



U.S. Department
of Transportation
**Federal Highway
Administration**

Delaware Division

June 27, 2024

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In Reply Refer To:
HDA-DE

Mr. Sean Park, Director
City of Wilmington, Office of Economic Development
Louis L. Redding City/County Building
800 N. French Street, 3rd Floor
Wilmington, Delaware 19801

Subject: Wilmington Riverfront Transportation Infrastructure
City of Wilmington, New Castle County, Delaware
FHWA Grant Tracking Number: R21HC017

Dear Mr. Park,

As requested in your letter dated May 17, 2024, we have determined that this project will have no significant impact on the environment.

The Finding of No Significant Impact (FONSI) is based on the results of the environmental assessment (EA). The EA has been independently evaluated and determined to adequately and accurately discuss environmental issues and impacts of the proposed project. It provides sufficient evidence and analysis for determining that an environmental impact statement is not required. You may proceed to final design of the Build Alternative. Should you have any specific questions, concerns or recommendations, please contact Becky Ledeborn of my staff at (302) 734-2378 or by email at rebecca.ledeborn@dot.gov.

Sincerely,

Douglas S. Atkin
Division Administrator

DA/rl
Enclosure

FINDING OF NO SIGNIFICANT IMPACT

Wilmington Riverfront Transportation Infrastructure Project
Delaware

Federal Lead Agency
Federal Highway Administration

Project Sponsors
City of Wilmington

The Federal Highway Administration may publish a notice in the Federal Register, pursuant to 23 United States Code (USC) § 139(l), indicating that one or more Federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed within 150 days after the date of publication of the notice, or within such shorter time period as is specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.

**FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT
WILMINGTON RIVERFRONT TRANSPORTATION INFRASTRUCTURE PROJECT
FHWA GRANT TRACKING NUMBER: R21HC017
WILMINGTON, NEW CASTLE COUNTY, DELAWARE**

Upon consideration of the Federal Highway Administration (FHWA) approved Environmental Assessment (EA), Revised EA, public comments, Finding of No Significant Impact (FONSI) request, and other supporting documentation as described in the following discussion, the FHWA has determined that the Build Alternative (referred here as the Preferred Alternative) for the Wilmington Riverfront Transportation Infrastructure Project will have no significant impact on the human or natural environment and hereby issues a FONSI pursuant to 23 CFR § 771.121(a). In accordance with 40 CFR § 1508.1(l), this FONSI briefly presents the reasons why the project will not have a significant effect on the human environment.

The Project is located in Wilmington, New Castle County, Delaware, along the east Christina riverbank (Figure 1). The Project's study area extends east from the Christina River to South Market Street and is bound on the north by the Christina River and on the south by Judy Johnson Drive (formerly New Sweden Street).

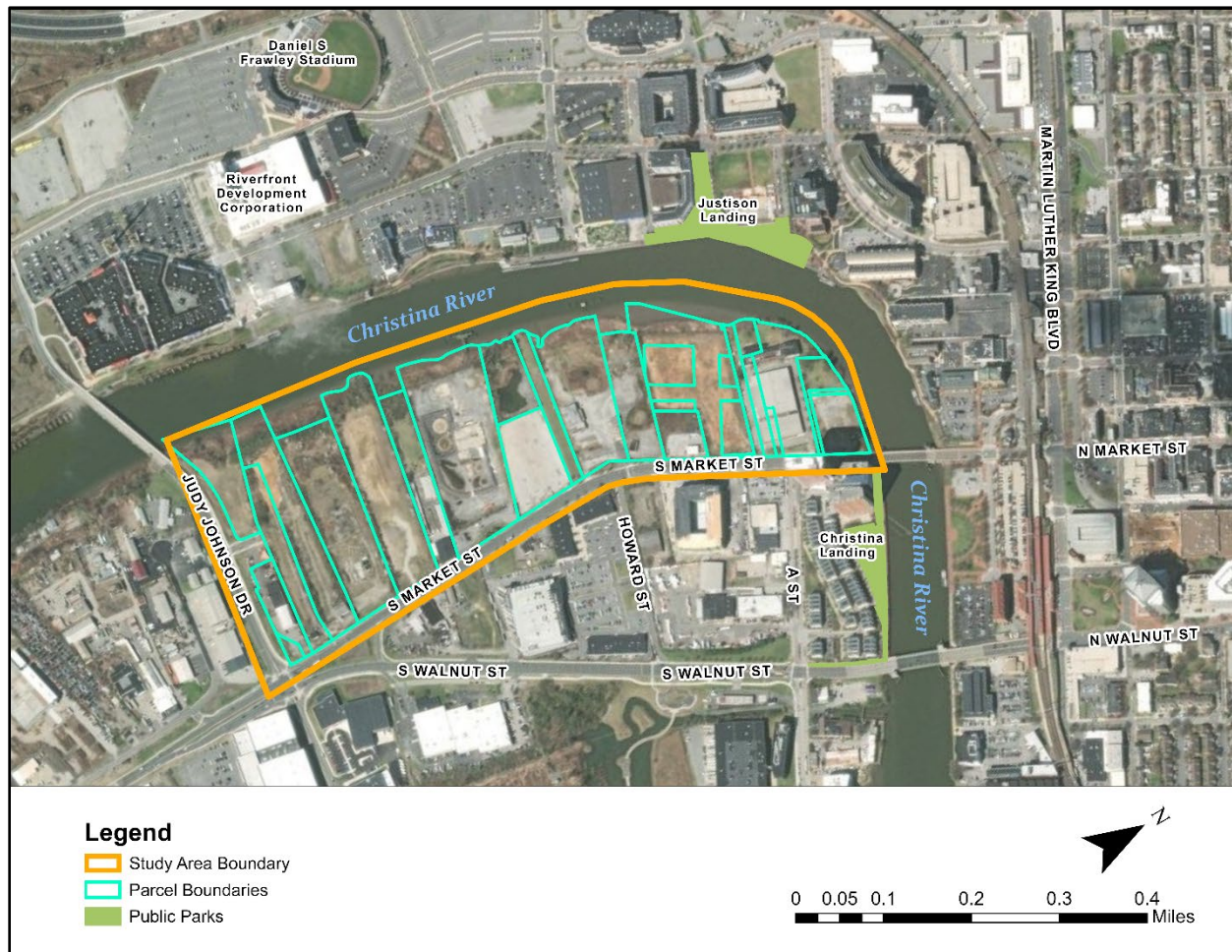
The Project study area has a shipping and manufacturing, industrial, and brownfields land use history and is marsh and largely inaccessible with significant elevation differences that has created a mud flat condition along the northern and western edges of the Project study area. South Market Street, the eastern Project border, is a one-way, four-lane arterial road that extends 0.57 mile along the study area.

The purpose of the Project is to provide transportation infrastructure to further the connectivity of the riverfront area and provide multi-modal resources. The needs of the Project are to:

- **Expand the roadway network** – Currently the parcels located within the Project study area have limited access for vehicles, pedestrians, and bicycles, and there are no public streets between South Market Street and the east bank of the Christina River. Furthermore, the block street grid characteristics of downtown Wilmington does not extend into the Project study area, resulting in an inconsistent street grid and lack of multimodal connectivity.
- **Provide pedestrian and cyclists accommodations** – The Project study area lacks bicycle and pedestrian infrastructure and there is a need to provide multi-modal accommodations for bicyclists and pedestrian users along the Christina River, especially based on the number of households (12%) in the Project study area that have no access to a vehicle. Creating bicycle and pedestrian infrastructure will help improve increased access to employment opportunities but will also improve safety, connectivity, and mobility.
- **Rehabilitate and create effective stormwater management** – The entire Project study area falls within the 100-year floodplain caused by coastal storm surges from the

Delaware Bay. Under the current condition, the Project study area is expected to be entirely inundated in the case of a 100-year flood event and is vulnerable to sea level rise and extreme weather events. To support the proposed transportation infrastructure improvements, effective stormwater management and resiliency solutions are needed to address ongoing drainage issues, provide adequate conveyance, eliminate the backup of tidal water during tidal fluctuations in the tidally influenced Christina River, and raise the site above the 100-year floodplain.

