption as the buildings continue to age. Energy consumption rates associated with No Action would continue to be higher than buildings constructed to modern standards. This alternative would result in a minor adverse impact to energy consumption.

Proposed Action

Conformance with Comprehensive Plans and Zoning

Under the Proposed Action alternative, Tidewater Gardens, the Snyder Lot, the Transit Area, and the Willis Building would be redeveloped. To achieve the purposes of the MF-NS district zoning and Coastal Resilience Overlay District, Tidewater Gardens would be completely redeveloped, which would include removal of the existing, outdated buildings; reconfiguration of the roadways; construction of new mixed-income residential buildings; and development of green spaces for recreation, stormwater drainage, and water storage. The new residential buildings and roadways would be designed to improve pedestrian circulation and connectivity between the Saint Paul's and Downtown Districts and increase resiliency to flooding and enhance stormwater drainage. The blue/greenway would include reopening a waterway that was enclosed underground decades ago, providing enhanced storage of stormwater and reducing flooding within residential and commercial areas.

Under the Proposed Action, the areas proposed for redevelopment on the Snyder Lot and the Transit Area currently consist primarily of parking lots, and although they fit within the definitions of their zoning districts, they do not effectively achieve the purposes for which the zoning districts were established including providing lands for intensive mixed-use, residential and commercial development conducive to pedestrian circulation and increasing connectivity between Saint Paul's District and Downtown Norfolk. Redevelopment would include the removal of existing parking lots and buildings, where present, and construction of flood resilient mixed-use residential and commercial buildings designed to enhance pedestrian circulation and improve connectivity between Tidewater Gardens and the Saint Paul's and Downtown Districts. Redevelopment would more effectively achieve the purposes of the various zoning districts and the Coastal Resilience Overlay District than current building and land uses.

Compatibility and Urban Impact

The Proposed Action would deconcentrate poverty within Tidewater Gardens by removing the existing, outdated residential buildings and developing mixed-income housing and green spaces, the blue/greenway. In addition, nearby parking lots and empty spaces including the Snyder Lot and the Transit Area would be redeveloped to include a multi-story, mixed-income building with retail and community space on the first floor. The Willis Building would also be renovated into a Community Hub for Tidewater Gardens, Saint Paul's, and

other nearby neighborhoods. All proposed developments would be designed to increase pedestrian access throughout and improve connectivity between Tidewater Gardens, Saint Paul's, and Downtown Norfolk. The proposed project would be compatible with the surrounding developments and would provide a beneficial impact to the community.

Slope

The Proposed Action would require some grading following demolition activities within areas proposed for redevelopment. Fill and earthwork would be required to raise the ground elevation to a level at or above the base flood elevation as well as to raise the proposed roads to be above the 100-year floodplain. Overall, the building and roadway design would improve flood resiliency, and slopes would be altered to improve drainage toward the blue/greenway. Within the blue/greenway, slopes would be modified to open historical waterways that had been enclosed underground, increase stormwater storage by constructing ponds and creeks within the green spaces, and improve overall site drainage. The developments would reduce flooding within the streets and residential/commercial areas providing an overall beneficial impact to slopes.

Erosion

Demolition activities associated with the Proposed Action would temporarily disturb the ground, leaving portions of soil exposed. Minor short-term impacts may include sediment in stormwater run-off associated with the demolition activity. An Erosion and Sediment Control Plan would be prepared in accordance with DEQ's Virginia Erosion and Sediment Control Handbook to minimize this impact. Strict adherence to this plan by the site contractors would ensure that downstream water quality degradation would be minimized.

Overall, there would be temporary increases in erosion potential at the site during demolition activities; however, by implementing the above erosion control measures, impacts would be minimized.

Soil Suitability

The Proposed Action and the associated demolition activity would result in ground disturbance. Soils in the areas are currently built upon, compacted soils. Some of these soils would be converted to open green space while others would continue to be built upon. Overall the impacts to soils and their suitability for future development would be negligible.

Stormwater

The Proposed Action includes the St. Paul's Blue/Greenway project which is the redevelopment of approximately 26 acres of public housing and other nearby properties into open space designed to store and treat stormwater runoff. There are two main elements proposed in the blue/greenway. First, the creation of a primary conveyance channel to replace the function of the existing underground culvert and substantially expand the capacity to store stormwater during high tide events when discharge to the Eastern Branch is limited, Second, the creation of three water quality features such as wet ponds or constructed wetlands to remove phosphorous from the upland redevelopment area to

comply with the City's stormwater management requirements. The primary function of the blue/greenway is to create space for stormwater management opportunities to include tidal and stormwater flooding.

Although the Proposed Action would result in a 10 percent increase in impervious cover in the areas proposed for redevelopment, impervious cover would decrease in the area of the converted blue/greenway.

Construction of the blue/greenway provides several community benefits. As proposed, existing residential dwellings and commercial activities would be removed from the 100-year floodplain, runoff storage would be substantially increased reducing flooding extent in areas upstream of the redevelopment area, and pollutants would be removed from stormwater runoff prior to discharging into the Eastern Branch. The blue/greenway would not only improve flood resiliency but would also serve as an amenity to the community through the provision of green space for recreational use which is designed to hold and treat stormwater during heavy rainfall events.

Energy Consumption

Under the Proposed Action, site energy consumption would be substantially reduced by replacing older buildings with new buildings constructed using modern methods and materials. The new buildings would be designed and constructed to be much more energy efficient while still meeting the project purpose of decentralizing poverty in public housing and maintaining a sustainable community.

Overall, there would be long-term beneficial impacts to (i.e. reduction in) site energy consumption. The impact to city-wide energy consumption would be negligible since most Tidewater Gardens residents would be relocated locally.

Transportation and Traffic

Affected Environment

The existing roadway configuration within the project area consists of super blocks and a prevalence of one-way streets. This configuration may require a motorist to take an indirect path, which increases the distance required to travel between origins and destinations within the project area. One-way streets make navigation more challenging to motorists who may not be familiar with the area. Additionally, there is the risk that a driver may drive the wrong way on a one-way street.

Super blocks and infrequent intersections where cross traffic may be present can increase the speed at which a motorist feels comfortable traveling. The width of the street can also encourage faster speeds. East Charlotte Street, which runs along the north edge of the Tidewater Garden area, is a 36-foot-wide street with super blocks that may encourage fast speeds. Speed humps have been installed to reduce the prevalence of speeding.

There are 10 access points which allow ingress and/or egress of the project area. Four of these access points are full access points, meaning that they provide for all movements into and out of the property area. These full access points are located at:

- St. Paul's Boulevard and Wood Street
- Brambleton Avenue and Posey Lane
- Brambleton Avenue and Lincoln Street
- Brambleton Avenue and Church Street

Of these full access points, only St. Paul's Boulevard at Wood Street and Brambleton Avenue at Church Street are signalized which is vital to facilitating left turn movements safely out of the project area, particularly during peak traffic periods. Left turns into the property area are permissive only at St. Paul's Boulevard and Wood Street and are protected only at Brambleton Avenue at Church Street.

The remaining six access points provide partial access into, or out of, the project area. The signalized access located at St. Paul's Boulevard and East Bute Street allows left turns out of the project area but restricts left turns into the project area using posted signage. The signalized access at St. Paul's and the Shell Gas Station/Park and Ride lot provides protected lefts into the project area but restricts left turns out of the project area through a hooded left turn median. There are three unsignalized access points that provide right in/right out (RIRO) only access using medians or channelized islands. These RIRO access points are located at:

- Tidewater Drive and East Charlotte Street
- East Market and Fenchurch Street
- St. Paul's Boulevard and Mariner Street

The remaining access at Tidewater and Ruffner Street is a one-way street at the intersection of Tidewater Drive, making it a right out only access.

Sidewalks are present along both sides of the roadways serving the residential properties. Additionally, sidewalks from the roadway to each residential unit are present. Existing sidewalks are less than 5 feet wide and do not meet current accessibility standards. Similarly, many of the curb ramps in the community do not meet current accessibility standards.

The existing transportation network includes large blocks that would generally increase the distance needed to walk to a given destination. However, sidewalks that provide access at midpoint locations within the block are present which aids to mitigate this.

One-way streets can be more hazardous for pedestrians as vehicles get used to only looking in one direction for conflicting traffic instead of both directions. A pedestrian crossing the road from the opposite direction may not be seen by the motorist in time to avoid a conflict.

Environmental Consequences

No Action

Under the No Action, the existing roadway network would remain unchanged. This arrangement of roadways results in restricted movements that isolate the super blocks currently making up Tidewater Gardens. The current layout complicates vehicular access into and out of the neighborhood to nearby amenities such as MacArthur Center and other downtown Norfolk attractions. Residents currently experience more than 100 hours of street flooding per year, and flooding would likely become more frequent in the future due to sea level rise and increasing storm events.

The long, residential blocks surrounded by multi-lane, high-volume roadways also cause the area to feel less walkable, despite the existing walkways. Existing pedestrian crosswalks across St. Paul's Boulevard are limited, continuing the poor pedestrian connection between Tidewater Gardens and employment, entertainment, and other downtown services in the surrounding area. Bicyclists share the road with vehicles; no dedicated facilities exist within the project area.

Proposed Action

The Proposed Action calls for redevelopment of the project area which would result in a modification to the current land use as well as the roadway network. The proposed redevelopment would be comprised of a variety of uses including mixed-income residential units, commercial, employment, and retail. Mixed-use developments provide for a variety of uses in close proximity, which means that residents have access to destinations that are within walking or biking distance. Strategic realignment of several key roadways would improve connectivity with the surrounding neighborhoods and amenities.

Under this alternative the existing roadway network would be replaced with a grid pattern consisting of two-way streets. This configuration provides a variety of options a driver can utilize to reach their destination, which shortens the distance required to travel between a given origin and destination. Within a grid network traffic can easily switch from street to street in response to congestion, flooding, or other events that would require the closure of the roadway. These options increase the transportation network's resiliency.

Grid patterns with short blocks and increased intersection frequency are expected to slow down vehicular speeds as traffic must anticipate frequent cross traffic. Where warranted by traffic volumes, all-way stop controlled intersections require all directions of travel to come to a stop which may contribute to slower speeds and make it safer for pedestrians to cross at these locations. Curb bump outs at pedestrian crossings would thin the roadway and provide traffic calming while reducing pedestrian crossing distances. Additionally, the proposed redevelopment includes street trees along each roadway which visually narrow the roadway which may result in speed reduction.

Access into, out of, and through the site is expected to be improved in this alternative. Roadways within the project area would be extended or reconfigured to create the grid network. These include:

- Extend Church Street to connect St. Mary's Church (where Chapel Street and Holt Street currently intersect) to the Martin Luther King, Jr. Memorial at Brambleton Avenue.
- Extend Reilly Street from Mariner Street to Freemason Street (currently East Charlotte Street) to the north and to an extended Virgin Street to the south.
- Connect Wood Street to the extended Resilience Drive (currently named Walke Street).
- Connect Bute Street to the extended Chapel Street.

The proposed development and proposed transportation network would involve the removal of four existing access points to the surrounding arterial network and the addition of four new access points and the reconfiguration of one existing access point.

The RIRO access located at Fenchurch Street and Market Street, the RIRO at St Paul's Boulevard and Mariner Street, and the right/left in and right out access at the Shell Gas Station/Park and Ride lot would be removed. Freemason Street would be extended to the east adjacent to what is currently East Charlotte Street and connect St. Paul's Boulevard to Tidewater Drive in the vicinity of these access points. The connections at St. Paul's Boulevard and Tidewater Drive would be signalized intersections, providing protected movements into and out of the project site. At Tidewater Drive, this would also provide full access for May Avenue and signalize a school crossing over six lanes of traffic to William H. Ruffner Academy. This key element would also improve connection of the project area to the surrounding neighborhoods and amenities.

The right out only access at Ruffner Street would be removed in order to provide space for the proposed blue/greenway.

Two additional connections would be provided to the north by extending Chapel Street and Resilience Drive (formally Walke Street) to connect with Brambleton Avenue. A new access point to the south of the project area would be established to connect with City Hall Avenue. Additionally, right of way would also be established at the intersection of East Charlotte Street and Tidewater Drive that would allow for the direct alignment with May Avenue. This reconfiguration would provide the opportunity for left turns in both directions off Tidewater Drive. This would also allow for left turns out of Tidewater Gardens, making this a full access point.

Proposed roadways within the 100-year floodplain would be elevated above the base flood elevation in order to maintain access throughout the project area during flood events.

Walkability of the project area under this alternative would be improved due to the smaller blocks (and lower vehicle speeds), external signalized access, wider sidewalks that are compliant with the Americans with Disabilities Act (ADA), more diverse land use, and the strategic relocation of some roadways.

Additionally, buffered bicycle lanes would be installed along Freemason Street, Transit Center Drive, and Church Street. This would increase safety for bicyclists and may encourage additional use of bicycles within the project area.

Noise

HUD's policy is to provide minimum national standards to protect citizens against excessive noise in communities and places of residences and to encourage noise-compatible land use planning in relation to airports, highways, railroads, and other sources of high ambient noise. HUD regulations require that recipients of certain federal funding take into consideration the HUD noise criteria and standards during the environmental review process and incorporate noise mitigation when residential developments are proposed in areas with unacceptable ambient noise conditions.

The Tidewater Gardens project would also modify roadways in the study area including the realignment of Fenchurch Street and introduce a new east-west roadway. Based on the proposed roadway improvements, the project is considered Type I according to FHWA regulations (23 CFR 772) and it is necessary to conduct a traffic noise assessment in accordance with VDOT Noise Policy (VDOT 2018).

