U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Natural Gas Distribution Infrastructure Safety and Modernization Grant Program
The City of Philadelphia, Philadelphia Gas Works, PA
Tier 2 Site Specific Environmental Assessment
NGDISM-FY22-EA-2023-18

PHMSA Approval:

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Overview:

The purpose of this Tier 2 Site Specific Environmental Assessment (Tier 2) is to: (1) document the proposed action (the Project) and the need for the action; (2) identify existing conditions; (3) assess the social, economic, and environmental effects using appropriate tools and agency coordination to comply with local, state, and federal environmental laws, regulations, and ordinances; (4) document applicable mitigation commitments that would avoid, minimize, or mitigate potential effects; and (5) seek comments from the public. This Tier 2 analysis informs PHMSA's assessment as to whether the Project is consistent with the impacts described in the Tier 1 Nationwide Environmental Assessment for the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program.[1]

As part of this Tier 2, PHMSA is soliciting public comments through a public comment period. This Tier 2 is available on PHMSA's website where comments can be submitted to the contact noted below. PHMSA will accept public comments for 30 days on this Tier 2. PHMSA will consider comments received and incorporate them in the decision-making process. Consultation with appropriate agencies on related processes, regulations, and permits is ongoing. Please submit all comments to: PHMSABILGrantNEPAComments@dot.gov and reference NGDISM-FY22-EA-2023-18 in your response.

At the conclusion of the EA process, PHMSA will either issue a "Finding of No Significant Impact," further supplement this EA with additional analysis, mitigation measures or prepare an Environmental Impact Statement.

I. Project Description/Proposed Action

Project Title	City of Philadelphia, Philadelphia Gas Works Natural Gas Pipeline Replacement Project
Project Location	City of Philadelphia, Philadelphia County, Pennsylvania

Project Description/Proposed Action:

Philadelphia Gas Works (PGW) proposes to replace approximately 6.1 miles of cast iron pipe and 0.5 mile of vintage steel and plastic pipes with high density polyethylene pipe (PE), which would reduce leaks, enhance safety, improve operations, and reduce methane emissions of natural gas. The work has been broken out into thirteen discrete projects which would all occur within the public right-of-way (ROW) and no new ROW or easements would be required. The scope of work would include the installation of approximately 33,650 linear feet of plastic pipe of various sizes and the abandonment of approximately 32,290 linear feet of cast iron, 2,500 linear feet of steel and 242 linear feet of vintage plastic pipeline, all 12 inches in diameter and smaller in size. The general depth of cover of the new pipe would be 36 inches and the new PE pipeline would be installed within 3 feet to the right or left of the existing pipe. The existing pipelines would be abandoned in place.

Construction activities would include: removal of paving where necessary; excavation of trench and storing/hauling of trench material; laying and joining of pipe; installation of fittings; installation of corrosion control devices; the connections of the services on the mains; pipe activation and abandonment; service

[1] https://www.federalregister.gov/documents/2022/11/09/2022-24378/pipeline-safety-notice-of-availability-of-the-tier-1-nationwide-environmental-assessment-for-the

renewal and reconnection; appliance relights and head of service rebuilds (no building alterations); purging of pipe; pressure testing; two-way gas testing; main tie-ins; backfilling trench; temporary repaving with cold patch; final repaving of both footways and roadway; and maintenance of the work area in a safe condition for vehicular and pedestrian traffic. The Tier 1 EA described that the majority of site-specific projects would utilize the insertion method of pipe replacement. As described in this document, PGW would utilize an open trench construction method, which generally involves greater soil disturbance and use of heavy equipment and related impacts when compared to the insertion construction method.