Figure 1: Wilmington Riverfront Transportation Infrastructure Project Study Area Map



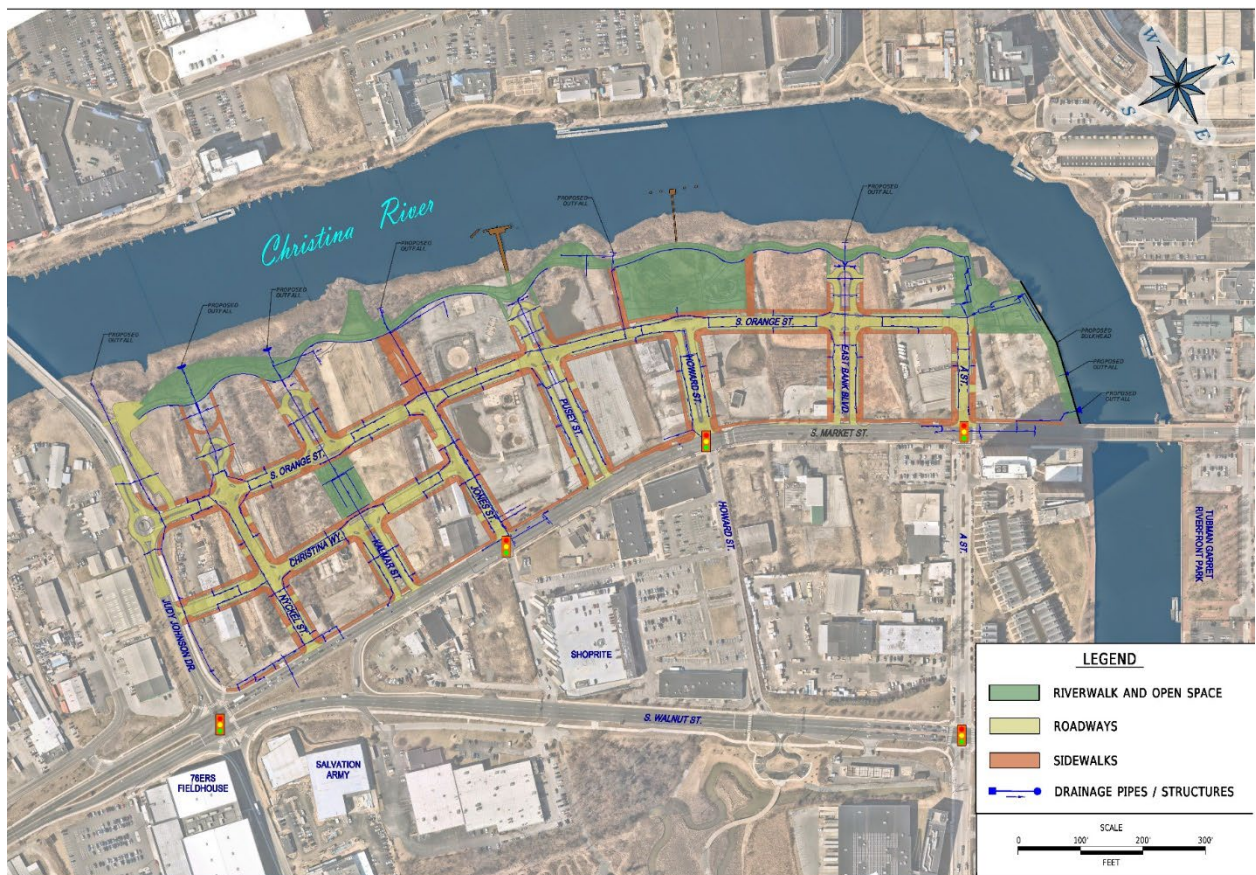
This FONSI is based on FHWA's independent evaluation. The information contained in the approved EA, Revised EA, and FONSI request has been determined to adequately and accurately discuss the Project needs, the environmental issues, impacts of the proposed Project, and appropriate mitigation and commitment measures. The EA and its supporting documentation reflect the extensive amount of evaluation and public involvement performed by the study team, represented by the 10 appendices, totaling 4300 pages. The actual body of the EA meets the 75 pages requirement per 40 CFR § 1501.5 and contains 25 pages of graphics and tables intended to make the discussion easier for the public to understand. Of the appendices, the lengthiest are the

Natural Resource Technical Report (Appendix I), Phase IA Archaeological Assessment (Appendix G), and Hazardous Materials Survey Technical Report (Appendix C) which together account for 75 percent of the total pages. The information presented in the appendices and summarized in the EA, provide sufficient evidence and analysis for determining that no impacts identified would cause any significant adverse effects to the human or natural environment. Determination of no significant impact is sufficient cause for determining that an Environmental Impact Statement is not required.

Project History

The City of Wilmington (City) is a recipient of Federal funds through a U.S. Department of Transportation (USDOT) Fiscal Year 2021 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant. The City, in partnership with the Riverfront Development Corporation (RDC), started the environmental resource studies in 2021 with the purpose of identifying the resources present and evaluating the environmental effects of the Project. The study team evaluated the No Build and the Build Alternative in the draft Environmental Assessment. The Preferred Alternative meets the Project's purpose and need, minimizes overall impacts, and balances the benefits versus the overall impacts (Figure 2).

Figure 2: Build (Preferred) Alternative Site Plan



The Preferred Alternative would construct transportation infrastructure improvements for the South Market Street Riverfront East area of the City and would expand the road network branching from South Market Street west towards the Christina River, thus replicating the downtown Wilmington grid system in the Project study area. The proposed street grid is a balance of defining buildable parcels as well as appropriate infrastructure access for vehicles (local, commuter, public transportation), pedestrians, and bicyclists and will include on street parking. The proposed grid considers major circulation movements, creating three east-west and evenly spaced signalized movements across South Market Street, and connecting the major north-south Market Street and Walnut Street corridors to Orange Street within the limits of the Project study area (from north to south: at A Street, Howard Street, and Jones Street).

Pedestrian routes were also considered while laying out the proposed grid. The Preferred Alternative will include pedestrian and cyclist accommodations on new roadways and a new set of pedestrian and bicycle pathways that connect to the existing network of pathways surrounding the Project study area. The proposed location of the east-west movements at A Street and Howard Street provides direct pedestrian access to and from the South Market Street Bridge, the Walnut Street corridor, the Wilmington Wetland Park, and the Southbridge neighborhood located east of the Project study area. At the southern end of the Project study area new pedestrian and bicycle connections from the proposed street grid would connect directly to existing pedestrian and bicycle connections that currently cross the river to the western Riverfront via Judy Johnson Drive and the Senator Margaret Rose Henry Bridge.

Resiliency solutions to environmental challenges currently faced by the site have been incorporated into the proposed design. The Project study area is expected to be entirely inundated in the case of a 100-year flood event under its current condition. The Preferred Alternative would elevate the transportation elements in compliance with the Federal Emergency Management Agency (FEMA) Floodplain Regulations to protect the site from inundation and flood-related damage. While the existing South Market Street roadway would remain at its existing elevation below the 100-year flood event, all other proposed roads would be constructed at elevations above the 100-year flood event except where they would connect to existing streets at lower elevations. Additionally, proposed sidewalks and the Riverwalk would also be at elevations above the 100-year flood event. These elements are aligned with the City of Wilmington's strategies to harden infrastructure vulnerable to sea level rise and extreme weather events.

The Draft EA document was available for public review and comment from April 1, 2024 through May 1, 2024 on the Project website (<https://www.riverfronteastconnect.com/>) and hard copies were available at three locations within the Project study area. One In-Person Public Hearing was held April 15, 2024 and two Virtual Public Hearings were held on April 17, 2024. On May 1, 2024, due to public comments received requesting an extension to the comment period, FHWA extended the comment period from May 1, 2024 through May 15, 2024. There were 42 comments received from 38 individuals and organizations. Additionally, the U.S. Environmental Protection Agency (EPA) submitted comments via letter on May 1, 2024.

An agency kick-off meeting was held in December 2022. The U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries Greater Atlantic Regional Fisheries Office (GARFO) Habitat & Ecosystem Services Division (HESD) were cooperating agencies. The U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS) Delaware State Historic Preservation Office (SHPO), the Delaware Department of Natural Resources and Environmental Control (DNREC) Wetlands and Subaqueous Lands (WLSL), DNREC Division of Fish & Wildlife and DNREC Coastal Management Program were participating agencies. FHWA had interagency coordination and meetings throughout the project development process with Federal and state agencies listed above. FHWA held an interagency meeting on April 22, 2024, to discuss the findings of the Draft EA and to discuss the proposed schedule. Representatives from the EPA, SHPO, DNREC Wetland and Subaqueous Lands Section, and DNREC Coastal Programs Section were in attendance.