Noise Regulations

In accordance with HUD assessment guidelines, noise is evaluated from major transportation sources including airports within 15 miles, all significant roadways within 1,000 feet, and railroads within 3,000 feet. Significant roadways are commonly assumed to include those with 10,000 average daily traffic (ADT) or more.

HUD's noise standard (24 CFR Part 51.103) is based on exterior day night average sound levels (Ldn). Ldn noise levels represent noise over a 24-period taking into account how loud noise events are, how long they last, and whether they occur during the day or night (with a 10-decibel penalty given to noise occurring at night due to the greater sensitivity to noise). The HUD exterior noise standard applies at buildings with noise-sensitive uses such as residences, schools, and places of worship. The HUD exterior noise standard relates to the HUD interior noise goal which is to maintain interior noise levels of 45 dBA (Ldn) or less.

- Residential developments are considered to have "Acceptable" noise conditions if noise levels do not exceed 65 dBA (Ldn). An exterior noise level of 65 dBA is considered to meet the interior noise goal of 45 dBA if the building is constructed in a manner common to the area which will generally provide 20 decibels or more of outdoor-to-indoor sound attenuation.
- Residential developments are considered to have "Normally Unacceptable" noise conditions if levels exceed 65 dBA (Ldn), but do not exceed 75 dBA (Ldn). New residential developments in this condition are required to incorporate features into the building design to achieve sufficient outdoor-to-indoor sound attenuation to meet the HUD interior noise goal of 45 dBA (Ldn).
- Residential developments are considered to have "Unacceptable" noise conditions if levels exceed 75 dBA (Ldn). For new construction, noise attenuation measures in these locations require the approval of the Assistant Secretary for Community Planning and Development (for projects reviewed under Part 50) or the Responsible Entity's Certifying Officer (for projects reviewed under Part 58). In "Unacceptable" noise zones, HUD strongly encourages conversion of noise-exposed sites to land uses compatible with the high noise levels.

VDOT's noise policy is to assess highway traffic noise impacts and, when potential impacts are identified, consider incorporating appropriate avoidance or abatement measures to minimize potential effects. For this project, there is the potential for noise levels to approach or exceed the VDOT Noise Abatement Criteria (NAC); however, it is unlikely that noise abatement measures such as noise barriers would be feasible and reasonable. Therefore, a VDOT screening analysis has been conducted which is a simplified procedure used to predict traffic noise levels and make a reasonable determination of noise impacts. See Appendix G, "VDOT Noise Screening Analysis Technical Memorandum," for more details on the methodology, background, and screening analysis results.

The VDOT noise screening analysis process includes identifying noise-sensitive receptor locations, such as residences and institutional uses such as churches and schools, categorizing their land use according to VDOT Activity Categories, developing an FHWA Traffic Noise Model, and predicting loudest-hour traffic noise conditions. Noise abatement such as noise barriers must be considered for existing receptors that would approach or exceed the NAC. However, because new residences that would be introduced by the Tidewater Gardens project would not be permitted for construction until after a Finding of No Significant Impact is issued for the Proposed Action, they are not eligible for noise abatement according to FHWA regulations.

FHWA regulations and the VDOT noise policy requires that all substantial sources of noise are included in the analysis including trains operating on the Northeast Corridor, Norfolk Tide light rail trains, and buses operating at the Downtown Norfolk Transit Center. Noise from trains and buses have been included using methods outlined in the Federal Transit Administration noise and vibration guidance manual.

Affected Environment

The Tidewater Gardens project area currently includes noise-sensitive receptors such as residences and churches. HUD's noise standard is evaluated for new residential receptors that would be introduced with the project. In accordance with VDOT's noise policy, these new residential receptors are categorized as Activity Category G since building permits have not yet been issued for these planned developments and they are not eligible for noise abatement. Noise levels are predicted for Activity Category G land uses for information purposes. Existing residential land use in the noise study area includes the St. Paul's Apartments (Activity Category B). Institutional (Activity Category C) noise-sensitive receptors in the study area include St. Mary's Church, the YMCA, Ready Academy, First Baptist Church, Queen St. Baptist Church, and the Tidewater Park Elementary School. Retail and industrial (Activity Category F) receptors, which are not eligible for noise abatement, include the Willis Building, Norfolk Wholesale Flower, and the U.S. Post Office.

As shown in Figure 7, airports within 15 miles of the Tidewater Gardens project include Norfolk International Airport (4.5 miles), Norfolk Naval Station (6.5 miles), Naval Air Station Oceana (13 miles), Chesapeake regional Airport (12 miles), and Hampton Roads Executive Airport (10 miles). The project area is well outside the 65 dBA (Ldn) noise contours of all these airports.

As shown in Figure 8, major roadways within 1,000 feet of the Tidewater Gardens project include East Brambleton Avenue, Tidewater Drive, St. Paul's Boulevard, Market Street, East City Hall Drive, I-264 East and I-264 West. Based on 2018 traffic volume data from the Virginia Department of Transportation (VDOT), the ADT range from approximately 11,000 to 101,000 vehicles on these roadways, with the percentage of medium trucks ranging from 0.9 to 4.9% and the percentage of heavy trucks ranging from 0.5 to 4.6%. The Tidewater Gardens project would realign Fenchurch Street and introduce new local roadways within the project site, but none of these roadways would have greater than 10,000 ADT and therefore would not contribute substantially to the ambient noise environment.

The Northeast Corridor rail line, which includes Norfolk Southern freight trains and Amtrak passenger rail train operations, is approximately 1,200 feet east of the nearest proposed residential development in Tidewater Gardens. There is an at-grade crossing at East Olney Road approximately 2,000 feet from the nearest proposed residential development. Based on the Federal Railroad Administration grade-crossing database, there are approximately 25 daily trains including 10 nighttime trains along these tracks with a typical train speed of 25 miles per hour.

The Norfolk Tide light rail transit line runs south of I-264 approximately 800 feet south of the nearest residential development in Tidewater Gardens and then transitions to East Main Street and East Plume Street. The light rail line is approximately 30 feet away from the proposed development at the Snyder Lot. The Norfolk Tide light rail line has 10 to 30-minute headways throughout the day totaling approximately 79 train operations per day in each direction.

Environmental Consequences

No Action

With the No Action, there would be no new noise-sensitive receptors introduced and there would be no need to evaluate ambient noise conditions.

Proposed Action

With Alternative B, there would be new noise-sensitive receptors introduced such as residences. Roads within the project area would be realigned to create neighborhood streets and blocks and Church Street would be realigned to further improve walkability of the neighborhood.

HUD Noise Assessment

The noise contribution from all airports, roadways and railroad sources has been calculated at each proposed residential development block using the HUD noise assessment calculator.

Table 1 below presents the results of the HUD noise assessment for each proposed block with residential land use within the Tidewater Gardens project site. The noise levels include all major roadways within 1,000 feet and railroads within 3,000 feet from each respective development block. Noise levels at development blocks near the outer boundary of the project site, including Blocks 1, 2, 3A, 3B, 4, 5, 6, 11, and 19 are "Normally Unacceptable"

ranging from 65.5 to 71.9 dBA (Ldn). Noise levels are highest for blocks which are immediately adjacent to a major road such as Block 1 and Block 18, which are immediately adjacent to St. Paul's Boulevard.

Noise levels are lowest for blocks more inset to the interior of the project site including Blocks 9, 10, 17, 19, and 20 which are considered "Acceptable" since they do not exceed 65 dBA (Ldn). It should be noted that while noise levels in the Transit Area (Blocks 17, 19, and 20) are considered "Acceptable" per the HUD noise assessment methodology, there may be additional noise sources related to transit bus activity (i.e., buses idling, public address systems, and bus movements) at the Downtown Norfolk Transit Center which are not included in the HUD noise assessment. Additional information on the noise conditions in the Transit Area are presented as part of the VDOT noise screening analysis.

Table 1. HUD Noise Assessment

Block	Name	Land Use	Day-Night Average Noise Level (Ldn, dBA)	Noise Exposure Acceptability
1	Snyder Lot	Mixed Use	70.6	Normally Unacceptable
2	Tidewater Gardens II (Family)	Mixed Use	67.7	Normally Unacceptable
3A	Tidewater Gardens II (Family)	Mixed Use	68.8	Normally Unacceptable
3B	Tidewater Gardens II (Family)	Mixed Use	67.5	Normally Unacceptable
4	Tidewater Gardens II (Family)	Mixed Use	66.5	Normally Unacceptable
5	Tidewater Gardens I (Family)	Mixed Use	66.2	Normally Unacceptable
6	Tidewater Gardens I (Family)	Mixed Use	66.4	Normally Unacceptable
9	Tidewater Gardens I (Family)	Mixed Use	63.8	Acceptable
10	Tidewater Gardens I (Family)	Mixed Use	63.8	Acceptable
11	Tidewater Gardens II (Family)	Mixed Use	65.5	Normally Unacceptable
17	Transit Area II	Mixed Use	63.3	Acceptable
18	Transit Area II	Mixed Use	71.9	Normally Unacceptable
19	Transit Area I (Senior)	Mixed Use	63.8	Acceptable
20	Transit Area I (Family)	Mixed Use	62.9	Acceptable

Source: VHB 2020.

HUD Noise Mitigation

Noise mitigation is required for new residential developments that are considered to have "Normally Unacceptable" noise conditions. Residential developments are required to incorporate features into the building design to achieve sufficient outdoor-to-indoor sound attenuation to meet the HUD interior noise goal of 45 dBA (Ldn). Sufficient sound attenuation of building facades can be achieved by various measures including: installing acoustically-rated windows and doors, limiting the size of the windows and doors relative to the exterior walls, ensuring walls are provide sufficient sound attenuation, and installing

packaged terminal air conditioners or central air-conditioning to allow windows to remain closed. The outdoor-to-indoor sound attenuation of the buildings is specified according to the Sound Transmission Classification (STC) rating of the different building elements.

As shown in Table 2 below, the minimum STC ratings of building facades on Blocks 1, 2, 3A, 3B, 4, 5, 6, 11, and 18 range from 21 to 27 dBA. At this stage of the development, the specific building designs and materials are not known. The outdoor-to-indoor sound attenuation requirements are not substantially greater than what most building designs will achieve. As the building design advance, sound attenuation features will be included to meet the necessary STC rating.

Table 2. Outdoor-to-Indoor Sound Attenuation

Block	Name	Land Use	Outdoor-to-Indoor Sound Attenuation Requirement (STC rating)
1	Snyder Lot	Mixed Use	26
2	Tidewater Gardens II (Family)	Mixed Use	23
3A	Tidewater Gardens II (Family)	Mixed Use	24
3B	Tidewater Gardens II (Family)	Mixed Use	23
4	Tidewater Gardens II (Family)	Mixed Use	22
5	Tidewater Gardens I (Family)	Mixed Use	22
6	Tidewater Gardens I (Family)	Mixed Use	22
11	Tidewater Gardens II (Family)	Mixed Use	21
18	Transit Area II	Mixed Use	27

Source: VHB 2020.

VDOT Noise Screening Results

This section presents the results of the VDOT noise screening analysis. According to VDOT noise policy, all sources of sound must be included in the analysis. Noise sources included in the analysis included traffic noise, which was predicted using the FHWA Traffic Noise Model (TNM) version 2.5, and rail and transit sources, which were predicted using the Federal Transit Administration (FTA) Noise Impact Assessment Spreadsheet (version 1/29/2019). Rail and transit sources include bus operations at the Norfolk Downtown Transit Center, freight trains on the Northeast Corridor, and Norfolk Tide light rail trains. Noise levels have been predicted based on existing traffic conditions, train movements, and bus transit operations. The proposed project would not increase freight or light rail train movements, bus operations or traffic volumes of the predominant sources of traffic noise such as Interstate 264, St. Paul's Boulevard, Market Street, and Tidewater Drive. The proposed project would include realignment and redesigns to roadways including Church Street, St. Paul's Boulevard, and local roads within the proposed development that would tend to slow traffic conditions. Therefore, existing traffic, rail, and transit volumes are representative of the loudest-noise conditions.

As shown in Table 3, noise was predicted at 88 receptor locations including existing receptors and receptors introduced by the proposed project (See Figure 1 in Appendix G, *VDOT Noise Screening Analysis Technical Memorandum*). Traffic noise is the predominant source for most receptors except those near the Norfolk Downtown Transit Center where bus transit noise is the predominant source. Noise levels are typically in the mid 50's to lower 60's dBA (Leq) and range from 45 to 73 dBA (Leq) at all receptors in the study area.

Noise levels at the proposed mixed-use development at Block 18 (R44) would be 73 dBA. Noise levels approach or exceed the NAC at three receptors at the St Paul's Apartments (R68, R69, and R70) and the Queen Street Baptist Church (R84) located along Saint Paul's Boulevard and East Brambleton Avenue.