The project has been divided into the following work segments:

- Work Segment 4x5342, located at 300 Clarkson Avenue, 5500 4th Street, 5500 3rd Street, 5400 3rd Street;
- Work Segment 4x5187, located at 2100-2200 Wakeling Street, 5000 Tulip Street, 2100 Haworth Street;
- Work Segment 4x5306, located at 2300 Hutchinson Street, 800 Wolf Street, 2300 S 9th Street, 1000 Ritner Street;
- Work Segment 4x5340, located at 700 Sigel Street, 7-800 McClellan Street, 1800 South 8th Street;
- Work Segment 4x5168, located at 5600-5700 North 7th Street, 5600 N 6th Street, 5600 North Fairhill Street, 5700 Marshall Street, 600 Chew Avenue, 500-600 West Elkins Avenue;
- Work Segment 4x5182, located at 500-700 West Tabor Road, 5500 North 7th Street, 5500 North Marshall Street, 5500 North 6th Street, 5500 North Fairhill Street;
- Work Segment 4x5195, located at 5400 Fairhill Street, 5400 North 6th Street, 500 West Somerville Avenue;
- Work Segment 4x5258, located at 5700-5800 North 6th Street, 5700-5800 Fairhill Street, 600 Chew Avenue;
- Work Segment 4x5268, located at 900-1000 Olney Avenue;
- Work Segment 4x5341, located at 200,300,400 Tabor Street, 5400, 5500 Lawrence Street, 5400 4th Street, 5500 5th Street;
- Work Segment 4x5253, located at 1200 Rush Street, 1200 Williams Street, 1300 West Auburn Street, 2700-2800 North 12th Street;
- Work Segment 4x5316, located at 1900-2000 Stenton Avenue, 1900 Colonial Street, 1900-2000 West 65th Avenue, 6400-6500 North 20th Street, 2000 Ridley Street, 6500 North Uber Street;
- Work Segment 4x5307, located at 300 East Gale Street, 200-300 East Clarkson Avenue, 5500 B Street.

See Appendix A, Projects Maps.

No Action:

The No Action alternative, as required under NEPA, serves as a baseline, and is used to compare impacts resulting from the Proposed Action. Under the No Action alternative, PHMSA would not fund this pipeline replacement project. Additionally, PHMSA would not be able to reduce the inventory of methane leaks and reduce safety risks by replacing pipe prone to leakage. Under this alternative, PGW would continue to use cast iron and other vintage pipeline material and would conduct repairs or replacements in the future using non-federal sources of funding, or on an emergency basis, when a pipeline fails. Impacts and benefits associated with replacing leak prone pipeline within the City of Philadelphia with updated material would not be seen in the near term. The safety risks and methane leaks would persist. The replacement pipeline activities would either not be taken or they would be undertaken at a later, uncertain date. Even if pipe replacement were to

happen at some point in the future, environmental mitigation measures during such a replacement would be unknown. Furthermore, existing economic losses, and increased risk associated with prolonged gas leaks would continue.
Need for the Project: PGW would replace leak prone natural gas mains with PE piping. The overall needs addressed by this project would include: (1) improving upon the safe delivery of energy by reducing the likelihood of incidents, as well as methane leaks; (2) avoiding economic losses caused by pipeline failures; and (3) protecting the environment and reducing climate impacts by remediating aged and failing pipelines and pipe prone to leakage.
Description of the Environmental Setting of the Project Area: The Project is in a fully developed, urban environment within the City of Philadelphia. There is no natural habitat located within the project area.

II. Resource Review

Air Quality and Greenhouse Gases (GHG)	
Question	**Information and Justification**
Is the project located in an area designated by the EPA as non-attainment or maintenance status for one or more of the National Ambient Air Quality Standards (NAAQS)?	Yes, based on review of the EPA Greenbook.[2]
Will the construction activities produce emissions that exceed de minimis thresholds (tons per year) described in the initial Tier 2 EA worksheet?	No.
Will mitigation measures be used to capture blowdown[3]?	No.
Does the system have the capability to reduce pressure on the segments to be replaced? If yes, what is the lowest psi your system can reach prior to venting?	Yes, 0.216547 pounds per square inch (PSI).
Will project proponent commit to reducing pressure on the line to this psi prior to venting? Please calculate venting emissions based on this commitment and also provide comparison figure of venting emissions volume without pressure reduction/drawdown using calculation methods identified in the initial Tier 2 EA worksheet.	Yes, the existing system operates at 0.216547 PSI. Based on the sizes of the existing pipes, it is estimated that 7.6 thousand cubic feet (MCF) or 234 kg of methane would be vented during construction.
Estimate the current leak rate per mile based on the type of pipeline material. Based on mileage of replacement and new pipeline material, estimate the total reduction of methane.	The existing leak rate is approximately 28,081 kg/year Replacement would result in a leak rate of approximately 183 kg/year or a reduction of 27,898