A hard look at the comments received from the Public Comment period was taken and a 38-page response to the Public Hearing comments was prepared and attached to the EA (Appendix K). Generally, the comments were either in support of the Project or were comments that pertained to information beyond the scope of the Project. While there were comments discussing floodplain concerns, these comments did not result in the need for additional or different analyses to determine if the Project involves significant impacts.

In reviewing the comments received, as well as working closely with the cooperating agencies mentioned previously, this helped shaped the project, the Preferred Alternative, and the development of commitment measures. Additional commitment measures included:

- The City will commit to supporting businesses that qualify for the Office of Economic Development's Strategic Fund set-aside for minority owned businesses as well as providing notices to the Southbridge Civic Association for business development events hosted by the Office of Economic Development and economic development partners such as the Small Business Administration, Small Business Development Center, Delaware Division of Small Business, and Community Development Financial Institutions.
- The City and RDC will commit to advertising and holding outreach events for construction workforce opportunities in nearby disadvantaged neighborhoods.
- The City will commit to funding and construction of the South Wilmington Sewer Separation project along B and C Streets to help alleviate flooding in the Southbridge community which includes construction of a separate storm drain system and partial reconstruction of the sanitary sewer line reconstruction along B and C Streets to help alleviate flooding in the Southbridge community.

The analyses performed for the Project used the correct methodology and adequately answered the comments raised by the public. The comment responses mostly consisted of summarizing the information already present in the Draft EA, Revised EA and associated appendices and referring the commenters to the locations where the information could be found.

Environmental Impacts

All environmental impacts have been evaluated and it has been determined that none are significant. Basis for this determination is given below:

Land Use and Zoning (see **Revised EA, Section V.A.**)

The existing land uses within the Project study area are a mix of industrial, commercial, and vacant brownfields. Other primary land uses surrounding the Project study area include commercial/industrial, mixed urban or built-up land, wetland, residential, and recreational land uses. The proposed Project is included in the Delaware Department of Transportation Statewide Transportation Improvement Program (STIP), which is the state's six-year Capital Transportation Plan (CTP). The proposed Project is listed in the FY 2023 – FY 2028 CTP as the South Wilmington Infrastructure Improvements, which will allow for infrastructure improvements to facilitate economic growth and development and to allow for future transportation-related improvements.

The *City of Wilmington's Comprehensive Master Plan* identifies the current zoning in the Project study area as W-4, a waterfront zone. W-4 is defined in the Plan as a waterfront residential commercial district, where medium to high density residential, retail, and office development can take place in the future. The southern end of the Project study area that falls outside of the City of Wilmington's boundary is defined as heavy industrial by New Castle County.

The Preferred Alternative would convert 13.6 acres of the existing land use to roadway infrastructure and open space and 42 acres of the existing land use will be converted to mixed use. Furthermore, zoning in the area was previously updated by the City of Wilmington from manufacturing zoning to waterfront residential/commercial in accordance with the *City of Wilmington's Comprehensive Master Plan*.

FHWA finds that the impacts to land use and zoning are not significant.

Business, Economy, and Employment (see **Revised EA, Section V.B.**)

There are four active businesses in the Project study area, including a gas station, hardware store, and two commercial businesses. The hardware store operates on property owned by the RDC. The RDC maintains an agreement with the business owner to continue leasing the property until June 2024, at which time the owner anticipates retiring. The two commercial businesses currently lease their buildings from a property management company, which has an agreement with the RDC to redevelop their property in the future. The gas station currently owns the property they operate on.

The Preferred Alternative would result in one business displacement, the gas station. The two businesses with leases ending are not considered business displacements as the leases would end with or without the infrastructure improvements. In addition, the owner of the hardware store is retiring and is in the process of liquidating the business; thus, this is not considered a business displacement as a result of the Project.

Construction of the Preferred Alternative would have beneficial impacts on employment in the area by not only creating 200 construction-related jobs but by improving mobility and offering new, convenient options for accessing jobs, local economic destinations, and regional transit services.

FHWA finds that the impacts to business, economy, and employment are not significant.

Neighborhood and Community Facilities (see **Revised EA, Section V.C.**)

Neighborhoods surrounding the Project study area include Browntown, Hedgeville, and Southbridge. Southbridge is a minority neighborhood located east of the Project study area. It is an underserved and disadvantaged neighborhood located just south of the Christina River and downtown Wilmington and north of I-495. The neighborhood experiences low rates of employment, high through traffic, and insufficient infrastructure. Browntown and Hedgeville are minority neighborhoods located west of the I-95 corridor. Though Browntown and Hedgeville are both located in the Socioeconomic Study Area, I-95 and the Christina River separate the communities from Project study area. Browntown and Hedgeville have both had considerable growth of Latino, Hispanic, and African-American populations in the past decade.

The Preferred Alternative does not affect existing community facilities as there are no facilities within the Project study area. The Preferred Alternative includes infrastructure improvements, including bicycle and pedestrian accommodations that would offer new, convenient options for accessing jobs, local economic destinations, and regional transit services.

FHWA finds that the neighborhood and community facilities impacts are beneficial.

Demographics (see **Revised EA, Section V.D.**)

Data collected at the block group regarding population, race, economy, employment, and other demographics were assessed through the U.S. Census Bureau's (2021) American Community Survey (ACS) 2017-2021 5-Year Estimates, as well as state, regional, and local sources. The total approximate population of Delaware is 981,892 people, New Castle County is 567,769, and the Socioeconomic Study Area (see **Appendix B, Figure 3**) is 15,280. Populations of the block groups located in the Socioeconomic Study Area range from 595 to 2,083 people. According to the Delaware Population Consortium 2023 projections, Delaware's population is expected to grow by approximately 177,918 citizens between 2020 and 2050, an increase of approximately 18 percent. Likewise, New Castle County's population is expected to grow to approximately 21,842 citizens between 2020 and 2050, an increase of 3.8 percent.

There are currently no residential uses and limited employment opportunities within the Project study area. The infrastructure improvements as a result of the Preferred Alternative would not have direct adverse effects on demographic characteristics.

FHWA finds that the impacts to demographics are not significant.

Environmental Justice (see Revised EA, Section V.E.)

The Environmental Justice analysis has been performed in accordance with Executive Order (EO) 12898 *Federal Actions to Address the Environmental Justice in Minority Populations and Low-Income Populations*, USDOT Order 5610.2C: *USDOT Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and FHWA Order 6640.23A: *FHWA Actions to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations*. Building upon EO 12898, EO 14096: *Revitalizing Our Nation's Commitment to Environmental Justice for All*, published on April 21, 2023, was also considered in this analysis. The analysis is also in compliance with Title VI of the Civil Rights Act of 1964 which prohibits discrimination based on race, color, and national origin in any program or activity receiving Federal assistance. These Federal actions provide that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." No person was discriminated against or denied the opportunity to comment on the proposed Project. During the NEPA phase of the Project, the team actively solicited the involvement of the minority communities to provide opportunities for meaningful engagement. Provisions were made for Limited English Proficiency (LEP) persons at all public meetings. There were community meetings held in the EJ community. The project team presented to the Southbridge Civic Association at their June 2023 meeting and at the Canby Park Civic Association meeting in October 2023. In addition, to the public hearings held in April 2024, the Project team held a community outreach meeting in the Southbridge neighborhood on May 9, 2024. In addition, outreach activities (i.e., flyers, public service announcements, and newspapers ads) were specifically targeted to minority and low-income communities (**see Revised EA, Section VI.B.5.b.**).

Neighborhoods adjacent to the Project study area generally are minority communities with low-income populations. Of the 11 block groups that are adjacent to the Project study area, ten block groups were identified as having both low-income and minority populations higher than the average of New Castle County and Delaware as a whole while the remaining block group was identified as having only a low-income population.

The Preferred Alternative would improve livability and community benefits by improving community connectivity by improving mobility and offering new, convenient options for accessing jobs, local economic destinations, and regional transit services. Furthermore, the Preferred Alternative would address flooding and drainage issues. While there would be one business displacement, the Preferred Alternative was found to not have disproportionately high and adverse effects on minority or low-income populations.

FHWA finds that environmental justice impacts would not be a significant impact.

Hazardous Materials (see Revised EA, Section V.F.)