Table 3. VDOT Noise Screening Analysis Results

Receptor	Activity Category	Label	Noise Level (dBA, Leq)
Development Block 1	G	R1, R2, R3, R4	55 to 68
Development Block 2	G	R10, R11, R12, R13	54 to 63
Development Block 3A	G	R14, R15, R16, R17	58 to 65
Development Block 3B	G	R18, R19, R20, R21	56 to 61
Development Block 4	G	R22, R23, R24, R25	53 to 57
Development Block 5	G	R26, R27, R28	50 to 54
Development Block 6	G	R29	59
Development Block 9	G	R30, R31, R32, R33	51 to 62
Development Block 10	G	R34, R35, R36, R37	51 to 52
Development Block 11	G	R38, R39, R40, R41	50 to 58
Development Block 17	G	R49, R50, R51, R52	50 to 56
Development Block 18	G	R43, R44, R45, R46, R47, R48	58 to 73
Development Block 19	G	R57, R58, R59, R60	48 to 59
Development Block 20	G	R53, R54, R55, R56	51 to 56
St. Mary's Church	C	R5, R6, R7, R8, R9	51 to 65
YMCA Playground	C	R42	58
St Paul's Apartments	B	R62, R63, R64, R65, R66, R67, R68, R69, R70 , R71, R72, R73, R74, R75, R76, R77, R78, R79	48 to 70
First Baptist Church Annex	C	R81	45
Ready Academy Playground	C	R82	46
First Baptist Church	C	R83	52
Queen St Baptist Church	C	R84	66
Norfolk Wholesale Flower	F	R85	65

Receptor	Activity Category	Label	Noise Level (dBA, Leq)
Willis Building	F	R86	69
Post Office	F	R87	60
Tidewater Park Elementary Playground	C	R88	61

Source: VHB, 2020.

Values in bold approach or exceed the NAC.

VDOT Noise Abatement

Based on the results of the noise screening, noise levels at the proposed mixed-use development (Activity Category G) at Block 18 (R44) would be 73 dBA (Leq) and would approach or exceed the NAC at three receptors at the St Paul's Apartments (R68, R69, and R70) and the Queen Street Baptist Church (R84) located along Saint Paul's Boulevard and East Brambleton Avenue. Since noise levels approach or exceed the NAC at these receptors, noise abatement must be evaluated such as; noise barriers, traffic management measures such as traffic control devices, prohibiting certain vehicle types such as trucks, nighttime truck restrictions, modifying speed limits, or designating lanes for certain use, altering roadway alignments, and/or acquiring property to serve as a buffer zone for noise.

A noise barrier in these locations would need to have substantial gaps for pedestrian and vehicular access to not reduce visibility. Gaps in a noise wall substantially reduce the barrier performance by not completely blocking the noise path between the noise source and the receiver and would not be acoustically effective. As described in Chapter 3, *Transportation*, the roadway designs already incorporate features to reduce traffic speeds and to control traffic with traffic control devices. Therefore, additional traffic management measures would not be warranted and would not substantially reduce traffic noise levels. Therefore, noise abatement would not be feasible and would not be recommended for further evaluation.

Construction Noise Assessment

Construction of the proposed project has the potential to cause short-term noise effects depending on the phase of construction. Typically, the loudest phase of construction involves earthwork which may include sheet pile driving, excavators, and heavy trucks. Other sources of construction noise, such as backhoes or bulldozers, generate 80 to 85 dBA at 50 feet. Construction activity is primarily expected to occur during the day.

There are no standard federal construction noise criteria applicable to the proposed project. Noise from construction activities is exempt from the Norfolk noise ordinance under Section 26-3 and HUD does not regulate construction noise. For roadway construction, VDOT requires contractors to meet construction noise provisions in their standard road and bridge construction specification. These specifications include limiting noise to 80 dBA at the closest adjoining property of noise-sensitive use, potentially restricting construction activities between 10:00 P.M. and 6:00 A.M., assuring that construction equipment does not generate unnecessary noise, and utilizing truck routes that minimize truck activity in residential areas. Construction activities would result in unavoidable adverse short-term impacts.

Socioeconomics

Affected Environment

This socioeconomics assessment provides a baseline analysis of the project area's community and demographic characteristics and the employment and income characteristics of its existing residents. Demographic and population data were obtained from the US Census Bureau. Economic and industry data were obtained from ESRI Business Analyst, which sources the US Census Bureau and Infogroup, Inc. Potential impacts of the Alternatives are analyzed as they relate to demographic character changes, displacement, and employment and income patterns. The study area for the socioeconomics assessment comprises the Block Groups (BG) within or containing a portion of the project area. These include BG 1 in Census Tract (CT) 42, BG 1 in CT 48, and BG 2 in CT 49 in Norfolk (see Figure 9).

Community

The 43-acre Tidewater Gardens public housing community is owned by the Norfolk Redevelopment and Housing Authority (NRHA). The development is composed of densely developed two-story attached apartment complexes, with a total of 618 residential units in 78 buildings. The buildings in the community are typically aligned parallel to each other or in small clusters on large super blocks. Though there are open grassy areas located between buildings with scattered trees and shrubs, these open areas contain few amenities such as recreational resources or playground equipment. A network of concrete pathways connects the residential buildings.

The Physical Condition Assessment commissioned by NHRA (See Appendix E) documents the functional obsolescence of the existing housing units due to not meeting current building or fire codes, structural deficiencies such as lack of proper insulation and the presence of hazardous building materials (asbestos and lead), and design deficiencies such as inaccessibility for people with disabilities. The extent of deficiencies in the structures and building systems along with overall infrastructure deficiencies is such that rehabilitation to modernize the existing buildings is not recommended. In addition, over half of the 618 distressed housing units located within the 78 buildings in Tidewater Gardens are located within the 100-year floodplain (see Appendix A, Figure 10: FEMA Flood Zone Map), and the buildings and roadways experience regular flooding from storm events. Lastly, the existing community does not include any diversity in housing types.

Tidewater Gardens is surrounded by a number of community facilities and amenities, including the William A. Hunton YMCA and several houses of worship, including Queen Street Baptist Church, First Baptist Church, St. John's African Methodist Episcopal Church, St. Paul's Episcopal Church, and Basilica of St. Mary of the Immaculate Conception. Nonetheless, the existing site and roadway layout contributes to community isolation. Tidewater Gardens is surrounded by large roadways that create a significant barrier to surrounding communities and the amenities listed above. St. Paul's Boulevard to the west is a large six-lane roadway with a fence running through the center median along much of the length of the project area. Tidewater Drive, for which the Tidewater Gardens community was named, runs along the eastern edge of the

Project area, and has similar qualities to St. Paul's Boulevard, including limited pedestrian access from the project area to surrounding neighborhoods and amenities.

Demographic and Housing Characteristics

According to the 2018 American Community Survey data, 3,201 people live within the study area. Total population has remained relatively stable since 2010. Table 4 demonstrates the racial and ethnic breakdown of the study area population. As shown, a majority (85.2%) of the study area population is Black or African American, 9.2% is White, 2.8% identifies as two or more races, and 2.9% is Hispanic or Latino.

Table 4. Study Area Race and Ethnicity

	Total	Percentage
Total Population	3,201	
White (Non-Hispanic)	293	9.2%
Black or African American	2,727	85.2%
Two or More Races	89	2.8%
Hispanic or Latino	92	2.9%

Source: 2014-2018 American Community Survey

The study area population is relatively young, with approximately 30% of the population age 19 or younger (see Table 5 below). The median age is 29.9, and only 8.3% of the population is over the age of 65. The gender breakdown of the study area is 60.5% male and 39.5% female, though it should be noted that the study area includes the Norfolk city jail, which likely increases the size of the male population.

Table 5. Study Area Age and Gender

	Total	Percentage
Ages 0-19	946	29.6%
Ages 20-34	1,000	31.2%
Ages 35-65	990	30.9%
Age 65 and above	265	8.3%
Male	1,936	60.5%
Female	1,265	39.5%

Source: 2014-2018 American Community Survey

According to ESRI Business Analyst, there is a total of 741 households within the study area (some units within Tidewater Gardens are vacant), with an average household size of approximately 2.75. Median home value is \$178,125, and 92.6% of the housing units are renter-occupied within the study area.

Employment and Income

According to ESRI Business Analyst, the median household income for the study area in 2019 was \$12,574. Of the 707 total households in 2019, 470, or 66.5%, were below the poverty level. Table 6 provides a breakdown of study area households by income. As shown, a

majority (59.6%) of study area households make less than \$15,000 per year. The data reflects the presence of the Tidewater Gardens public housing community, showing the concentration of low-income households within the study area.

Table 6. Study Area Households by Income, 2019

Household Income Base	
< \$15,000	59.6%
\$15,000 - \$24,999	24.7%
\$25,000 - \$34,999	8.5%
\$35,000 - \$49,999	3.0%
\$50,000 - \$74,999	3.4%
\$75,000 - \$99,999	0.4%
\$100,000 - \$149,999	0.4%
\$150,000 - \$199,999	0.0%
\$200,000+	0.0%

Source: ESRI Business Analyst

Among study area residents, 11.4% are unemployed. Table 7, Study Area Employment, provides the number of businesses and employees by business sector. According to ESRI Business Analyst, there are a total of 167 businesses that employ 3,838 people within the study area. The dominant industries by percentage of total employees are Government (50.6%), Services (including educational institutions, 29.5%), and Retail Trade (9.8%). Major employers in and around the study area include Norfolk City government (Sheriff's Office and Public Works), Norfolk Healthcare, Ruffner Academy, and Vishay Intertechnology Inc.

Table 7. Study Area Employment

Industry Sector	Businesses	Employees	Employees (%)
Construction	7	206	0.0%
Manufacturing	0	0	5.4%
Transportation	6	15	0.4%
Communication	2	43	1.1%
Utility	0	0	0.0%
Wholesale Trade	3	57	1.5%
Retail Trade	18	377	9.8%
Finance, Insurance, Real Estate	9	52	1.4%
Services	63	1,134	29.5%
Government	52	1,942	50.6%
Unclassified Establishments	7	12	0.3%
TOTAL	167	3,838	100.0%

Source: ESRI Business Analyst, accessed on March 19, 2020. Sector is by Standard Industrial Classification (SIC) Codes

Environmental Consequences

No Action

Community and Demographic Character Changes

Under the No Action Alternative, no project area improvements would occur, the existing housing units would not be demolished, and the Tidewater Gardens housing community would continue to deteriorate, maintenance costs will become unmanageable, families will continue to be impacted by chronic poverty, flooding and segregation. Existing demographics and high-density housing would remain unchanged, and opportunities for deconcentration of poverty and revitalization within the Tidewater Gardens community would be lost.

Displacement

Under the No Action, the existing project area housing units would not be demolished, and therefore, there would be no displacement of residents. However, existing residents would not benefit from upgraded housing conditions or increased connectivity to surrounding neighborhoods and resources. Residents would not have access to Tenant Protection Vouchers (TPVs; special earmarked Section 8 vouchers from HUD), assistance with moving expenses, mobility counseling, or additional People First services. In addition, NRHA would not have Section 8 TPVs to support the new Project Based Voucher assisted units off-site.

Employment and Income Patterns

Under the No Action, employment and income patterns would remain unchanged. No additional job opportunities would be brought to the project area and employment resources such as the community hub would not be provided.

Proposed Action

Community and Demographic Character Changes

Under the Proposed Action, community conditions would be improved. The Proposed Action would facilitate the redevelopment of the existing Tidewater Gardens community to create a mixed-use, mixed-income neighborhood. The redevelopment would include a minimum of 710 residential units in a combination of varying property types such as elevator apartment buildings, walk-up apartment buildings, and townhouses. A variety of unit sizes would be available, including studio-, 1-, 2-, 3-, and 4-bedroom units. The new housing available would include mixed-income units, including a combination of replacement units as well as affordable and market-rate units, meeting the needs of a more diverse residential population. Some properties would be reserved for senior housing while others would be mixed-use and include retail or commercial space. Overall, the Proposed Action would replace obsolete public housing with modern apartments that would provide residents with substantially improved housing conditions for the long term.

The project would also include the development of a community hub at the existing Willis Building to foster community cohesion and serve the needs of future residents. The multi-story building would serve as a combined social, commercial, and community facility providing the physical and programmatic infrastructure to help residents build wealth and bring in people from outside the community. The hub would be designed to match commercial activity with job creation in a facility that is accessible for residents with limited transportation resources. Resources for the community would include a food hall culinary training facility, event space, and shared offices for software and IT training, workforce development, and business incubation services. This considerable community resource would connect the Tidewater Gardens community with greater available resources through partnerships with local businesses, government agencies, and universities.

The roadway realignments proposed as part of the project would reduce the physical barriers described above and promote social integration for existing residents, with increased access to surrounding neighborhoods, services, and institutions. Roads within the project area would be realigned to create a connected pattern of neighborhood streets and blocks, replacing the existing super blocks. Streets would be realigned to connect east and west across St. Paul's Boulevard. St. Paul's Boulevard would be transformed to a more pedestrian-focused road with improved connections to adjacent areas. This would be accomplished through highly visible crosswalks, convenient signals, lower traffic speeds, and shorter curb-to-curb walking distances. Church Street, which runs north-south through the community, would be realigned to reconnect area churches that had been disconnected by roadways and redevelopment over time. Buildings along Church Street would be mixed-use with ground-level retail or community-service offices, serving as a neighborhood destination that is currently lacking. The realignment would also reconnect the project area to other neighborhoods to the north and would attract new neighborhood services such as pharmacies, banks, and convenience stores.

The Proposed Action would also facilitate the creation of the St. Paul's Blue/Greenway, a substantial community amenity that would increase access to open space, be specifically designed to reduce risk of flooding, and would promote healthy lifestyles. In addition to these benefits, the blue/greenway would also provide additional connectivity to surrounding neighborhoods, with the construction of a new trail connecting to the adjacent downtown, waterfront, and area amenities.

Under the Proposed Action, the demographic character of the study area would likely change, with the addition of new residents to the area. Mixed-income residential units would bring higher-income residents to the community. Overall, the Proposed Action is anticipated to result in a demographic profile that is more diverse in terms of race/ethnicity and income characteristics. This effect of the project is part of a long-term strategy to begin to deconcentrate poverty resulting in reduced crime rates that currently exist in the aging public housing community. Overall, the Proposed Action is expected to have considerable positive impacts on the existing project area community.