[2] https://www.epa.gov/green-book/green-book-national-area-and-county-level-multi-pollutant-information

[3] Blowdown refers to the venting of natural gas in current facilities, in order to begin rehabilitation, repair, or replacement activities.

	kg/yr. [4]

Conclusion:

The project area is located within the City of Philadelphia, Philadelphia County, Pennsylvania. Based on EPA's Greenbook, the project area falls within a non-attainment area for the 8-hour ozone and a maintenance area for PM 2.5 national ambient air quality standard (NAAQS)[5]. Ozone is one of the six common air pollutants identified in the Clean Air Act.[6] The Environmental Protection Agency (EPA) calls these "criteria air pollutants" because their levels in outdoor air need to be limited based on health criteria. EPA has air quality standards for particulate matter (PM) to protect Americans from harmful and costly health impacts. EPA regulates inhalable particles while particles of sand and large dust (larger than 10 micrometers) are not regulated by EPA. EPA's national and regional rules to reduce emissions of pollutants that form PM help state and local governments meet national air quality standards.[7]

No Action:

Under the No Action alternative, existing and planned pipeline activities, including construction and maintenance activities, would continue unchanged. The project proponent would continue to use cast iron and other leak-prone pipe material. Under the No Action alternative, PHMSA estimates that approximately 28,081 kg of methane would be released each year from the existing pipelines within the project area. The total methane emissions for the pipelines within the project area were extrapolated over 20 years to represent the continuation of methane release under the No Action alternative. This amounts to approximately 561,629 kg of methane over a 20-year time frame. See Appendix B, Air Quality, for estimated methane leak rate calculations.

Proposed Action:

The proposed project is in an EPA designated maintenance area for PM 2.5 and a non-attainment area for ozone and therefore, PHMSA must ensure that the project would not interfere with the state's plan to maintain national standards for air quality. The Proposed Action alternative would result in minor air quality impacts associated with construction activities, including the intentional venting of methane contained in the existing pipelines prior to replacement. Venting of methane, referred to as "pipeline blowdowns" are typically necessary to ensure that construction and maintenance work can be conducted safely on depressurized natural gas facilities and pipelines. Venting methane is required when service is switched from the existing line to the newly constructed line, but the volume of vented gas can depend on the ability to reduce pressure on the pipe segment or other mitigation actions. Therefore, some methane would be released into the atmosphere during construction. Based on the operating pressure of 0.216547 PSI and the existing pipe sizes (ranging from four inches to twelve inches in diameter), PHMSA estimates 7.61 MCF of methane (or 234 kg) would be vented into the atmosphere during construction.

Construction equipment used during pipeline installation can contribute to fine particle pollution, including PM 2.5 and ozone. Therefore, PHMSA reviewed information provided by the PGW and estimated the emissions that would likely be produced by the construction equipment that would be used to install pipelines. This information was used in conjunction with EPA's MOVES[8] model to determine if the project would exceed EPA's

[4] Leak rates are based on Pre-1990 Installation emission factors found in *Table 1 Average methane emission factors for natural gas pipelines (adopted from EPA GHG Inventory, Annex 3.6, Table 3.62)* in the November 9, 2022, PHMSA: Natural Gas Distribution Infrastructure Safety and Modernization Grant Program Programmatic Environmental Assessment, Tier 1 Nationwide Environmental Analysis.
[5] https://www3.epa.gov/airquality/greenbook/anayo_pa.html
[6] https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics
[7] https://www.epa.gov/pm-pollution/particulate-matter-pm-basics
[8] https://www.epa.gov/moves

thresholds for NAAQS. PHMSA's assessment is that due to the relatively minor scope of the proposed action, impacts on local air quality resulting from construction activities, such as dust and exhaust from construction equipment, would be temporary and considered de minimis. Thus, the Proposed Action alternative does not require a General Conformity Analysis under Section 176(c) (4) of the Clean Air Act at the proposed project sites.