The existing environmental conditions and potential impacts to the soil and groundwater were evaluated in compliance with the Resource Conservation and Recovery Act (RCRA) of 1976 which was an amendment to the Solid Waste Disposal Act of 1965. Multiple Brownfield Development Agreements and remedial action plans for the Project study area are either in place

with ongoing cleanup initiatives or are under development between the City, the RDC, the EPA, and DNREC. The City, the RDC, the EPA, and DNREC assume the responsibility of remediating the hazardous materials within the Project study area. These agreements are separate from the Project and remediation will occur prior to the construction of infrastructure improvements.

Research revealed that the Project study area was historically used for shipping, manufacturing, and industrial purposes. Currently the Project study area includes vacant/vegetated lots, surface parking, structures previously used for commercial/industrial purposes, a currently operational gasoline station, former junkyards, and brownfields. Physical sampling concluded that soil, groundwater, sediment, and/or surface waters contained contaminants and would comply with all applicable environmental laws and regulations.

The Preferred Alternative will encounter areas of hazardous materials. The Project study area was broken down into 23 sites of potential environmental concern. Three of the 23 sites were identified as low-risk sites, 17 of the 23 sites were identified as moderate risk sites and four of the 23 sites were high-risk sites. However, as previously referenced, remediation will occur prior to the construction of infrastructure improvements.

FHWA finds that hazardous materials impacts would not be a significant impact.

Noise (see Revised EA, Section V.G.)

A preliminary design traffic noise analysis was completed September 2022 in accordance with the FHWA requirements established in 23 CFR 772. The City of Wilmington does not have a transportation noise policy that conforms with 23 CFR 772; therefore, the Delaware Department of Transportation (DelDOT) Noise Policy (March 2021), which has been approved by FHWA, was used for this analysis. Four Common Noise Environments (CNE) were identified. The results from the study shows that 24 receptors, representing 24 existing residential noise sensitive land uses, will be impacted by traffic generated noise. All noise impacts are predicted to occur as a result of predicted noise levels that equal or exceed the 66 decibels A (dbA) impact threshold of Noise Abatement Criteria (NAC) Category B. There are no instances of substantial increases of 12 dbA or greater associated with the proposed improvements.

Abatement for highway traffic noise must be both feasible and reasonable for approval. Abatement of the projected noise impacts was determined to be not physically feasible for CNE B-01 as construction of a noise barrier within a very short distance between the building and roadway would severely limit access requirements for pedestrians. As abatement was determined to be not feasible, reasonableness was not assessed.

Construction activity may cause intermittent fluctuations in noise levels from the use of equipment such as bulldozers, earthmovers, pile-drivers, compressors, etc. In most cases, the temporary effect of increased noise levels associated with construction equipment is limited to within 300 feet of the source. During the construction phase of the Project, all reasonable measures would be taken to minimize noise impacts from these activities. Some measures that may be employed to minimize temporary construction noise include:

- All equipment shall comply with pertinent equipment noise standards of the U.S. Environmental Protection Agency (EPA) and have sound-control devices no less effective than those provided on the original equipment.
- No equipment may have unmuffled exhaust.
- Locate stationary construction equipment as far from nearby noise-sensitive properties as feasible.
- Shut off idling equipment.
- Schedule loud construction operations to avoid periods when noise annoyance is likely.
- Notify nearby residents whenever extremely noisy work will be occurring.
- Install temporary or portable acoustic barriers around stationary construction noise sources.
- Operate electrically powered equipment using line voltage power or solar power.

In addition, the construction operations shall be in compliance with the City's Code of Ordinances to reduce the impact of construction noise on the surrounding community.

FHWA finds that noise impacts are not significant.

Air Quality (see **Revised EA, Section V.H.**)

Air quality analysis was conducted in the Project study area in compliance with the Clean Air Act Amendment of 1990 and the Final Transportation Conformity Rule (40 CFR Parts 51 and 93) for Ozone (O₃) and Particulate Matter (PM_{2.5}). Air Quality conformity of the transportation plan in the State Implementation Plan (SIP) will be met as the Project is included in Wilmington Area Planning Council's (WILMAPCO) currently conforming transportation plan (*2023 Update: 2050 Regional Transportation Plan*) and WILMAPCO's *FY 2025-2028 Transportation Improvement Plan (TIP)*. Based on the criteria specified in the Transportation Conformity rule and associated guidance, the implementation of the proposed Project is not considered to be one of "air quality concern" for fine particulate matter. Therefore, the CAA and 40 CFR 93.116 requirements for PM_{2.5} were met without a hot-spot analysis, since such projects have been found not to be of air quality concern under 40 CFR 93.123(b)(1). Furthermore, the Project study area is located with the EPA-designated attainment area for all National Ambient Air Quality Standards (NAAQS) except the 2008 and 2015 8-hour O₃, as well as being designated a maintenance area for 2006 PM_{2.5} standard. Historical monitoring data from the DNREC Division of Air Quality indicates that criteria pollutants concentrations have overall been decreasing in the state over the last two decades.

Traffic forecasts for the Preferred Alternative are expected to result in greater traffic volumes throughout the Project study area; however, the traffic is expected to be well below the total annual average daily traffic and diesel truck volume thresholds for a Project of air quality concern. Of the criteria pollutants analyzed, the Carbon Monoxide (CO) analysis conducted determined that the increase in the number of vehicles due to the Preferred Alternative is not significant enough to cause or result in a change in CO emissions. These results, coupled with the Project study area already being designated as an attainment area for CO, concludes that the Preferred Alternative would not cause or contribute to a new violation of the CO NAAQS. PM_{2.5} emissions were also evaluated and compared to the criteria for the Transportation Conformity

Rule. The Preferred Alternative is not considered to be ones of “air quality concern” for fine particulate matter and therefore met the Project level conformity requirements for PM_{2.5} without a hot-spot analysis.

For the proposed improvements of the Preferred Alternative, the amount of Mobile Source Air Toxics (MSATs) emitted is proportional to the vehicle miles traveled (VMT). MSAT emissions were evaluated and were consistent with the latest FHWA guidance, and while MSATs may increase in areas where VMT increases under the Preferred Alternative, MSAT emissions are expected to be lower in the future regardless of the chosen alternative due to cleaner engine standards and fleet turnover.

FHWA finds that the air quality impacts are not significant.

Greenhouse Gas and Climate Change (see **Revised EA, Section V.I.**)

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth’s climate system. Climate change in the past has generally occurred gradually over millennia, or more suddenly in response to cataclysmic natural disruptions. The research of the Intergovernmental Panel on Climate Change (IPCC) and other scientists over recent decades, however, has attributed an accelerated rate of climatological changes over the past 150 years to Greenhouse Gas (GHG) emissions generated from human activities, including, but not limited to, the production and use of fossil fuels, industry, and agriculture. The impacts of climate change are being observed in the form of sea level rise, drought, more intense heat, extended and severe fire seasons, and historic flooding from changing storm patterns. Climate change does not affect all people equally. Some communities experience disproportionate impacts because of existing vulnerabilities, historical patterns of inequity, socioeconomic disparities, and systemic environmental injustices. People who already face the greatest burdens are often the ones affected most by climate change. The CEQ published interim, effective guidance on January 9, 2023, regarding how to evaluate GHG emissions and climate change under NEPA. According to the guidance, when conducting climate change analyses in NEPA reviews, agencies should consider the potential effects of a proposed action on climate change, including by assessing both GHG emissions and reductions from the proposed action, as well as the effects of climate change on a proposed action and its environmental impacts.

The area's infrastructure and transportation systems contribute to a small level of emissions, characterized by moderate vehicular traffic and limited availability of public transit options. The 2020 existing year, of which condition accounts for 11,309 average daily VMT, total annualized CO₂ equivalent (CO₂e) emissions is equal to 2,743 metric tons. At a state level, the transportation sector was the largest source of GHG emissions in Delaware in 2018, at 30% of the total GHG emissions. This existing condition sets a benchmark for evaluating the Project's potential to increase or decrease greenhouse gas emissions, taking into account current emission levels and sources within the Project study area.