Displacement

The Proposed Action would incorporate several mitigative measures to minimize disruption and displacement of existing individuals and families, including a phased demolition and redevelopment plan. During demolition of the existing buildings, NRHA would provide relocation assistance through a choice of housing options that include either permanent relocation outside of Tidewater Gardens or temporary relocation until the proposed new housing units are completed. Residents would be given a choice of moving to an available unit in another NRHA public housing community, receiving a Housing Choice Voucher to seek housing in the private market, or returning to a unit in the new development once construction is complete. In addition to basic HUD requirements under Section 18, the Uniform Relocation Act, the City of Norfolk is funding a program called People First, an initiative that would allow each family to work with a case manager for a period of 3 to 5 years to ensure successful relocation.

In addition to the relocation services, phased demolition of the existing buildings would also minimize disruption to existing residents, ensuring that some replacement housing units are being constructed as new phases of demolition are undertaken, and expediting the period of time between when a resident would need to relocate and when they can move back into new housing units.

The Proposed Action does not involve the demolition of any existing business establishments or community facilities, and therefore would not result in relocation of existing jobs.

Overall, the Proposed Action may result in temporary relocation of the Tidewater Gardens residents. NRHA and the City of Norfolk have implemented measures to reduce this temporary impact. In the long-term, residents would retain a right of return and can choose to return to the redeveloped community, and individuals and families would benefit from the upgraded housing units and a revitalized community.

Employment and Income Patterns

The Proposed Action would result in both short- and long-term positive impacts on local employment and income patterns. In the short term, construction of the proposed project would result in construction jobs and secondary benefits to the local economy. Redevelopment of the existing public housing development as a mixed-use, mixed-income neighborhood would also have positive long-term impacts to the local economy. Property values would likely increase as the phased development facilitates the highest and best use of the project area sites. In addition, proposed retail and commercial space would allow for an influx of businesses to the project area, providing permanent jobs and increasing employment opportunities for residents in the long term. Increased resiliency measures, including the stormwater infrastructure proposed as part of the St. Paul's Blue/Greenway would protect against building damages and economic and critical service losses in the long term. The Proposed Action was determined to be the most cost-effective alternative to provide adequate housing for existing residents and future populations and provide the greatest benefits in the long term.

The People First initiative would also connect residents with employment opportunities and assist with economic mobility, which would result in a long-term beneficial impact on the residents.

Under the Proposed Action, the land would be disposed from NRHA ownership to a master developer for redevelopment of the neighborhood blocks. Redevelopment would be coordinated by the master developer and would be implemented in several phases overlapping with demolition. Under the Proposed Action, private sector funding for the high-value, mixed-use development would help to leverage the critically needed infrastructure, including stormwater infrastructure and roadway improvements.

As described above, the demographic character of the project area would likely change, with the addition of new, higher-income residents to the community. As mentioned, this is part of the long-term strategy to begin to deconcentrate poverty and widen employment and economic opportunities for existing residents.

Community Facilities and Services

Affected Environment

Educational Facilities

William H. Ruffner Academy lies immediately to the east of the project area, and Tidewater Park Elementary School abuts the project area on the northeast. P.B. Young Elementary School, located within a quarter mile of the project area, also serves Tidewater Gardens. Tidewater Community College Norfolk Campus and Norfolk State University are located within 0.5 miles of project area to the west and east, respectively. The First Baptist Ready Academy Christian School and the New Generation Daycare and Learning Center are also within the project area.

One of the most important indicators of the impact of concentrated poverty is educational achievement. In this neighborhood of highly concentrated poverty, currently, none of the elementary or middle schools serving Tidewater Gardens residents are fully accredited.

Commercial Facilities

There are many commercial properties located in the vicinity of the project area, including fast food chains, hotels, gas stations, the MacArthur Center, and a United States Postal Service distribution facility.

Health Care

Sentara Norfolk General Hospital, the Children's Hospital of the King's Daughters, and the Eastern Virginia Medical School are located approximately 1.25 miles northwest of the Tidewater Gardens community. Community Care Family Health Center is located within Young Terrace Community Center.

Social Services

The Department of Health and Human Services is located just less than a 1 mile away on Monticello Ave across from the Wyndam Garden Hotel. Social services are made available to all qualified individuals residing in Norfolk.

Solid Waste

The existing Tidewater Gardens residents generate solid waste as is typical for residential communities. Solid waste is collected by the Norfolk Division of Waste Management and transferred to the Southeastern Public Service Authority for disposal.

Wastewater

Wastewater generated by Tidewater Gardens residents is currently handled through the Norfolk municipal system. No wastewater treatment or disposal occurs on site.

Water Supply

Potable water is supplied to Tidewater Gardens by the Norfolk municipal system. No water supply intakes or wells are located near the project area that may be impacted by site activities.

Public Safety (Police, Fire, Emergency Medical)

Review of city and local maps revealed that there are no emergency service facilities within the footprint of Tidewater Gardens; however, Norfolk Fire & Rescue Station #1 borders the Transit Area to the northwest, under a quarter mile from Tidewater Gardens.

Tidewater Gardens falls within Norfolk Police's Blue Sector of the First Precinct. The main office for this sector is located at 100 Brooke Avenue, more than a third of a mile from the project area but in the downtown area, which is not easily walkable. There is another office located centrally in the St. Paul's development, just north of Tidewater Gardens. Although it is only slightly closer to the project area, it is easily accessed by walking a few blocks.

Open Space and Recreation

The William A. Hunton YMCA is located within Tidewater Gardens on the eastern boundary of the project footprint. It is the Nation's oldest independent historically African-American YMCA. It has served as a central hub of the Black community for several decades and provides community recreation services.

Environmental Consequences

No Action

Educational Facilities

There would be no impact to schools associated with the No Action Alternative. It is likely that the elementary and middle schools serving Tidewater Gardens residents would continue to lack full accreditation due to the ongoing concentration of poverty in the project area.

Commercial Facilities

Under the No Action Alternative, existing conditions would continue to impact the desirability of the Tidewater Gardens community for commercial use. Few businesses are located within the community; the Willis Building was a former commercial building and is now vacant. Because the community would remain isolated from adjacent and more vibrant Downtown areas, the No Action Alternative would continue this adverse impact on commercial facilities.

Health Care

The No Action Alternative would not alter the community's reliance on local health care facilities; therefore, local health care would not be impacted.

Social Services

The No Action Alternative would result in no impacts to existing social services.

Solid Waste

There would be no impact to solid waste generation and/or handling as a result of the No Action Alternative.

Wastewater

The No Action Alternative would not impact wastewater generation or treatment; however, the existing outdated and deteriorated wastewater lines would remain, resulting in continued chronic issues such as backups during storm events.

Water Supply

There would be no impact to water demand or distribution associated with the No Action Alternative; however, the existing outdated and deteriorated waterlines would remain, resulting in continued chronic issues such as backups during storm events.

Public Safety (Police, Fire, Emergency Medical)

Under the No Action Alternative, demand for public safety services would remain constant as existing population densities would not change. Low-lying roads would continue to flood and result in limited access for emergency services during flood events.

Open Space and Recreation

No negative impacts would occur to recreation or cultural facilities associated with the No Action Alternative.

Proposed Action

Educational Facilities

Most importantly, the redevelopment of the project area into a mixed-income community, allowing Norfolk Public Schools to implement the mixed income model. Under this model, the school system would blend funding streams to best leverage available private and public funds. This creates a diverse learning environment that embraces cultural, ethnic, racial and socio-economic differences and provide the highest quality classroom experience to all children who attend the schools. Furthermore, physical improvements would be designed in such a way that the natural landscape of the community creates an educational campus. The blue/greenway in particular could accommodate educational or research facilities around water management. These changes would benefit the educational facilities serving the project area.

The Proposed Action may have minimal temporary impacts to Tidewater Park Elementary School and William H. Ruffner Academy through increased ambient noise levels during demolition and construction. Relocation of existing Tidewater Gardens residents would redistribute some students between schools and may disrupt the school year for students changing schools.

Commercial Facilities

The Proposed Action proposes to deconcentrate poverty within the Tidewater Gardens neighborhood and provide mixed-income housing and mixed-use development within Tidewater Gardens, on the Snyder Lot, and in the Transit Area. In addition, the proposed redevelopment would increase connectivity and pedestrian access between the Saint Paul's District, Tidewater Gardens, and the Downtown Norfolk District. The redistribution of residences within the project area, the increase in foot traffic as a result of improved pedestrian connectivity, and the intermixture of residential and commercial development would increase commercial activity within the project area. There may be some fluctuation in demand during relocations, but the development proposed under the Proposed Action is anticipated to provide economic benefits to residents and business owners within and near the project area.

Health Care

Under the Proposed Action, the overall demand placed on local health care facilities would not noticeably increase after the proposed redevelopment due to anticipated similar population densities.

Social Services

The Proposed Action would require the existing Tidewater Gardens residents to be relocated. All current Tidewater Gardens residents are provided access to a relocation counselor as part of the City of Norfolk's People First program. As Tidewater Gardens residents would likely remain in Norfolk, no impacts to other social services are anticipated.

Solid Waste

Under the Proposed Action, solid waste material generated during demolition activities, would be removed from the work area and disposed of in an appropriate manner. If previously unknown conditions, such as contaminated soils or groundwater, are encountered during demolition, the contractor would adopt procedures for proper removal, disposal, and/or treatment of the condition. At the completion of the proposed demolition and construction, solid waste generation would be approximately the same as pre-development levels. Tidewater Gardens residents would be relocated to new buildings within the project area or to other available housing, mostly likely within Norfolk. Residential areas outside of the project area receiving relocated Tidewater Gardens residents may see negligible increases in solid waste quantities as residents would relocate across several different communities. Because most relocated residents would remain in Norfolk, there would be a negligible change to solid waste at the city-level.

Wastewater

Similar to the effects described for solid waste, within the project area, the Proposed Action would see approximately the same amount of wastewater production after phased demolition and construction is complete as before resident relocation. Most current residents of Tidewater Gardens would be relocated within Norfolk, so there would be a negligible change to wastewater production at the city level.

New wastewater lines would be installed and would result in improved reliability and less frequent backups for the neighborhood wastewater system.

The Tidewater Gardens project would require demolition of public housing structures. During demolition, temporary impacts would be controlled, minimized, or mitigated through careful attention to current practices.

Water Supply

The Proposed Action would temporarily decrease the community's demand on water supply during demolition and construction of the new residential and mixed-use buildings. Subsequent to construction, water use is anticipated to be approximately the same as prior

to resident relocation. Impacts to water supply demand at the city level would be negligible as Tidewater Gardens residents are anticipated to relocate within Norfolk.

The proposed redevelopment would replace deteriorated water lines and would include a new pump station, resulting in improved reliability of the water supply system and less frequent backups.

Public Safety (Police, Fire, Emergency Medical)

Under the Proposed Action, the population within the project area would remain relatively similar to the existing conditions. A decrease in the community population may occur during the proposed demolition, which would decrease demand for public safety services in the immediate vicinity of the project area during demolition and redevelopment. In the long-term, no noticeable changes in demand on public safety services are anticipated because residents would likely relocate within Norfolk. Under the Proposed Action, the roads raised to an elevation above the 100-year floodplain would maintain access for emergency vehicles in the case of a flood event, which would result in a benefit to public safety within the project area.

Open Space and Recreation

There would be a substantial conversion of developed area to open green space as a result of the creation of the blue/greenway. This restoration would increase and improve open, recreational space within the project area.

Floodplain Management

Affected Environment

The location of the study area in relation to floodplains is illustrated on Figure 10 and shown on the FEMA Flood Insurance Rate Map included in Appendix E. The relevant maps are 5101040056H and 5101040057H, as revised February 17, 2017. Areas depicted within the 'AE-Shaded' flood zone, which indicates areas within the 100-year floodplain (1-percent annual chance flood), include the majority of the study area.

Environmental Consequences

Given the fully developed nature of the study area, many traditional approaches for avoiding floodplain impacts identified in the procedures of EO 11988 are not applicable. Minimization efforts would be applied to the greatest extent practicable and mitigation measures would be provided to adequately offset unavoidable impacts. A Conditional Letter of Map Revision Based on Fill (CLOMR-F) will be sought from FEMA in order to alter the boundaries of the Special Flood Hazard Area (SFHA). Due to the location and nature of the project, there are no practicable alternatives that would avoid impacts to floodplains. The built infrastructure is proposed in concert with enhancements to the natural floodplain through the opening of a buried stream system and the creation of wet and dry detention

ponds. This would result in a net decrease in the frequency of both localized and regional flood events within the study area.

No Action

The No Action Alternative would not implement flood risk reduction measures, leaving the potential for future flooding and risk to lives or properties the same or worse as the current condition given sea-level rise projections resulting in direct, long-term, major, adverse impacts. There are approximately 312 dwelling units located within the 100-year floodplain. The No Action alternative does not improve that condition. The frequency of localized flooding would remain dependent on storm surge, rainfall intensity, and frequency and the amount of impervious cover, where any increases of these conditions would result in increased stormwater runoff and flooding. Aging infrastructure would need increased maintenance or replacement, which may only address flooding on a small individual project scale, without regard for the community or the city and its resiliency plans and goals. Regional flooding frequency would increase given the predictions for continued sea-level rise and greater frequency of more severe weather patterns and storms.