As described in the Tier 1 EA, methane leaks from natural gas distribution pipelines increase with age and are considerably higher for cast iron and steel pipelines, as compared with plastic. Replacing leak prone pipe with newer, more durable materials would reduce leaks and methane emissions. The existing pipelines that would be replaced by the Proposed Action alternative consist of approximately 32,290 linear feet of cast iron pipes, 2,500 linear feet of steel pipes and 242 linear feet of vintage plastic pipes. Based on the current leak rate of the existing pipes within the project area, this project would reduce overall emissions by approximately 27,664 kg in the first year (when considering the methane that would be released from blowdown that would occur during construction) and would reduce emissions by approximately 27,898 kg of methane per year thereafter. The total reduction of methane emissions for the pipelines resulting from the conversion to plastic pipeline would be approximately 557,726 kg. Therefore, it is PHMSA's assessment that the proposed project would provide a net benefit to air quality from the overall reduction of greenhouse gas emissions and that no adverse indirect or cumulative impacts would result from the Proposed Action.

Mitigation Measures:

Philadelphia Gas Works shall implement the following mitigation measures:

- Efficient use of on-road and non-road vehicles, by minimizing speeds and vehicles;
- Minimizing excavation to the greatest extent practical;
- Use of cleaner, newer, non-road equipment as practicable;
- Minimizing all vehicle idling and at minimum, conforming with local idling regulations;
- Ensuring that all vehicles and equipment are in proper operating condition;
- On-road and non-road engines must meet EPA exhaust emission standards (40 CFR Parts 85, 86, and 89);
- Covering open-bodied trucks while transporting materials;
- Watering, or use of other approved dust suppressants, at construction sites and on unpaved roadways, as necessary;
- Minimizing the area of soil disturbance to those necessary for construction;
- Minimizing construction site traffic by using offsite parking and shuttle buses, as necessary.

Water Resources	
Question	**Information and Justification**
Are there water resources within the project area, such as wetlands, streams, rivers, or floodplains? If so, would the project temporarily or permanently impact wetlands or waterways?	No according to US Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI)[9], and Federal Emergency Management Agency (FEMA) National Flood Hazard Layer maps[10].

[9] https://www.arcgis.com/home/webmap/viewer.html?webmap=da9a3343ad4a4dbfaac295501c76406d

[10] https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-78.54627852576945,38.012370839590155,-78.47704177039654,38.04054212981852

Under the Clean Water Act, is a Section 401 State certification potentially required? If yes, describe anticipated permit and how project proponent will ensure permit compliance.	No.
Under the Clean Water Act, is a USACE Section 404 Permit required for the discharge of dredge and fill material? If yes, describe anticipated permit and how project proponent will ensure permit compliance.	No.
Under the Clean Water Act, is an EPA or State Section 402 permit required for the discharge of pollutants into the waters of the United States? Is a Stormwater Pollution Prevention Plan (SWPPP) required?	Yes, construction activities could exceed soil disturbance thresholds and a 402 permit may be required prior to construction.
Will work activities take place within a FEMA designated floodplain? If so, describe any permanent or temporary impacts and the required coordination efforts with state or local floodplain regulatory agencies.	No.
Will the proposed project activities potentially occur within a coastal zone[11] or affect any coastal use or natural resource of the coastal zone, requiring a Consistency Determination and Certification?	Yes, Philadelphia is in a coastal zone, but pipeline replacement activities would not affect any coastal use or natural resource.