The effects from the Preferred Alternative on GHG emissions are multifaceted. By enhancing transportation infrastructure, the Project may lead to immediate changes in traffic patterns, potentially reducing congestion and improving vehicle efficiency, which in turn could lower

emissions. However, construction activities associated with the Project are likely to result in an increase in emissions due to the additional traffic that will result from the proposed future development, which will travel the additional new alignment roadway built under the Project to serve the area. Additionally, the use of construction equipment and vehicles may result in increased GHG emissions. Assessing these emissions requires an analysis of the construction phase, anticipated changes in traffic flows, and the operational efficiency of the proposed infrastructure which is considered in the GHG analysis.

Project GHG emissions were estimated by adding the Project construction emissions during construction phase, and the operations and maintenance and vehicle operation emissions during 2030 and 2060. As a result of the Preferred Alternative, an increase in GHG emissions from construction, operational, and maintenance activities will be observed.

FHWA finds that the Greenhouse Gas and Climate Change impacts are not significant.

Cultural Resources (see **Revised EA, Section V.J.**)

A cultural resources survey has been conducted for the Project. The investigation into historic resources determined that the Project has seven historic properties either listed on, or eligible for listing on, the National Register of Historic Places (NRHP) with the area of potential effect. With the introduction of vehicular and pedestrian improvements, the Build Alternative has the potential to alter the setting of the above-ground historic properties. In accordance with the implementing regulations of Section 106, the criteria of adverse effect were applied to the historic properties within the architectural APE. The Build Alternative would not adversely affect any of the characteristics of the historic properties that qualify the properties for inclusion in the NRHP in a manner that would diminish the integrity of the properties' locations, design, setting, materials, workmanship, feeling, or association. All above-ground historic properties are outside of the Limit of Construction, and the Project would not result in immediate physical impacts to the resources.

Furthermore, the archeological area of potential effect has the potential to contain intact archaeological resources. A Project Programmatic Agreement (PPA) has been developed that will stipulate measures to avoid, minimize, or mitigate any adverse effects on historic properties as well as conduct archeological studies after the completion of the EA due to the complexity surrounding the presence of hazardous materials and implementation of health and safety plans required prior to conducting archaeological identification surveys. The PPA was executed on June 25, 2024.

FHWA finds that impacts to the historic resources are not significant.

Wetlands and Waters (see **Revised EA, Section V.K.**)

Wetlands and waterways are protected by several Federal and state regulations. Waters of the U.S. (WOTUS), including wetlands, are jointly defined by the EPA and the USACE in 40 CFR 120.2 and 33 CFR 328.3. Tidal wetlands, as well as non-tidal wetlands that include 400 or more contiguous acres are regulated under the Delaware Wetlands Act (7 Del. Code, Chapter 66) and the Wetlands Regulations (7 DE Admin. Code 7502). Delaware regulates all tidal waters (up to

the mean high-water line) as well as all non-tidal rivers, streams, lakes, ponds, bays, and inlets (National Wetlands Inventory up to the ordinary high water line) under the Subaqueous Lands Act (7 Del. Code, Chapter 72) and the Regulations Governing the Use of Subaqueous Lands (7 DE Admin. Code 7504).

Wetlands within the Project study area were delineated in accordance with the *USACE Wetlands Delineation Manual, Y-87-I* and the *USACE 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region*. Wetlands and waters were assessed using the Rapid Bioassessment Protocols, the midTRAM method, and the USACE Highway Methodology. Additionally, the biological, chemical, and physical function of the Christina River was assessed visually in the field and by review of available data. Within the Project study area three tidal waters, one non-tidal, perennial Waters of the U.S., one estuarine emergent wetland, one palustrine emergent wetland, two DNREC mapped tidal mudflats, three DNREC state mapped tidal marsh areas, and five DNREC subaqueous lands (DNREC designation for its regulated resources) were identified.

As a result of the Preferred Alternative, direct impacts to delineated features reported in acres, by type, and by agency are reported in Tables 1 and 2 below:

Table 1: Summary of Direct Impacts to USACE Regulated Resources

Feature and Classification	AC	AC	AC
	Permanent	Temporary	Total
Wetlands	0.28	0.73	1.01
Waters	0.25	0.54	0.79
Grand Total	0.53	1.27	1.80

Table 2: Summary of Direct Impacts to DNREC Regulated Resources

Feature and Classification	AC	AC	AC
	Permanent	Temporary	Total
Tidal Marsh Wetlands	0.08	0.19	0.27
Tidal Mudflat Wetlands	0.27	0.87	1.14
Subaqueous Lands	0.10	0.10	0.20
Grand Total	0.45	1.16	1.61

These wetlands and waters impacts would require the following permits which will be obtained prior to construction:

- A Department of the Army permit pursuant to Rivers and Harbors Act Section 10 and Clean Water Act Section 404 will be required for the USACE impacts identified above. It is anticipated that confirmation of authorization will occur under Nationwide permits 38 (for Cleanup of Hazardous and Toxic Waste) and 14 (for Linear Transportation Projects).
- A Section 401 Water Quality Certification from DNREC is required before a Department of the Army permit can be issued for potential water quality impacts to wetlands.

DNREC has issued Section 401 Water Quality Certifications for Nationwide Permits 38 and 14.

- A Coastal Zone Management Act Consistency Certification (CZM) from the DNREC Delaware Coastal Management Program is required before a Department of Army permit can be issued. The Delaware Coastal Management Program has issued CZM for Nationwide Permits 38 and 14.
- A Wetlands Permit from DNREC.
- A Subaqueous Lands Permit from DNREC.

FHWA finds that the impacts to wetlands and waters are not significant.

Watersheds and Surface Waters (see **Revised EA, Section V.L.**)

Surface waters include rivers, streams, and open water features such as ponds and lakes. Section 401 and Section 402 of the Federal Clean Water Act (CWA) (33 U.S.C. 1341 and 1342) regulate water quality and the introduction of contaminants to waterbodies. Section 401 of the CWA prohibits any applicant for a Federal permit or license “to conduct any activity that may result in any discharge into waters of the United States, unless the State or authorized Tribe where the discharge would originate either issues a Section 401 water quality certification finding compliance with applicable water quality requirements or certification is waived” (40 CFR Part 121). DNREC has issued Section 401 Water Quality Certifications for Nationwide Permits 38 and 14.

In compliance with CWA Sections 303(d), 305(b), and 314 and the Safe Drinking Water Act (SDWA), states are required to develop a prioritized list of waterbodies that currently do not meet water quality standards. The 303(d) prioritized list includes those waterbodies and watersheds that exhibit levels of impairment requiring further investigation or restoration. DNREC uses monitoring data to compare waterbody conditions to water quality standards and determine which streams should be listed.

Like all surface waters, surface drinking water supplies are protected under Section 401 and Section 402 of the Federal CWA (33 U.S.C. 1341 and 1342), which regulate water quality and the introduction of contaminants to waterbodies based on designated use classes.

The Project study area is located within the Christina River Watershed which is part of the larger Piedmont Drainage Basin. The Christina River Watershed covers about 50,000 acres and extends across Cecil County, Maryland; New Castle County, Delaware; and Chester County, Pennsylvania. The Christina River flows 35 miles west within an urban corridor from the Delaware River. Historically, industrialization along the Christina River negatively impacted habitat health and water quality; however, increased efforts to restore wetlands and waters throughout the watershed provides a wide range of benefits to residents and wildlife. The Christina River’s tidal stretch begins at its confluence with the Delaware River and ends around Christiana, Delaware.

The Preferred Alternative will affect surface waters and watershed characteristics due to direct impacts to tidal and perennial channels and the Christina River. However, the three channels the

Project would impact have a drainage area of 0.03 square mile and they provide an insignificant contribution of water flow to the Christina River, which has a drainage area of 565 square miles. Furthermore, site drainage will continue to convey the water that currently flows into these channels into the Christina River. Currently, the Project study area has 23.3 acres of impervious area and as part of the Preferred Alternative, all existing impervious surface would be removed and the proposed transportation improvements would reduce the impervious area to 18.6 acres, a decrease of 4.7 acres, which could reduce the amount and intensity of stormwater runoff entering surface water features within the Project study area.

FHWA finds that the impacts to watersheds and surface waters are not significant.

Groundwater and Hydrology (see **Revised EA, Section V.M.**)

In 1974, Congress passed the SDWA to regulate the public drinking water supply. The SDWA Amendments of 1986 require each state to develop Wellhead Protection Programs to assess, delineate, and map source protection areas for their public drinking water sources, and determine potential risks to those sources (42 U.S.C. § 300h-7). Delaware adopted safe water drinking regulations in May of 1971 in conformance with Title 16 Section 122(3)(c) of the *Delaware Code* and has had several revisions, with the most recent in 2005. The EPA, as authorized by Section 1424(e) of the SDWA, is responsible for the Sole Source Aquifer (SSA) Program, which allows the EPA to designate an aquifer as a sole source of drinking water and establish a review area for any Federally funded Projects that fall within the area (42 U.S.C. § 300h-6).