Proposed Action

Actions proposed under the Proposed Action would include substantial modifications to areas within the 100-year floodplain, including residential and commercial buildings and the Saint Paul's Blue/Greenway (Appendix H). As a result, the 100-year and 500-year floodplains would be officially reassessed due to the anticipated reduction in overall footprint of the floodplains within the project area. New buildings constructed within the floodplain, as replacement for old, outdated buildings, would be built to the specifications outlined in the City of Norfolk building code with a finished floor elevation higher than the 100-year floodplain.

The Proposed Action includes construction of the blue/greenway, which is the redevelopment of approximately 26 acres of public housing and other properties into an aesthetic green space designed to treat and store stormwater runoff in the face of anticipated long-term increases in storm events and sea level rise. The primary function of the blue/greenway is to create space to manage stormwater storage, water quality, and tidal and stormwater flooding. Management of stormwater, in this context, consists of slowing, storing, and discharging surface water.

The blue/greenway construction may incorporate reconnecting Newton's Creek main channel and the Freemason Street Swale. The shoreline would consist of littoral shelves at varying elevations that would provide wetland habitat, nutrient filtration and uptake, and aesthetic value. At the lowest part of the channel, a permanent watercourse would vary in elevation and width, changing with the tides and rain flooding. Along the main channel, a series of wet ponds and dry detention areas would provide additional storage capacity and water quality benefits. Wet ponds would incorporate fringing wetlands with native plantings. Dry detention basins could potentially be used for recreation or simply planted with meadow grasses with minimal maintenance requirements. Land higher than elevation 4 ft NAVD88 in elevation would generally remain above the water storage volumes and will be suitable for mowed lawns, recreational fields, formal and community gardens, and forested areas.

Construction of the blue/greenway would provide the following floodplain resilience benefits and opportunities:

- Remove existing residential dwellings and commercial activities from the flood plain
- Provide over 1.6 million cubic feet of upland runoff storage
- Reduce the extent of flooding in areas upstream of the redevelopment area
- Remove pollutants from stormwater runoff prior to discharge into the Elizabeth River including:
 - the required treatment of the upland redeveloped areas (33.06 lbs/yr total phosphorous) removal
 - excess removal capacity for possible offsite treatment credit toward other redevelopment projects (12.46 lbs/yr total phosphorous credit)
 - additional treatment opportunities within the main storage areas for up to 140 lbs/yr total phosphorous removal depending on channel configuration
- Considerable preservation of existing mature trees

These improvements would provide direct, long-term, major, beneficial impacts to the project area. Also, all improvement would be appropriate for siting in the 100-year floodplain consistent with 24 CFR 55.20 regulations of the HUD implementing EO 11988 as the proposed design results in improved resiliency of the project area.

Environmental Justice

Affected Environment

Environmental justice means ensuring that the environment and human health are protected fairly for all people regardless of race, color, national origin, or income. Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations" requires certain federal agencies, including HUD, to consider how federally assisted projects may have disproportionately high and adverse human health or environmental effects on minority and low-income populations. The principles of environmental justice are:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

The study area for the environmental justice analysis comprises the Block Groups (BG) within or containing a portion of the project area. These include BG 1 in Census Tract (CT) 42, BG 1 in CT 48, and BG 2 in CT 49 in Norfolk, the same block groups considered in the socioeconomics discussions (see Figure 9). Census data, specifically the 2010 Census and the

2012–2016 American Community Survey, were obtained to conduct the demographic analyses.

Based on the race and economic data for the study area described above, all three census tracts are identified as environmental justice populations. As laid out in Table 4, Study Area Race and Ethnicity, in the “Socioeconomics” section above, the Black/African American population within the study area totals 85.2 percent and the Hispanic population is 2.9 percent; overall, the total minority population for the study area is 91 percent. As illustrated in Table 8 below, the percent of the minority percent of population in each block group varies between 83 and 99 percent. These proportions are well above the 50 percent threshold suggested by Council on Environmental Quality guidance as an indicator of minority populations.

In addition, 67% of families in the study area were below the poverty level in 2019 (according to ESRI Business Analyst). As broken out in the table below, according to the 2014-2018 American Community Survey, in CT 42 CB 1, 68 percent of the households were below the poverty threshold set by Health and Human Services, and in CT 48 CB 1, that same measurement was 66 percent. The population reported in CT 49 CB 2 is recorded at the Norfolk city jail and therefore does not include any households.

Because all three census blocks in the study area are either a high proportion minority and relatively low income (or both), the entire project area is considered to include communities of concern for which environmental justice concerns should be considered.

Table 8. Community of Concern

Census Tract	Block Group	Population	Households	Minority % of Population	% Households Below Poverty Line	Community of Concern?
42	1	638	233	83%	68%	Yes
48	1	1,348	474	99%	66%	Yes
49	2	1,215	0	86%	0%	Yes

Source: 2014-2018 American Community Survey

Environmental Consequences

No Action

Under the No Action Alternative, the proposed demolition and redevelopment of the project area would not take place. This would result in a continuation of existing conditions for residents of the project area. Residents would continue to live in housing built during a segregationist era (the 1950s). St. Paul’s Boulevard was a dividing line during segregation to separate the St. Paul’s area from the downtown area, and the configuration of streets and walkways today continue to have this effect. Additionally, Tidewater Gardens sits atop a historic creek, Newton Creek, and lies within the 100-year floodplain. As a result, residents regularly experience street flooding due to sea level rise and tidal action.

A recent Physical Condition Assessment documented the functional obsolescence of the existing housing units due to not meeting current building or fire codes, structural deficiencies such as lack of proper insulation and the presence of hazardous building

materials (asbestos and lead), and design deficiencies such as inaccessibility for people with disabilities. Kitchens and bathrooms are not vented to the exterior, resulting in excessive humidity and mold growth contributing to environmental health efforts associated with ongoing residency. The dwelling units do not feature central air conditioning. Additionally, the condensate from the window-mounted units runs down the outside of the buildings staining and deteriorating the brick exterior. Window A/C units hinder egress and reduce natural lighting into already dark units.

When there is either tidal flooding, or flooding from rain events, the children need to walk through the storm water to get to school and need to bring dry shoes and socks to change into when they arrive at school. Residents complain of sewage in the storm water due to lack of adequate backflow prevention.

Many residents report feeling unsafe leaving their homes at night or allowing their children to play outside. Gun violence and drugs are the top two issues noted by residents.

In summary, the environmental justice populations described in the previous section would be subject to ongoing disproportionately high adverse effects under the No Action Alternative. Not acting would deprive residents of much needed improvements to the housing units, the localized infrastructure, and the community.

Proposed Action

Under the Proposed Action, most of the impacts caused by implementation of the demolition and redevelopment would be beneficial. The new residential buildings and roadways would be designed to improve pedestrian circulation and connectivity with the Saint Paul's and downtown districts. The community hub at the existing Willis Building would serve as a combined social, commercial, and community facility providing the physical and programmatic infrastructure to help residents build wealth and bring in people from outside the community. The hub would be designed to match commercial activity with job creation in a facility that is accessible for residents with limited transportation resources. The blue/greenway would provide new green space and increase resiliency to flooding and enhance stormwater drainage. Additionally, proposed roadways within the 100-year floodplain would be elevated above the base flood elevation in order to maintain access throughout the project area during flood events. No element of the Proposed Action would prevent the receipt of these benefits by environmental justice populations.

Current residents of Tidewater Gardens would be subject to relocation during the demolition phase of this project. The Proposed Action would not replace all 618 existing residential units within the Tidewater Gardens community, meaning not all current residents would be able to return once construction is complete. More than 200 units would be rent-assisted units. Another approximately 200 units would accept Housing Choice Vouchers. Therefore, the Proposed Action would provide more than 400 on-site units available for families to return to the site (approximately 60% of the existing households). This outcome is in line with the purpose and need of the Proposed Action to create a mixed-income community and break up the existing concentration of poverty in the project area.

As noted in the "Socioeconomics" section, there are several mitigation measures that would be put in place to ease the burden of this relocation. During demolition of the existing buildings, NRHA would provide relocation assistance through a choice of housing options that include either permanent relocation outside of Tidewater Gardens or temporary relocation until the proposed new housing units are completed. Residents would be given a choice of moving to an available unit in another NRHA public housing community, receiving a Housing Choice Voucher to seek housing in the private market, or returning to the new development once construction is complete. The CNI program facilitates the provision of 309 Housing Choice Vouchers, providing residents additional choices and options available in the private market, both within and outside of the project area. Existing residents would also be provided the right to return if they so choose, meaning any family who wishes to return to the project area will have first priority for the replacement units. Residents wishing to return to the project area may also use Housing Choice Vouchers for the other income-restricted affordable units to be constructed as part of the Proposed Action.

NRHA will also help facilitate additional housing opportunities in units outside of the project area, including the provision of an additional 192 units either through Project-Based Vouchers or by leveraging Project-Based Vouchers in NRHA's annual RFPs. Overall, between the replacement units in the project area, the Housing Choice Vouches, and the project-based assistance units, opportunities for new housing units would exceed the number of units to be demolished as a result of the Proposed Action. These additional housing options would help to deconcentrate poverty and provide better housing conditions for families currently living on site.

In addition to basic HUD Uniform Relocation Act requirements under Section 18, the City of Norfolk is funding a program called People First. People First is an initiative that would allow each family to connect with a case manager for a period of 3 to 5 years to ensure successful relocation; to address personal, financial, educational, and employment services; to assist families achieve self-sufficiency; and to mitigate impacts from relocation.

Lastly, the existing residents have been actively engaged through the People First program and numerous public meetings, as outlined in Chapter 4 of this EA.

Cumulative Impacts

Methodology

Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.7). As stated in the CEQ handbook, *Considering Cumulative Effects under the National Environmental Policy Act* (CEQ 1997), cumulative impacts need to be analyzed in terms of the specific resource, ecosystem, and human community being affected and should focus on impacts that are truly meaningful. In addition, CEQ guidance states that future actions can be excluded from the analysis of cumulative effects if the action will not affect resources that are the subject of the cumulative

impacts analysis. Cumulative impacts are considered for all alternatives, including the No Action Alternative.

Cumulative impacts were determined for each impact topic by combining the impacts of the alternative being analyzed and other past, present, and reasonably foreseeable actions that would also result in beneficial or adverse impacts. Because some of these actions are in the early planning stages, the evaluation of the cumulative impacts is based on a general description of the projects. These actions were identified through the internal and external project scoping processes, and through a desktop review of online sources including master plans, news articles, and other planning resources. This information was also used to determine whether a reasonably foreseeable future action was developed enough to be analyzed as part of the cumulative impacts discussion. Information related to whether the action had a sponsor, a source of funding, or had applied for or obtained regulatory approvals was considered. These actions are summarized below.

Past, Present, and Reasonably Foreseeable Actions Considered

St. Paul's Transformation Plan in other Neighborhoods

In addition to redevelopment in Tidewater Gardens, the St. Paul's Transformation Plan includes future improvements in the nearby NRHA neighborhoods of Young Terrace and Calvert Square. Both neighborhoods are just north of Tidewater Gardens across E. Brambleton Avenue. Young Terrace has 746 housing units and Calvert Square has 310 housing units. Much of Calvert Square lies within the 100-year floodplain. Future redevelopment in these neighborhoods would include similar goals as those for Tidewater Gardens such as reducing the frequency of flooding, improving housing conditions, and strengthening the community. A fourth neighborhood, Huntersville, is also included in the St. Paul's Transformation Plan. Huntersville is located north of Calvert Square and was one of the first neighborhoods to offer home ownership to Black families. It primarily consists of single-family units and would be stabilized and strengthened through home ownership programs. The St. Paul's Transformation Plan has the potential to affect environmental design, socioeconomics, environmental justice, and community features and services.

Other Recent NRHA Projects

Other recent NRHA redevelopment projects similar to the Tidewater Gardens Redevelopment Project have been undertaken within the City of Norfolk. These projects include the Broad Creek Renaissance and Grandy Village revitalizations. Goals for these projects include improving the overall quality of life through better housing, better access to education and employment opportunities, and improved connections to the larger community. The Broad Creek Renaissance project was undertaken from 1999-2001 and included the redevelopment of three adjacent public housing neighborhoods with 767 units into a mixed-finance, mixed-income community with 1,115 housing units. This project also included the construction of a community center, regional library, and new elementary school. At Grandy Village, NRHA is implementing master planning and redevelopment efforts which will include both rehabilitation of existing housing units and new development for a total of 361 units. New community facilities within Grandy Village include an environmental learning center and pier.

These projects have the potential to affect environmental design, socioeconomics, environmental justice, and community facilities and services.

Ohio Creek Watershed Project

The Ohio Creek Watershed Project is located in the Chesterfield Heights neighborhood, approximately 1.5 miles east of Tidewater Gardens. The project, which began construction in 2019, included implementation of adaptations to existing infrastructure to reduce the frequency and intensity of flooding events in the neighborhood, improve pedestrian connections between the neighborhood and the surrounding city, deconcentrate poverty, and strengthen the neighborhood. Project elements included raising roads, building tide gates and pump stations to move and store stormwater, improving pedestrian accommodations at intersections, realigning the main road into the neighborhood to create a sense of place, and constructing a stormwater park to provide recreational space that doubles as stormwater retention areas. This project has the potential to affect socioeconomics, environmental justice, community facilities and services, and natural features.