Conclusion:

PHMSA reviewed various resources to assist in identifying aquatic features including wetlands, streams, and other water resources in or near the project area. Based on a review of the NWI maps, topographic maps, and information provided by PGW, there are no water resources in the project area. PHMSA also reviewed FEMA's National Flood Hazard Layer to identify any special flood hazard areas (SFHA) in the project area. The FIRMette map indicates the project segments are all designated as Zone X. Areas designated as Zone X are outside of any designated special flood hazard areas. The project is in Philadelphia County, which is in a Coastal Zone Management Area administered by Pennsylvania's Department of Environmental Protection (DEP). See Appendix C, Water Resources.

No Action:

Under the No Action alternative, the existing pipeline would remain in the current location and normal maintenance activities would continue, without impacts to water resources.

Proposed Action:

The Proposed Action alternative includes replacing approximately 6.6 miles of existing pipelines. At most locations, the new gas lines will be located within 3 feet of the existing gas lines and the existing gas line will be abandoned in place. All new gas lines will be installed at a depth of 36 inches below grade and located within existing ROW. The project is in Pennsylvania's coastal zone. PHMSA coordinated with Pennsylvania's DEP and confirmed that this project is not a listed activity automatically triggering a federal consistency review under 15 CFR Part 930 Subpart F. PHMSA has not identified any water resources within the project area where the

[11] The term "coastal zone" means the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the several coastal states, and includes islands, transitional and intertidal areas, salt marshes, wetlands, and beaches.)

planned replacement of the natural gas pipeline would occur. PGW would use appropriate best management practices (BMPs) to ensure that no soils or construction debris migrates off site and into adjacent waters. With the inclusion of mitigative measures to assist in the prevention of potential impacts, based on information provided by PGW and a review of available information, PHMSA's assessment is that there will be no impacts to water resources and the project does not have any reasonably foreseeable effect on any coastal use or resource because of the pipeline replacement activities. The pipeline placement and abandonment of the existing pipeline is not anticipated to cause any reasonably foreseeable indirect effects or cumulative effects to water resources. Therefore, it is PHMSA's determination that there will be no adverse impacts to water resources.

Mitigation Measures:

PGW shall avoid staging in wetlands or floodplains and all preconstruction contours shall be restored with natural areas reseeded or repaved as soon as practical. BMPs shall be used during construction to control sediment and erosion and prevent pollutants from entering adjacent waterways.

PGW or their authorized representative, shall coordinate with Philadelphia's DEP and obtain, if necessary, an NPDES permit prior to commencing land disturbance activities.

Groundwater and Hazardous Materials/Waste	
Question	**Information and Justification**
Does the project have potential to encounter and impact groundwater? If yes, describe potential impacts from construction activities.	No.
Will the project require boring or directional drilling that may require pits containing mud and inadvertent return fluids? If yes, describe measures that will be taken during construction activities to prevent impacts to groundwater resources.	No.
Will the project potentially involve a site(s) contaminated by hazardous waste? Is there any indication that the pipeline was ever used to convey coal gas? If yes, PHMSA will work with the project proponent for required studies.	No. Yes; PGW utilized manufactured coal gas in its distribution system until approximately 1970. PGW would foam pack all abandoned pipe to ensure that no impacts to surrounding media occurs.
Does the project have the potential to encounter or disturb lead pipes or asbestos?	Yes. PGW has a thorough asbestos pipe coating abatement program that adheres to all applicable laws and regulations and would be followed.

Conclusion:

PHMSA reviewed EPA's NEPAssist website to identify any hazardous waste, brownfields properties or superfund sites identified in the project area for either segment. There were numerous hazardous waste sites identified near the project area. Hazardous waste information is identified in the Resource Conservation and Recovery Act Information (RCRAInfo), which is a national program that includes an inventory of all generators, transporters, treaters, storers, and disposers of hazardous waste that are required to provide information about their activities to state environmental agencies.[12] It is noted that the presence of a hazardous waste site does not

[12] RCRAInfo Overview | US EPA

indicate an identified environmental concern. There were no brownfields sites or superfund sites identified in the project area. (See Appendix D, Hazardous Materials).