Currently, the Project study area includes vacant/vegetated lots, surface parking, structures previously used for commercial/industrial purposes, a gasoline station, former junkyards, and brownfields. Physical site sampling analyzed soil, groundwater, sediment, and/or surface water samples for various contaminants. Many contaminants on the site have been found in the local groundwater, and additional contamination can result from leaching of these contaminants from the soil into the groundwater.

The construction of the Project may add additional sources of groundwater contamination from roadway runoff, including substances such as gasoline, oil, and road salts that can seep into the soil and enter the groundwater flow. Soil composition affects how readily contaminants may reach groundwater sources. For example, contaminants are more likely to reach groundwater in sandy soils, which allow more infiltration than clay soils, which have low infiltration rates. While the clean cap and proposed impervious surfaces will prevent some groundwater recharge, the groundwater will likely stay at the same level of contamination.

FHWA finds that impacts to the groundwater and hydrology are not significant.

Floodplains (see **Revised EA, Section V.N.**)

Any actions (including construction) in base floodplains (i.e., 100-year floodplain) must comply with FHWA's regulation 23 CFR 650 Subpart A which prescribes FHWA policies and procedures for the location and hydraulic design of highway encroachments in floodplains. 23 CFR 650 Subpart A includes FHWA's policy of avoiding longitudinal and significant encroachment into the floodplain and minimizing adverse impacts to base floodplains while

preserving natural and beneficial floodplain values and remaining consistent with the intent of the Federal Emergency Management Agency (FEMA) administered National Flood Insurance Program (NFIP). While 23 CFR 650 Subpart A seeks to avoid actions in base floodplains, the regulation also prescribes studies, procedures, and documentation required when the action cannot avoid an encroachment in the base floodplain.

In addition, as administrator of the NFIP, FEMA has regulatory authority (i.e., 44 CFR 60.3) where they may designate special flood hazard areas and requires NFIP communities to regulate activities within such designated special flood hazard areas. As a community within the NFIP, the City follows those standards and requirements for activities in special flood hazard areas. Specifically, the City has promulgated floodplain management ordinance applicable to all development and new construction which means that actions and activities must be compliant with applicable FEMA regulation and those City floodplain management ordinances. Specifically, the City of Wilmington Code of Ordinance (Sec. 48-572) states that construction is not permitted within special flood hazard areas without approval and new construction be built 18 inches above the 100-year floodplain.

Based on the studies conducted, encroachment on the floodplains would occur because the Project is contained entirely within the 100-year floodplain. However, a floodplain approval from the City of Wilmington will be required for the Project during final design. Floodplain applications are reviewed by the Floodplain Administrator, who interprets floodplain boundaries and proposed construction activities to assess impacts and provide approval of the Project.

FHWA finds that impacts to the floodplains are not significant.

Wildlife and Habitat (see **Revised EA, Section V.O.**)

Terrestrial wildlife in the Project study area is protected under several Federal and state provisions. The protection of all migratory birds is governed by the Migratory Bird Treaty Act (16 U.S.C. 703-712); the bald eagle (*Haliaeetus leucocephalus*) is protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d); and conservation of wildlife is managed in Delaware through the implementation of state wildlife action plans, as initiated by the USFWS. Section 7 of the Endangered Species Act (ESA) of 1973 (16 U.S.C. Sections 1531-1544) requires Federal agencies to use their authorities to conserve endangered and threatened species in consultation with the USFWS and/or NOAA National Marine Fisheries Service (NMFS). The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) and the Fish and Wildlife Coordination Act protect some of the fish and shellfish species that inhabit the Christina River. Under the MSFCMA, Essential Fish Habitat (EFH) is protected from adverse effects. Under the Delaware Administrative Code (7 Del. Admin Code 7504, Section 4.10.1.6.1), erosion and sediment control practices are required to follow standards that protect aquatic biota, wetlands, and nearshore shallow water habitat.

Vegetation, Terrestrial Habitat, and Terrestrial Wildlife – Data on wildlife habitat within the Project study area were collected through field observations and review of aerial imagery. The majority of the Project study area consists of barren land, old fields, disturbed hedgerows/small forests, and tidal shorelines.

As a result of the Preferred Alternative, there will be impacts to edge species but no substantial impacts to wildlife habitat.

Rare, Threatened, and Endangered (RTE) Species – The Information for Planning and Consultation (IPaC) tool was used to assess the potential presence of Federally listed species under the jurisdiction of the USFWS on May 14, 2024. The IPaC Official Species List includes the Northern Long-eared Bat (*Myotis Septentrionalis*), an Endangered species, and the Tricolored Bat (*Perimyotis subflavus*), a Proposed Endangered species, indicating that these species may occur within the Project study area. Based on the IPaC submission and the standing analysis of the Determination Key, the Project was given a “May Affect” determination for the Northern Long-eared bat and further coordination with USFWS was needed. In an email dated May 21, 2024, USFWS determined the Project is “not likely to adversely affect” the Northern Long-eared bat. There is a proposed rule to list the Tricolored Bat as an endangered species, but a final listing determination is still pending. The Monarch Butterfly (*Danaus plexippus*) is also included on the Official Species List and may be present within the Project study area; however, this species has not yet been listed as Federally threatened and no further coordination is required for this species. No additional Section 7 requirements are needed for the Tricolored Bat or Monarch Butterfly.

NOAA Section 7 mapping tools were used to assess potential impacts to protected marine species. NOAA Section 7 mapper data indicated that the Federally listed Atlantic sturgeon (*Acipenser oxyrinchus*) and the shortnose sturgeon (*Acipenser brevirostrum*) may be present in the Christina River, which intersects the Project study area.

A letter requesting information on rare, threatened and endangered (RTE) species was sent to the Delaware Department of Natural Resources and Environmental Control (DNREC) Division of Fish and Wildlife DNREC Division of Fish and Wildlife on August 16, 2023. DNREC indicated in a letter dated September 6, 2023, that there are no records of state-rare or Federally listed plants, animals, or natural communities within the Project study area.

The Build Alternative would remove small, remnant forest patches and hedgerows between the industrial parcels in the Project study area and would modify the grasslands and old fields adjacent to these forest patches and hedgerows. These forest patches and hedgerows qualify as suitable summer habitat for the Northern Long-eared Bat and the Tricolored Bat and their removal may impact bats. The Tricolored Bat’s suitable summer habitat includes grasslands and old field adjacent to forest and hedgerows modification of these areas may also impact the Tricolored Bat. Since meadow, wildflower, and pollinator habitats are not present in the Project study area, Federally listed candidate monarch habitat would not be affected by construction activities even if species listing status changes in the future. NOAA Section 7 mapping data indicated that the Atlantic sturgeon and shortnose sturgeon are present within the Project study area. Noise impacts from pile driving have potential to impact the ESA-listed species; however, the short duration of pile driving (90 minutes per pile) and production rate of two piles per day would cause minimal disturbance. The short duration and slow rate of pile driving indicate that the waterway is unaffected by noise for 85 percent of each day construction occurs. Pile driving

would take place on the intertidal shoreline of the Christina River and noise may be attenuated by the shallow water or no water pile driving conditions. In addition, in-water work would not take place from March 1 to June 30. The Greater Atlantic Regional Fisheries Office (GARFO) agreed through programmatic consultation on July 17, 2023 that the Project will not adversely affect the ESA-listed species.

Aquatic Biota – Aquatic biota within the Project study area have been historically affected by population growth, industrial and urban development, and harvesting of natural resources since the 1800s. During field investigation, species of fish, birds, and mollusks that live in and around these freshwater systems was observed within the Christina River, tidal wetlands, and tidal tributaries during investigations of the Project study area. The presence of aquatic life in smaller channels and wetlands was less common and centered around those areas where surface water appeared to be the most constant. Essential Fish Habitat (EFH) was identified within the Christina River requiring consultation with National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Services (NMFS).