Elizabeth River Trail

The Elizabeth River Trail, located about 0.5 mile south of Tidewater Gardens, is a 10.5-mile trail that provides pedestrian and bike opportunities along Norfolk's waterfront. The trail starts at Norfolk State University at the intersection of East Brambleton Avenue and Park Avenue and continues past amenities such as Harbor Park Stadium and the newly revitalized Waterside District (Norfolk's premier dining and entertaining district). The trail includes frontage along Town Point Park and Fort Norfolk where an optional loop through Norfolk's historic Ghent community is also provided. The trail skirts Plum Point Park then through the entire Old Dominion University campus before ending at Lochhaven and the Hermitage Museum and Gardens. Future developments are planned, including kayak launches, solar lighting, playgrounds, and improved wayfinding, to encourage improved environmental awareness, improve neighborhood connectivity, and become a destination and economic driver for the entire region. This action has the potential to affect traffic and transportation, socioeconomics, environmental justice, and community facilities and services.

The Harbor Park Brownfields Project

In 2017, the city began moving forward with the Harbor Park Brownfields Project using city funds from a Virginia Brownfields Restoration and Economic Redevelopment Fund Commonwealth Planning grant to revitalize the Harbor Park area of Downtown Norfolk. The site is an approximately 40-acre waterfront brownfield site located on the Eastern Branch, located just south of Tidewater Gardens. The project includes resiliency initiatives, infrastructure improvement and revitalization of the downtown waterfront linking economic development with the redevelopment of the Harbor Park brownfield site. This action has the potential to affect socioeconomics, environmental justice, and community facilities and services.

City-wide Initiatives, including *plaNorfolk2030* and A Green Infrastructure Plan for Norfolk: Building Resilient Communities

Norfolk's general plan, *plaNorfolk2030*, establishes a vision and guide for the development of the city over a period of 20 years. The plan is designed to be a map of the future with goals of creating strong and safe neighborhoods where people want to live, a comprehensive transportation system, a healthy economy with a varied employment opportunities, a variety of well-maintained housing options that are affordable and accessible to all residents, lifelong learning opportunities, and a wide variety of cultural and recreational opportunities. Revitalization of the St. Paul's area is an initiative laid out in *plaNorfolk2030*. There are also many city-wide initiatives that support recreation opportunities by creating multimodal community connectedness. For example, the extension of the esplanade from Town Point Park to Harbor Park with a design that accommodates bicycles and encourages a stronger transit, bicycle, and pedestrian linkage from Ghent to Downtown Norfolk.

The city also recently adopted A Green Infrastructure Plan for Norfolk: Building Resilient Communities, which focuses on the city's green infrastructure such as marshes and parks in the same way that planning is performed for gray infrastructure such as roads and storm drains. Goals include increasing tree canopy throughout the city, increasing water access, and softening existing hardened shorelines to prevent erosion and create wildlife habitat. Although detailed plans for Tidewater Gardens are not specified in A Green Infrastructure Plan, the overall plan for the city includes improvements such as connection to bicycle trails, increased tree canopy, and parks,

Implementation of strategies and initiatives defined within *plaNorfolk2030* and A Green Infrastructure Plan for Norfolk have the potential to affect traffic and transportation, environmental design, socioeconomics, environmental justice, community facilities and services, and natural features.

Integrated City of Norfolk Coastal Storm Risk Management Feasibility Study

US Army Corps of Engineers (USACE) Norfolk District, in cooperation with the City of Norfolk, is performing a study that evaluates identified flood risks and develops and evaluates coastal storm risk management measures. The measures were formulated to reduce flood risk to residents, industries, and businesses (which are critical to the nation's economy) in ways that support long-term resilience to sea level rise, local subsidence, and storms. This project would include the Downtown and Harbor Park areas where coastal edge protection would be created. Varying design components of the USACE project have the potential to affect floodplain management.

Norfolk Public Schools Facilities Planning

Norfolk Public Schools (NPS) is currently developing their facility master plan for recommendation to the school board in summer 2020. This plan was in its draft form during development of this environmental assessment and includes a number of scenarios that could affect educational facilities serving the project area. Most notably, it is likely that

Booker T. Washington High School will be fully renovated. This action has the potential to affect community facilities and services.

Cumulative Impacts Analysis

Contamination and Toxic Substances

The No Action Alternative would result in no impacts on contamination and toxic substances; therefore, it would not contribute to the impacts of other actions. Consequently, there would be no cumulative impacts under the No Action Alternative.

The Proposed Action has the potential to result in risks posed by hazardous materials, contamination, or toxic chemicals in the project area, though Phase II environmental site assessments would be conducted to minimize the risks; however, no other actions were identified that would result in impacts on contamination and toxic substances in the project area. Therefore, there would be no cumulative impacts under the Proposed Action.

Floodplain Management

Other actions that have the potential to impact floodplain management include the Integrated City of Norfolk Coastal Storm Risk Management Feasibility Study project. This project includes coastal edge protection in the Downtown and Harbor Park areas located to the south and west of Tidewater Gardens. This project would improve the overall resiliency of the area from the effects of flooding and sea level rise. Overall, this other project would contribute a beneficial increment to the cumulative impact on floodplain management in areas nearby Tidewater Gardens.

The No Action Alternative would result in a continuation of chronic flooding issues within Tidewater Gardens, particularly in the low-lying areas within the 100-year floodplain. This alternative would contribute an adverse increment to the overall cumulative impact on floodplain management, particularly because the chronic flooding is projected to increase in intensity and frequency over time due to sea level rise. The adverse impact of the No Action Alternative would outweigh the beneficial impact of the other action described above. Therefore, the overall cumulative impact on floodplain management would be adverse.

The Proposed Action would result in a more resilient neighborhood that would experience less frequent and less intense flood events due to additional stormwater storage capacity as well as raised elevation of roads and housing units. This would contribute a beneficial increment to the cumulative impact on floodplain management. When considered with the other action described above, the Proposed Action would complement and contribute to the resiliency improvements of the other action. Therefore, the overall cumulative impact on floodplain management would be beneficial.

Historic Preservation

Other actions that have the potential to impact historic preservation include the St. Paul's Transformation Plan in other neighborhoods. The St. Paul's Transformation Plan in other neighborhoods would result in indirect impacts on nearby historic resources related to views.

For example, the future redevelopment in Young Terrace and Calvert Square would be visible from nearby historic resources, which would change existing views of the area from these resources. New buildings that are larger or more vertical in scale than the existing buildings may dominate the viewshed more than the existing buildings. However, similar to the redevelopment in Tidewater Gardens, the design of the redevelopment in Young Terrace and Calvert Square would be subject to a site plan review by the City of Norfolk for consistency with applicable City design and building standards. This would include review and approval by the City's Architectural Review Board to ensure new construction is compatible with the architectural character of the area. Therefore, adverse impacts on the viewshed due to these other actions would be minimized or avoided during design of the new buildings.

The No Action Alternative would result in a continuation of current adverse impacts on historic preservation due to the diminished integrity of setting and feeling of St. Mary's Church. When considered with the impacts of the other actions described above, the adverse impact of the No Action Alternative would contribute to the potential adverse impacts of future development in the area. Therefore, the overall cumulative impact on historic preservation would be adverse.

The impacts of the Proposed Action would be beneficial due to the improvements to the integrity of setting and feeling of the area. The Proposed Action would contribute a beneficial impact to the overall cumulative impact on historic preservation. When combined with the other actions described above, the beneficial impact of the Proposed Action would outweigh any adverse impacts that may be caused by future redevelopment in the area. Therefore, the overall cumulative impact on historic preservation would be beneficial.

Land Development

The No Action Alternative would result in a continuation of adverse impacts on land development in the project area. However, no other actions were identified that would result in impacts on land development in the project area. Therefore, there would be no cumulative impacts under the No Action Alternative.

The Proposed Action would result in beneficial impacts on land development overall in the project area. However, no other actions were identified that would result in impacts on land development in the project area. Therefore, there would be no cumulative impacts under the Proposed Action.

Traffic and Transportation

Other actions that have the potential to impact traffic and transportation include the Ohio Creek Watershed Project, the Elizabeth River Trail, and City-wide initiatives. These projects would add new community connections within the vicinity of Tidewater Gardens and would improve overall pedestrian, bicycle, and transit linkages to other areas of the City. Pedestrian improvements in nearby neighborhoods would connect to the Elizabeth River Trail, which provides a multiuse trail as well as improved access to other community facilities such as Norfolk University, Town Point Park, the Waterside District, and the Harbor Park area. City-wide initiatives would create stronger transit, bicycle, and pedestrian access throughout the City,

which would improve the overall transportation network. Overall, these other projects would contribute beneficial increments to the cumulative impact on community facilities and services.

The No Action Alternative would contribute an adverse increment to the cumulative impact on traffic and transportation due to existing conditions such as isolated super blocks, complicated vehicular access into and out of the neighborhood, and the multi-lane, high-volume roadways that surround the residential blocks. When considered with the other actions above, the beneficial impacts of the other actions would not outweigh the adverse impacts of the No Action Alternative because transportation challenges would remain within the project area. Therefore, the overall cumulative impact on transportation and traffic would be adverse under the No Action Alternative.

The Proposed Action would contribute a beneficial increment to the cumulative impact on community facilities and services because the proposed development would increase connectivity to surrounding areas, would improve pedestrian facilities and create a more walkable neighborhood, and would encourage slower vehicle speeds. When considered with the other actions above, the beneficial increment of the Proposed Action would be complementary with and add to the beneficial increment of the other actions. Therefore, the overall cumulative impact on community facilities and services under the Proposed Action would be beneficial.

Noise

The No Action Alternative would result in no impacts on noise; therefore, it would not contribute to the impacts of other actions. Consequently, there would be no cumulative impacts under the No Action Alternative.

The Proposed Action would temporarily increase noise in the project area during construction. However, no other actions were identified that would result in impacts on noise in the project area. Therefore, there would be no cumulative impacts under the Proposed Action.

Socioeconomic

Other actions that have the potential to impact socioeconomics include the St. Paul's Transformation Plan in other neighborhoods, other recent NRHA projects in Broad Creek and Grandy Village, the Ohio Creek Watershed Project, the Elizabeth River Trail, the Harbor Park Brownfields Project, and City-wide initiatives. The St. Paul's Transformation Plan, other recent NRHA projects, and the Ohio Creek Watershed Project have and would strengthen low-income neighborhoods by reducing impacts related to flooding, providing quality housing, adding new community amenities, and improving connections to the larger City. The Elizabeth River Trail would improve neighborhood connectivity with a goal of becoming a destination and economic driver for the entire region. City-wide Initiatives such as the extension of the esplanade from Town Point Park to Harbor Park with a design that accommodates bicycles and pedestrians would enhance and strengthen the trail networks proposed in the Proposed Action as well as provide safe routes to employment opportunities in the city. City-wide initiatives defined within *plaNorfolk2030* will provide a wide variety of cultural and recreational opportunities and create a varied economy with a focus on a vibrant

downtown. Overall, these other projects would contribute beneficial increments to the cumulative impact on socioeconomics.

The No Action Alternative would contribute an adverse increment to the cumulative impact on socioeconomics due to the functional obsolescence of the existing housing units, regular flooding of some areas of the neighborhood, community isolation due to surrounding roadways, and concentration of poverty. When considered with the actions above, the adverse impact of the No Action Alternative would outweigh the beneficial impacts of the actions considered because the socioeconomic status of Tidewater Gardens would remain unchanged, resulting in an overall adverse cumulative impact.

The Proposed Action would contribute a beneficial increment to the cumulative impact on socioeconomics due to the diversity of available housing options (mixed-income and mixed-use), improved housing units that meet all current building codes, construction of a community hub providing educational and vocational resources, improved connectivity to the surrounding City, and improved pedestrian facilities for improved access to community resources. Overall, the Proposed Action would deconcentrate poverty and strengthen the community of Tidewater Gardens. When considered with the actions above, the beneficial increment of the Proposed Action would be complementary with and add to the beneficial increment of the other actions. Therefore, the overall cumulative impact of the Proposed Action on socioeconomics would be beneficial.

Community Facilities and Services

Other actions that have the potential to impact community facilities and services include the St. Paul's Transformation Plan in other neighborhoods, other recent NRHA projects in Broad Creek and Grandy Village, the Ohio Creek Watershed Project, the Elizabeth River Trail, the Harbor Park Brownfields Project, Norfolk Public Schools Facilities Planning, and City-wide initiatives. These projects would add new or renovated community facilities within the vicinity of Tidewater Gardens and would improve overall connectivity to other areas of the City. Pedestrian improvements in nearby neighborhoods would connect to the Elizabeth River Trail, which provides a multiuse trail as well as improved access to other community facilities such as Norfolk University, Town Point Park, the Waterside District, and the Harbor Park area. City-wide initiatives would create stronger transit, bicycle, and pedestrian access throughout the City, which would improve the overall connection between the neighborhood and City amenities. Overall, these other projects would contribute beneficial increments to the cumulative impact on community facilities and services.

The No Action Alternative would contribute an adverse increment to the cumulative impact on community facilities and services due to the isolated condition of the neighborhood and the outdated infrastructure. When considered with the other actions above, the adverse impact of the No Action would outweigh the benefits of the other actions. Therefore, the overall cumulative impact on community facilities and services under the No Action Alternative would be adverse.

The Proposed Action would contribute a beneficial increment to the cumulative impact on community facilities and services because the proposed development would increase connectivity to nearby City amenities, would improve pedestrian facilities and create a more

walkable neighborhood, would improve stormwater storage and treatment, and would provide community facilities such as the community hub for educational and vocational development. When considered with the other actions above, the beneficial increment of the Proposed Action would be complementary with and add to the beneficial increment of the other actions. Therefore, the overall cumulative impact on community facilities and services under the Proposed Action would be beneficial.