PHMSA obtained a custom soil report for the project area from the United States Department of Agriculture, Natural Resources Conservation Service's (NRCS) Web Soil Survey[13] which indicates that the project area segments are comprised of soils classified as urban land and urban land- Chester complex. These areas often consist of a mix of pavement, buildings, artificially covered areas, fill material and well-drained soils.

No Action:

Under the No Action alternative, the existing natural gas pipes would remain in their current location and ongoing and routine maintenance activities would occur. Pipes would be replaced under failed circumstances. While there are no adverse impacts to groundwater anticipated by the No Action alternative, increased methane emissions are likely to occur if cast iron pipes remain (EPA, PRO Fact Sheet No. 402[14]) and risks of failure is higher among this type of pipe. Therefore, under the No Action alternative, PHMSA anticipates an increased risk for the release of methane resulting from leaks or pipeline failure, which could then result in ground disturbances from construction activities, potentially impacting ground water.

Proposed Action:

Under the Proposed Action alternative, the PGW would replace approximately 6.6 miles of existing pipelines within existing public ROW. Most of the new gas lines would be located within 3 feet of the existing gas lines. The new gas main lines would be installed at an average depth of three feet below grade and would be installed by cut and cover (trenching) construction methods. The existing gas line would be abandoned, in accordance with PHMSA requirements, and would be purged of natural gas and packed with foam. Because PGW utilized manufactured coal gas in its distribution system, there is the potential to encounter coal gas reside. PGW would work with a certified environmental professional to develop a soil management plan, health and safety plan, and any other remedial needs. All pipes and the surrounding area would be inspected prior to any disturbance to the pipe, and if coal residue exists, or any contaminated materials are discovered, work would stop immediately. In addition, PGW will immediately contact the Pennsylvania DEP to determine the regulatory requirements needed to address the concern. A Soil Management Plan (SMP) could include soil screening requirements, the oversight or monitoring of soil moving activities, contingency plans for the handling, removing, temporarily storing, characterizing, disposing of contaminated materials, and measures for containing, treating, and disposing of stormwater that may contact exposed soils.

With the inclusions of mitigative measures PHMSA's assessment is that there would be no adverse impacts to groundwater associated with the project. Trenching work is not likely to intercept groundwater. There are no brownfields, or superfund sites identified in the area where work would occur that could be potentially impacted by the Proposed Action alternative. While there are identified sites that contain, store, or dispose of hazardous materials (RCRA sites), these materials would not be encountered as work is limited to existing ROW. Should an unanticipated discovery or release of hazardous material occur during construction activities, PGW would notify the appropriate agency. Additionally, PHMSA has not identified any indirect or cumulative effects to groundwater or hazardous materials.

[13] https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

[14] Insert Gas Main Flexible Liners at https://www.epa.gov/sites/default/files/2016-06/documents/insertgasmainflexibleliners.pdf#:~:text=Methane%20emissions%20reductions%20come%20from%20lower%20leakage%20rates,pipe%20and%20external%20corrosion%20in%20unprotected%20steel%20piping.

Mitigation Measures:

PGW will work with a certified environmental professional to develop a soil management plan, health and safety plan, and any other remedial needs. All pipes and the surrounding area will be inspected prior to any disturbance to the pipe, and if coal residue exists, or any contaminated materials are discovered, work will stop immediately. In addition, PGW will immediately contact the Pennsylvania DEP to determine the regulatory requirements needed to address the concern.

Prior to the commencement of work, PGW shall develop a Soil Management Plan (SMP) to address the likelihood and procedures for encountering coal residue, unsuitable or contaminated pipelines and/or soils. The plan should include soil screening requirements, the oversight or monitoring of soil moving activities, contingency plans for the handling, removing, temporarily storing, characterizing, disposing of contaminated or unsuitable materials, and measures for containing, treating, and disposing of stormwater that may contact exposed soils or contaminated materials. The SMP shall also include a list of appropriate response agencies, regulatory agencies, project managers, etc. and shall also outline the proper protocol for notifying the appropriate parties to ensure that any encounters with contaminated materials are handled appropriately.

In the event of a release of hazardous materials/waste into the environment during construction, PGW shall notify the appropriate emergency response agencies, potentially impacted residents, and regulatory agencies of the release or exposure.