NOAA Fisheries provided a “May Affect” final EFH consultation determination via a Federal Interagency Comment Form signed on May 14, 2024. The Project commits to the following four Essential Fish Habitat Conservation Recommendations provided by NOAA Fisheries Habitat and Ecosystem Services Division (HESD) which includes restricting in-water work between March 1 and June 30 to minimize impacts to anadromous fish migration and spawning; ensuring waterborne equipment associated with construction (e.g. barges) should float at all stages of the tide; installing turbidity curtains around all work that may suspend sediment in the water column and providing compensatory mitigation for all intertidal and subtidal impacts.

FHWA finds that impacts to the Wildlife and Habitat are not significant.

Section 4(f) and Section 6(f) Properties (see **Revised EA, Section V.P.**)

A survey of the Project study area determined that there are no public parks, recreation areas, wildlife and/or waterfowl refuges eligible for protection under Section 4(f) of the USDOT Act of 1966 within the Project study area. The survey also determined that there are no acquired properties within the Project study area under Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965.

The Preferred Alternative will create a Riverwalk and multiple public green spaces and parks.

FHWA finds that the Section 4(f) and Section 6(f) Property impacts are beneficial.

Table 3 summarizes the potential effects of the Project as identified in the Revised EA and the mitigation and commitments made by the Project Sponsors that FHWA has determined will result in no significant impacts.

Table 3: Build Alternative Effects and Minimization, Mitigation and Commitments

Environmental Resource	Direct Effects*	Indirect Effects	Cumulative Effects	Minimization, Mitigation, and Commitments
Land Use and Zoning	13.6 acres converted to infrastructure and open space	Future land use changes, including a mix of uses and community resources	Increase in beneficial land uses on the site that is currently underutilized	No mitigation is needed
Businesses, Economy, and Employment	1 business displacement; economic benefits by improving mobility and offering new, convenient options for accessing jobs, local economic destinations, and regional transit services; creation of construction-related jobs	Addition of office and retail space, and potential increase in businesses and employment from future redevelopment	Overall no substantial contribution to the incremental effect due to future economic activity and opportunity	<p>No mitigation is needed</p> <p>Commitment: Approximately 200 construction-related jobs. The City will commit to supporting businesses that qualify for the Office of Economic Development's Strategic Fund set-aside for minority owned businesses as well as providing notices to the Southbridge Civic Association for business development events hosted by the Office of Economic Development and economic development partners such as the Small Business Administration, Small Business Development Center, Delaware Division of Small Business, and Community Development Financial Institutions.</p> <p>The City and RDC will commit to advertising and holding outreach events for</p>

Environmental Resource	Direct Effects*	Indirect Effects	Cumulative Effects	Minimization, Mitigation, and Commitments
				construction workforce opportunities in nearby disadvantaged neighborhoods.
Neighborhoods and Community Facilities	No effect to existing facilities; improved community benefits and mobility	A new neighborhood, community facilities, and open space as proposed in the <i>South Market Street Master Plan</i> ; enhanced access and connectivity. Potential incremental effects if upward pressure on housing costs occurs.	Not anticipated to have a negative effect on communities within and around the Project study area; beneficial due to increased community and open spaces.” Potential for incremental effects if upward pressure on housing costs occur.	No mitigation is needed Commitment: Early construction of Orange Street to serve as a haul road to minimize project-related construction traffic traveling through adjacent residential communities
Demographics	1 business displacement	Future change to population size and demographics; increase in employment and residents where none currently exist; potential incremental effects if upward pressure on housing costs occurs	Induced commercial or residential development not anticipated; accommodation of future populations and economic activity	No mitigation is needed
Environmental Justice	No disproportionately high or adverse effect	Improved safety, connectivity, mobility; increased access to employment opportunities; a mix of land uses and community resources. Potential incremental effects	No incremental effect anticipated due to beneficial improvements and future redevelopment; potential incremental effects if	No mitigation is needed Commitments: The City of Wilmington’s Office of Economic Development will work with the University of

Environmental Resource	Direct Effects*	Indirect Effects	Cumulative Effects	Minimization, Mitigation, and Commitments
		if upward pressure on housing costs occurs.	upward pressure on housing costs occurs	<p>Delaware's Local Government Grant Assistance Program and the Southbridge Civic Association in identifying and applying for grant funding in support of the improvements identified in the Southbridge Transportation Action Plan.</p> <p>The City of Wilmington and the Riverfront Development Corporation will continue to investigate funding to plan, design, and construct a pedestrian connection from the Southbridge Community to the Wetland Park between C Street and South Church Street.</p> <p>The City will commit to supporting businesses that qualify for the Office of Economic Development's Strategic Fund set-aside for minority owned businesses as well as providing notices to the Southbridge Civic Association for business development events hosted by the Office of Economic Development and economic development partners such as</p>

Environmental Resource	Direct Effects*	Indirect Effects	Cumulative Effects	Minimization, Mitigation, and Commitments
				<p>the Small Business Administration, Small Business Development Center, Delaware Division of Small Business, and Community Development Financial Institutions.</p> <p>The City and RDC will commit to advertising and holding outreach events for construction workforce opportunities in nearby disadvantaged neighborhoods.</p> <p>The City will commit funding to construct a portion to funding and construction of the South Wilmington Sewer Separation project along B and C Streets to help alleviate flooding in the Southbridge community which includes construction of a separate storm drain system and partial reconstruction of the sanitary sewer line reconstruction along B and C Streets to help alleviate flooding in the Southbridge community.</p>
Hazardous Materials	3 low risk sites, 17 moderate risk sites, 4 high risk sites	Potential for leaching of chemicals from one	Relatively minimal incremental effect because of due diligence and	In locations where the infrastructure improvements would occur, avoidance,

Environmental Resource	Direct Effects*	Indirect Effects	Cumulative Effects	Minimization, Mitigation, and Commitments
		contaminated site to adjacent properties or groundwater	proposed remedial actions as part of the infrastructure improvements	mitigation, and minimization efforts include the completion of hazardous materials surveys, sampling, and investigations; completion of Brownfield Investigation Reports; development of Final Plans of Remedial Action and implementation of remediation as needed; completion of waste characterizations; completion of Contaminated Materials Management Plans and Health and Safety Plans; abandonment of all monitoring wells after remediation; proper onsite exposure precautions; proper treatment and disposal of identified hazardous materials. The City and the RDC will continue public notification throughout the construction process.
Noise	24 receptors/ residential noise sensitive land uses	Temporary effects during construction of the Project and future redevelopment; potential new sources of noise introduced to the Project study area	Relatively minimal incremental effect due to existing regulatory controls and regulations, and the Project study area's developed urban environment	Minimization: Refer to Chapter V, Section G.5 for a list of measures to be used to minimize potential negative effects from temporary construction noise
Air Quality	Project meets all applicable air quality requirements	Potential for temporary effects from construction of the Project and future	Not expected to be significant. The transportation plan and	Minimization: Refer to Chapter V, Section H.5. for a list of construction

Environmental Resource	Direct Effects*	Indirect Effects	Cumulative Effects	Minimization, Mitigation, and Commitments
		redevelopment; beneficial effects once redevelopment occurs	program are in conformance with the SIP and the Project is not anticipated to cause or contribute to a new violation, increase the frequency or severity of any violation, or delay timely attainment of the NAAQS.	commitments to minimize and mitigate emissions during construction
Greenhouse Gas and Climate Change	Increase in GHG emissions from construction operation and maintenance activities	Increase in GHG emissions	Increase in GHG emissions	Minimization: Refer to Chapter V, Section I.4. for a list of efforts to minimize and mitigate the increase in GHG emissions
Historical Structures & Archaeology	No adverse effect to historic structures; effects unknown for archaeology	Potential effects from future population growth and development in the APE, including destruction or degradation of resources	Not anticipated to contribute substantially to the incremental effect due to existing protective regulations and review processes	No mitigation necessary for historic structures Commitment: A Project Programmatic Agreement (PPA) stipulates the completion of a phased identification of archaeological historic properties, should they be present
Wetlands and Waters	Adverse effects to 0.3 acre DNREC Tidal Marsh Wetlands; 1.1 acres DNREC Tidal Mudflat Wetlands; 0.2 acre DNREC Subaqueous Lands; 1.0 acre USACE Wetlands; 0.8 acre USACE Waters	Potential roadway runoff, sedimentation, and changes to hydrology; decrease in wetland and waterway habitat	Relatively minor adverse effect due to protective legislation and the required permitting process	Mitigation: Proposed approach would be to enhance phragmites dominated tidal wetlands, on-site, along the Project shoreline. Compensatory mitigation plans developed, as required by Federal and state regulations, would comply