Environmental Justice

Other actions that have the potential to impact environmental justice include the St. Paul's Transformation Plan in other neighborhoods, other recent NRHA projects in Broad Creek and Grandy Village, the Ohio Creek Watershed Project, the Elizabeth River Trail, the Harbor Park Brownfields Project, and City-wide initiatives. The St. Paul's Transformation Plan, other NRHA projects, and the Ohio Creek Watershed Project all have the potential to improve housing, connectivity, and livability of existing low-income and minority neighborhoods while providing new community services to decentralize poverty and create more resilient communities. City-wide initiatives such as the extension of the esplanade from Town Point Park to Harbor Park, the Harbor Park Brownfields Project, and the Elizabeth River Trail would enhance and strengthen the connectivity of the project area to the greater Norfolk area.

The No Action Alternative would result in the continuation of disproportionately high adverse effects on environmental justice populations due to obsolesced housing units with hazardous building materials as well as a neighborhood that experiences chronic flooding. When considered with the other actions described above, the adverse impacts of the No Action Alternative would outweigh the benefits of the other actions. Therefore, the overall cumulative impact on environmental justice populations would be adverse.

The Proposed Action would contribute a beneficial increment to the cumulative impact on environmental justice populations due to new residential buildings, roadways with improved pedestrian circulation and connectivity, a new community hub, and increased resiliency to flooding. When considered with the actions above, the benefits of the Proposed Action would be complementary to and add to the benefits of other actions. Therefore, the overall cumulative impact on environmental justice populations would be beneficial under the Proposed Action.

4

Consultation and Coordination

The scoping process is initiated at the beginning of a NEPA project to identify the range of issues, resources, and alternatives to address in the EA. Typically, both internal and public scoping is conducted to address these elements. State and federal agencies were also contacted in order to uncover any additional planning issues and to fulfill statutory requirements. The planning process for the Tidewater Gardens community was initiated through public scoping meetings in May 2013. This process introduced the purpose and need of the project as well as the design team. Discussions with interested agencies and individuals were initiated at this time.

Internal and Public Scoping

Planning efforts for the community began in 2005 with the St. Paul's Plan analysis phase and the initial Tidewater Gardens survey. Public scoping meetings began in 2005 and remain ongoing, see Appendix B for detailed meeting lists and summary of public involvement. Starting in 2013, extensive public scoping meetings were held, particularly around the development of the St. Paul's CNI application. These efforts included discussions regarding site constraints, conceptual design, coastal resiliency, funding, and schedules. The goal of the project team was to evaluate the components necessary to create a diverse public housing mixed community with the increase in open space and a reduction in housing density.

The intent of the public meetings was to introduce the community to the project team, describe the goals for the public housing community, receive comments from the public, and answer questions. Throughout these meetings, a primary objective of the project team was

to improve the community through design characteristics creating a diverse neighborhood through a reduction in housing density while enhancing community revitalization opportunities.

The most recent public meeting was held at the William A. Hunton YMCA on March 10, 2020 in order to give members of the community and general public the opportunity to view and comment on the latest project updates and to interact with the planning team.

Agency Scoping

As part of the scoping effort, multiple state and federal agencies were coordinated with, including DHR, DEQ, and USFWS. These letters are included in Appendices C-F.

5

Mitigation Measures Recommended

To prevent and minimize potential adverse impacts associated with the Proposed Action, best management practices (BMPs) and mitigation measures would be implemented during the demolition and subsequent redevelopment phases of the project. Based on the review of environmental conditions and environmental regulations, a few standard mitigation measures would be put in place to minimize impacts associated with the proposed demolition activity.

Given the anticipated level of ground disturbance, an Erosion and Sediment Control Plan would be prepared and approved by DEQ. There would be an unavoidable increase in ambient noise during demolition activities and could be limited to normal daytime working hours.

In addition, all debris containing lead-based paint would be appropriately disposed of in accordance with applicable EPA requirements. Demolition activity and removal would be performed by a licensed asbestos abatement contractor in accordance with applicable local, state, and federal guidelines. At Tidewater Gardens, removal of two 10,000-gallon USTs and any necessary soil mitigation would be performed by a licensed contractor in accordance with applicable local, state, and federal guidelines.

Additional mitigation measures would be implemented as discussed under the relevant resource topics in the chapters above. These measures are summarized below:

- New buildings would be constructed to current City standards for flood resiliency and would be constructed at an elevation above the 100-year floodplain. Flood insurance would be required for all units. See the Alternatives chapter above for details.

- All new buildings would be subject to review by the City Architectural Review Board to ensure design compatibility and minimize visual impacts on nearby historic resources. See the Historic Preservation impact analysis above for details.
- Support services would be provided through the People First initiative to meet the needs of the residents. These support services are in the areas of health and wellness, employment, transportation, economic mobility and youth development and education which will advance equitable outcomes for the families of Tidewater Gardens. The People First initiative also provides case management services to assist families through the relocation process. See the Alternatives chapter above for details.
- Additional measures for noise attenuation would be provided on proposed buildings that would have higher than acceptable interior noise levels. See the Noise impact analysis above for details.

6

Additional Studies Performed

A Section 18 Demolition Disposition PCA was completed by Dominion Due Diligence Group to estimate the cost of renovation for all 78 residential buildings in the Tidewater Gardens community. A copy of this report is available in Appendix E.

Four Phase I ESAs were completed by SCS for the City of Norfolk St. Paul's Area/Tidewater Gardens Redevelopment project and any facilities on site or within a quarter-mile radius were identified and investigated. Phase II Environmental Site Assessments of the Snyder Lot, Transit Site, and Tidewater Gardens Site will address any RECs that could affect the proposed redevelopment. Mitigation measures will be completed to offset any possible contamination or risks to the public. The Willis Building did not contain any RECs for the project and does not require further investigation for the HUD redevelopment.

Tidewater Gardens

Multiple leaks from USTs in the 1990's have caused subsurface contamination above the VDEQ's level of concern. The historic releases on site and the use of the two 10,000-gallon USTs from the maintenance facility on site are considered RECs. Three off-site facilities that include the USPS, Tidewater Elementary School, and the former Runnymede Corporation, contain residual subsurface contamination and will need to be investigated further. All of the RECs will be assessed during the Phase II ESA.

Snyder Lot

Two offsite facilities are considered RECs to the project site. The Virginia Power facility is located directly to the west of the project site. Groundwater was not assessed after three USTs were removed from ground, and the fourth UST depicted on historical maps was not found. Due to the lack of testing and records on the fourth tank, this facility is a REC to the subject property. The City of Norfolk (E. Plume Street and St. Paul's Boulevard) site is the other off-site facility that lacks groundwater testing and represents a REC to the site. Prior use of the project area as an automotive repair facility and lumber storage area represents a REC for the site. Investigation during the Phase II ESA will determine any risks to the project area.

Transit Area

The long-term use of the project area as an automotive repair facility and dry cleaners represents a REC due to the potential for subsurface contamination. The use of USTs from the Roland's Auto Service Center, Amoco, Holiday Foods/Texaco, and shell gas station also represent a REC due to the potential for subsurface contamination. The Phase II will investigate subsurface contamination and any risks to the project area.

7

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Appendix A

Figures



St. Paul's Area / Tidewater Gardens
Choice Neighborhoods Implementation Environmental Assessment

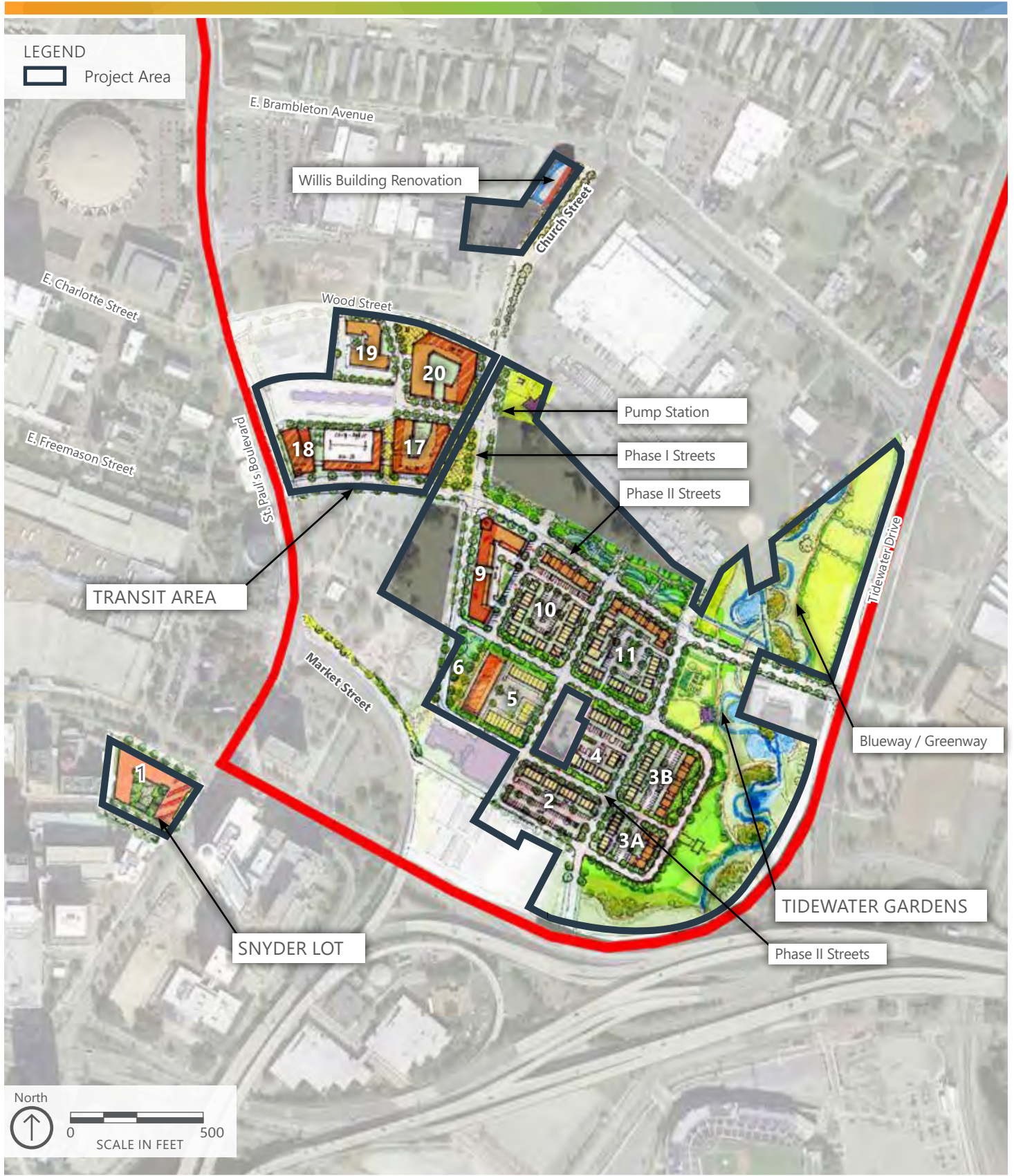
FIGURE 1
Project Location Map



St. Paul's Area / Tidewater Gardens

Choice Neighborhoods Implementation Environmental Assessment

FIGURE 2
Project Location Map (Aerial Base)



St. Paul's Area / Tidewater Gardens

Choice Neighborhoods Implementation Environmental Assessment

FIGURE 3

Proposed Redevelopment Plan

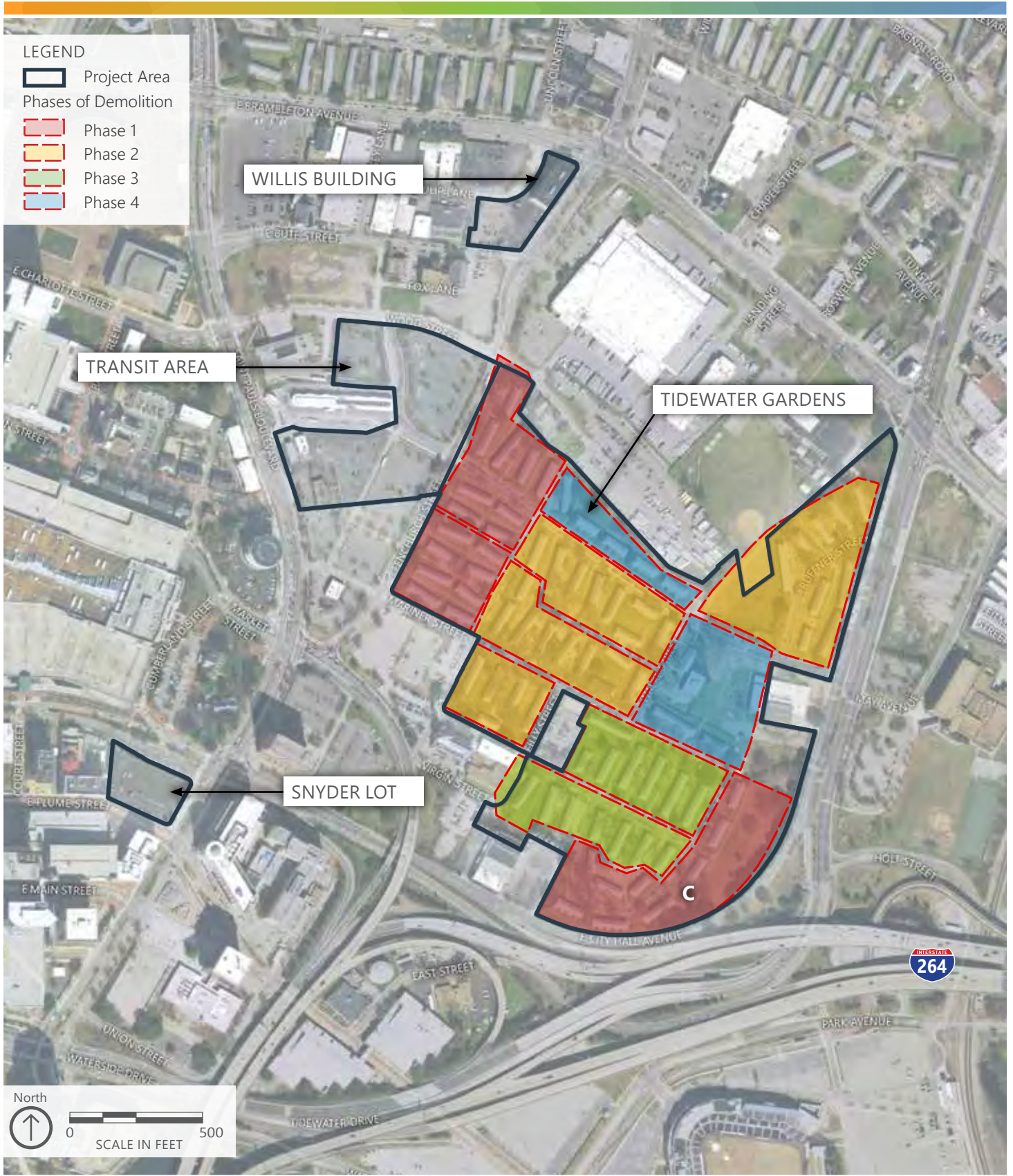
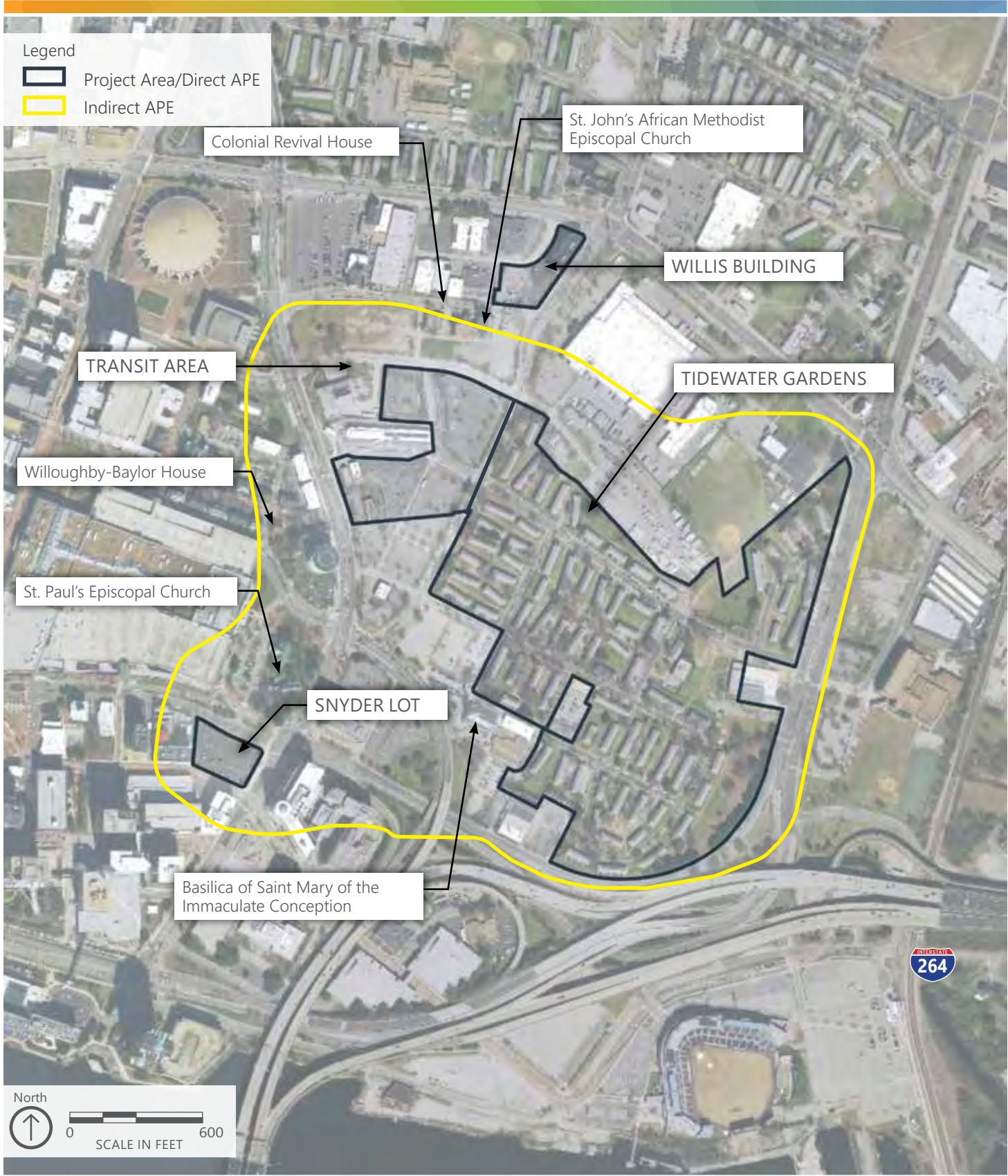
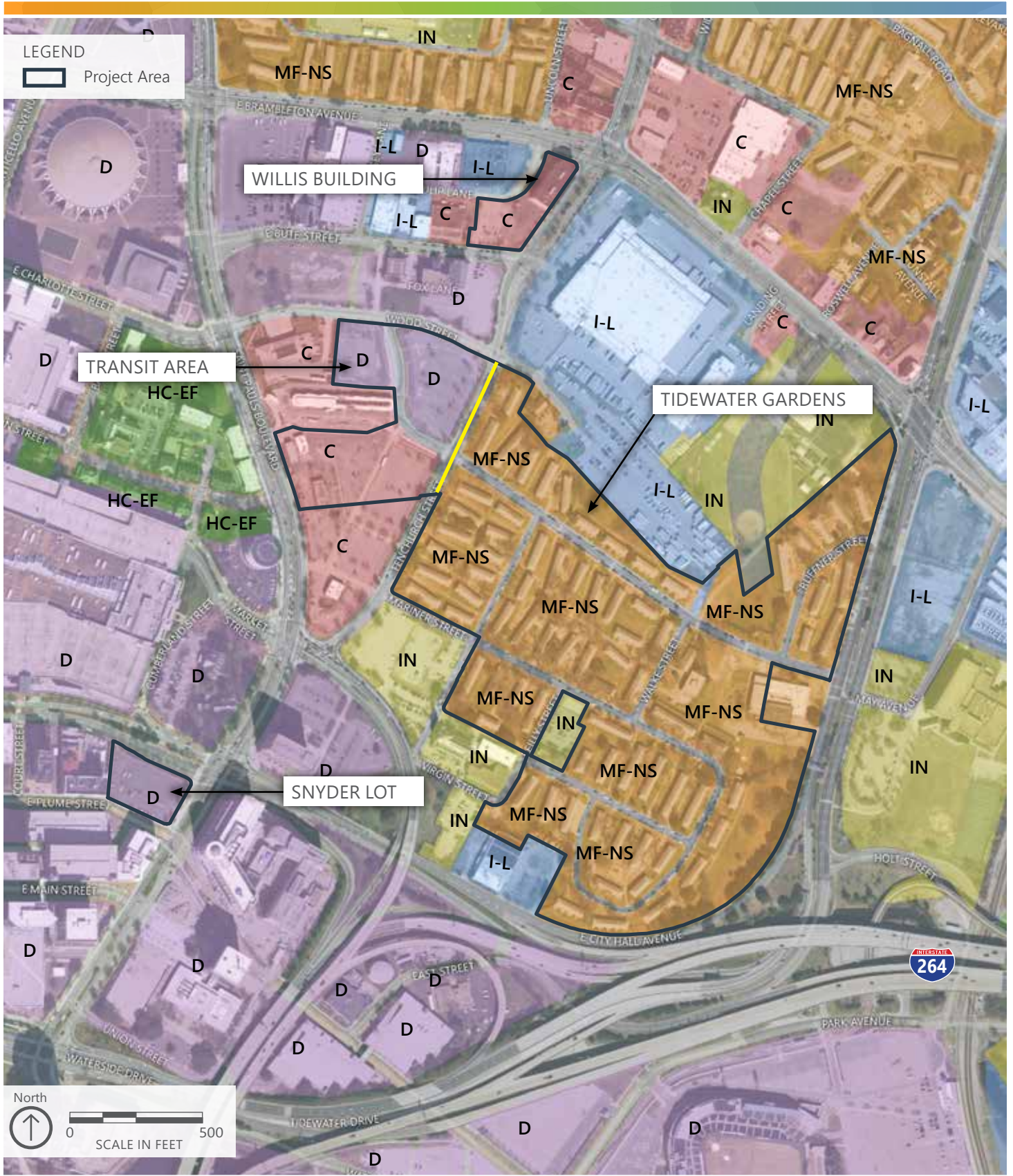


FIGURE 4
Phased Demolition Plan



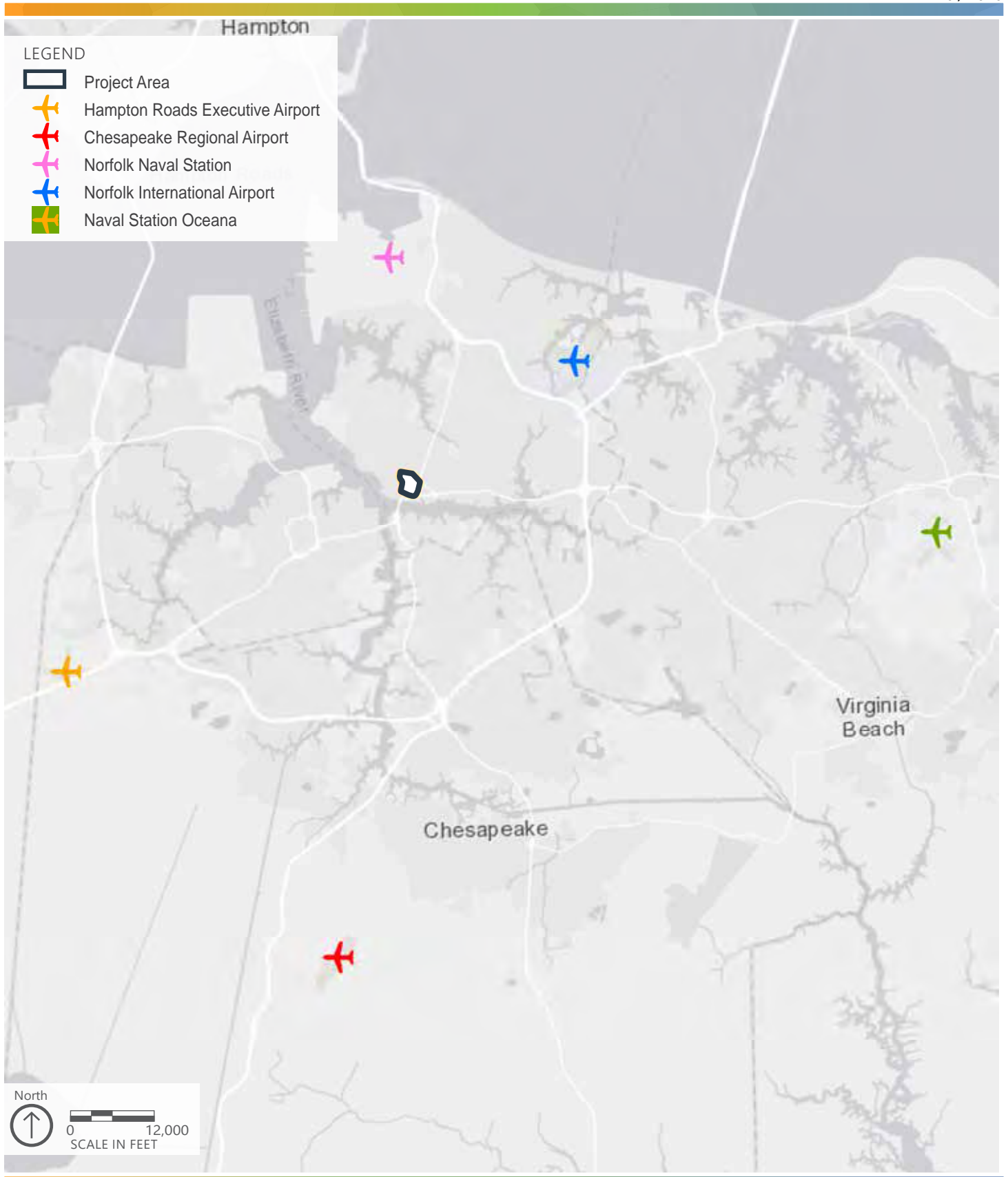
St. Paul's Area / Tidewater Gardens
Choice Neighborhoods Implementation Environmental Assessment

FIGURE 5
Area of Potential Effects



St. Paul's Area / Tidewater Gardens
Choice Neighborhoods Implementation Environmental Assessment

FIGURE 6
Zoning Map



St. Paul's Area / Tidewater Gardens

Choice Neighborhoods Implementation Environmental Assessment

FIGURE 7

Airport Locations Map



St. Paul's Area / Tidewater Gardens

Choice Neighborhoods Implementation Environmental Assessment

FIGURE 8

Traffic Volumes Map



St. Paul's Area / Tidewater Gardens
Choice Neighborhoods Implementation Environmental Assessment

FIGURE 9
Census Tract Map