Environmental Resource	Direct Effects*	Indirect Effects	Cumulative Effects	Minimization, Mitigation, and Commitments
				with the requirements included in the 2008 mitigation rule, including provision for long-term management, adaptive management, and site protection. Refer to Chapter V, Section K.5. for additional permitting details.
Watersheds and Surface Water	Adverse effects to surface waters and watershed characteristics due to direct impacts to tidal and perennial channels and the Christina River	Overall increase in impervious surface and amount and intensity of stormwater runoff entering the watershed and surface water features	Relatively small incremental effect because of the small, contained Project study area and existing regulations	Minimization: Actions will be in accordance with the Delaware 5101 Sediment and Stormwater Regulations Mitigation: The quality and quantity requirement are met through brownfield remediation and conveyance structure use BMPs
Groundwater and Hydrology	Potential for effects during construction	Contaminants leaching from the soil into the groundwater; increased impervious surface and stormwater runoff	Relatively small incremental effect because of the small, contained Project study area, remediation, and regulations	Minimization: Groundwater impacts would be minimized by the remedial actions in the transportation infrastructure improvement area and by the development of a non-erosive stormwater conveyance system
Floodplains	No significant encroachment to the 100-year floodplain	Beneficial effects to flooding conditions from resiliency solutions and elevating the transportation improvements	Relatively minimal incremental effect due to existing regulations and the City of Wilmington's <i>Resilient Wilmington</i> plan	Mitigation: Elevating Project study area 18 inches or more above the 100-year floodplain The City will commit funds to construct a portion to funding and construction of the South

Environmental Resource	Direct Effects*	Indirect Effects	Cumulative Effects	Minimization, Mitigation, and Commitments
				Wilmington Sewer Separation project along B and C Streets to help alleviate flooding in the Southbridge community which includes construction of a separate storm drain system and partial reconstruction of the sanitary sewer line. reconstruction along B and C Streets to help alleviate flooding in the Southbridge community.
Vegetation, Terrestrial Habitat, and Terrestrial Wildlife	Effects to edge species; no substantial effects to wildlife habitat	Some less motile wildlife could be killed during construction and other more motile species could shift away from the new construction; improved wildlife habitat	No substantial contribution to the incremental effect due to a lack of vegetation and wildlife habitat in the Project study area and future improved habitat conditions	<p>Minimization: The abatement of hazardous materials should improve habitat for wildlife where it can recolonize</p> <p>Mitigation: Project proposes inclusion of tree plantings and additional green space</p> <p>Commitments: Refer to Chapter V, Section O.5.a. for a list of construction commitments to minimize pollutant runoff into surrounding wildlife habitat</p>
Rare, Threatened, and Endangered (RTE) Species	No adverse effects to ESA-listed species	Potential for noise effects from pile driving during construction; no effects anticipated downstream of the Project	No substantial contribution to the incremental effect due to there being no adverse effect to ESA-listed species	<p>Minimization/Commitments:</p> <ol style="list-style-type: none"> 1. Restrict in-water work between March 1 and June 30 to minimize impacts to anadromous fish migration and spawning.

Environmental Resource	Direct Effects*	Indirect Effects	Cumulative Effects	Minimization, Mitigation, and Commitments
				<p>2. Waterborne equipment associated with construction (e.g. barges) should float at all stages of the tide.</p> <p>3. All work that may suspend sediment in the water column should be enclosed within a turbidity curtain.</p> <p>4. Provide compensatory mitigation for all intertidal and subtidal impacts. A draft mitigation plan should be provided to NOAA Fisheries HESD for review and approval.</p> <p>The City will provide NOAA HESD with the draft mitigation plan and a copy of the Department of the Army permit pursuant to Rivers and Harbors Act Section 10 and Clean Water Act Section 404 prior to construction.</p> <p>Refer to Table 11 for the list of Project design criterion to minimize potential negative effects to RTE species.</p>
Aquatic Biota	Effects to aquatic biota and natural habitat including mortality of aquatic organisms and permanent loss of natural habitat; temporary effects during construction	Indirect effects to aquatic biota downstream from the Project or construction of future development on the site are not anticipated	No substantial contribution to the incremental effect due to lack of wildlife habitat in the Project study area and future improved habitat conditions	Minimization: Through strict adherence to Delaware mandated erosion and sediment controls

Environmental Resource	Direct Effects*	Indirect Effects	Cumulative Effects	Minimization, Mitigation, and Commitments
	from minor sediment discharges, noise, and vibration			Commitment: Adherence to DNREC time-of-year, restrictions, reducing underwater noise by using a soft start pile driving system, minimizing water quality impacts through use of erosion and sediment control BMPs, limiting construction debris, and minimizing habitat impacts by reducing the channel size to the minimum size that still allows non-erosive conveyance
Section 4(f) and Section 6(f)	Beneficial effect of new Riverwalk Archaeology adverse effect determination pending	No effect	No effect	No mitigation necessary Commitment: PPA will address phased identification of archaeological historic properties, should they be present

*Total reflects permanent and temporary direct effects

Indirect Impacts¹

The Project proposes to provide transportation infrastructure improvements which would lay the groundwork for future indirect effects of the Project. The indirect land use, community, and mobility effects from the Project are expected to be beneficial as they would be maximizing the potential of what is currently underutilized property. There would be potential for indirect effects to natural resources, including wetlands, waterways, and floodplains, including a potential increase in impervious area as future development progresses; however, the Project and future development are also anticipated to improve conditions by raising the site above the floodplain, implementing additional resiliency solutions, and meeting quantity and quality requirements through brownfield remediation and non-erosive conveyance, erosion and sediment control. Indirect effects to vegetation, wildlife, sensitive species, and habitat are expected to be limited due to the nature of the area. Overall, effects to these resources would also be minimized by regulatory requirements and permitting.

Indirect effects resulting from construction of the Project and future redevelopment related to hazardous materials could include leaching of chemicals from one contaminated site to adjacent properties or groundwater. However, remediation and capping of the contaminated soils required for the proposed transportation infrastructure improvements will be carried out by the City, the RDC, the EPA, and the DNREC prior to the infrastructure construction to ensure that the site is prepared and indirect effects from hazardous materials would be mitigated.

FHWA finds that the indirect impacts from the Project would not be significant.

Cumulative Impacts²

Cumulative impacts to community resources, natural resources, and cultural resources were scoped and evaluated for the Project. As part of this analysis, the direct and indirect effects of the Preferred Alternative, as well as the effects of past and present projects, and reasonably foreseeable impacts of future projects were evaluated for the resources of concern.

Direct and indirect impacts of the Project on the communities are expected to be minimal and beneficial. There is only one relocation and there would be increases in beneficial land uses on a site that is currently underutilized.


FHWA finds that the cumulative impacts from the Project would not be significant.

¹ The Council of Environmental Quality issued updated regulations implementing the National Environmental Policy Act with an effective date of September 14, 2020. The new regulations no longer require an analysis of “indirect effects.” Notwithstanding, the Environmental Assessment and the Revised Environmental Assessment for the Wilmington Riverfront Transportation Infrastructure project includes indirect effects analysis.

² The Council on Environmental Quality issued updated regulations implementing the National Environmental Policy Act with an effective date of September 14, 2020. The new regulations no longer require an analysis of “cumulative effects.” Notwithstanding, the Environmental Assessment and the Revised Environmental Assessment for the Wilmington Riverfront Transportation Infrastructure project includes a cumulative effects analysis.

Conclusion

Based upon the Draft EA, Revised EA, FONSI request and additional information located in this document, and the review of the Public Comments received, FHWA concludes that the proposed Project will not have a significant impact on the environment. No additional NEPA documentation is required for this Project. FHWA, in cooperation with the City of Wilmington, identifies the Build Alternative as the Preferred Alternative for the Project. If, during design or construction, changes in laws or regulations occur that affect the Project, or there are major design changes that results in greater impacts than those evaluated in this document, a reevaluation of this EA will be performed prior to FHWA granting any major approvals. The City of Wilmington has completed the assessment of the proposed Project and the Federal Highway Administration issues a Finding of No Significant Impact for the Wilmington Riverfront Transportation Infrastructure Project in New Castle County, Delaware.



Douglas S. Atkin
Division Administrator
FHWA, Delaware Division Office



Date