Soils	
Will all bare soils be stabilized using methods in Appendix 3? Will additional measures be required?	Yes. All impacted areas will be restored to pre-construction contours.
Will the project require unique impacts related to soils?	No.

Conclusion:

PHMSA obtained a custom soil report for the project area from NRCS's Web Soil Survey which indicates that the project area segments are comprised of soils classified as urban land and urban land- Chester complex (see Appendix E, Soils Report). Due to the urban environment, these areas often consist of a mix of pavement, buildings, artificially covered areas, fill material and well-drained soils.

No Action:

Under the No Action alternative, the cast iron pipes would remain in their current location and soils would remain in their current state and condition. Normal maintenance activities would occur, and pipes would be replaced under failed circumstances. Some soil disturbance would occur during emergency repairs and the affected areas would be restored upon completion. Under either scenario, no adverse impacts to soils would be anticipated under the No Action alternative.

Proposed Action:

Under the Proposed Action alternative, PGW would replace approximately 6.6 miles of cast iron pipelines within the existing ROW. The new gas lines will be installed at a depth of 36 inches below grade and will be installed by cut and cover construction methods, with work often occurring in paved areas. All disturbed areas will be repaved (or reseeded, as appropriate) and restored to pre-existing conditions. Therefore, PHMSA has

determined that there will be no adverse impact to soils resulting from the Proposed Action alternative. Additionally, there are no indirect or cumulative impacts anticipated as the PGW will utilize BMPs during construction and restore all areas to pre-construction conditions.
Mitigation Measures: PGW shall utilize best management practices, as appropriate, to control sediment and erosion during construction which may include silt fencing, check dams, and promptly covering all bare areas. All impacted areas shall be restored to pre-construction conditions.

Biological Resources	
Question	**Information and Justification**
Based on review of IPaC and NOAA Fisheries database, are there any federally threatened or endangered species and/or critical habitat within the project area?[15] If no, no further analysis is required.	Yes, based on review of the USFWS's Information for Planning and Consultation (IPaC).[16] Additionally, Pennsylvania state resources were inventoried to identify potential state listed species.
Will the project impact any areas in or adjacent to habitat for Federally, listed threatened or endangered species or their critical habitat? If no, provide justification and avoidance measures. If yes, PHMSA will work with the project proponent to conduct necessary consultation with resource agencies.	No.
Conclusion: PHMSA requested an official species list through the USFWS's IPaC website to obtain a list of species under USFWS' jurisdiction. See Appendix F, Biological Resources: Threatened and Endangered Species. The following were identified as potentially occurring within the geographic area: • Indiana bat *Myotis sodalist* (endangered) • Northern long-eared Bat *Myotis septentrionalis* (endangered) • Tricolored bat *Perimyotis subflavus* (proposed endangered) • Monarch butterfly *Dananus plexippus* (candidate species) The Indiana bat is a small, migratory bat that is brown to dark grey in color with ears and wing membranes that are dull, unlike other bats whose ears and wings have more of a sheen. Indiana bats hibernate in groups in caves and mines in the winter and in the summer are found in forests foraging and roosting. The females roost under the peeling bark of dead or dying trees. [17] Northern long-eared bat (mammal) is a wide-ranging, federally threatened bat species, found in 37 states and eight provinces in North America.[18] The species typically overwinters in caves or mines and spends the remainder of the year in forested habitats. As its name suggests, the Northern long-eared bat is distinguished by its long ears, particularly as compared to other bats in the genus *Myotis*.	

[15] https://ipac.ecosphere.fws.gov/ and https://www.fisheries.noaa.gov/species-directory/threatened-endangered
[16] https://ipac.ecosphere.fws.gov/ and https://www.fisheries.noaa.gov/species-directory/threatened-endangered
[17] https://www.fws.gov/species/indiana-bat-myotis-sodalis
[18] https://ecos.fws.gov/ecp/species/9045

The tricolored bat is one of the smallest bats found in North America and can be distinguished from others by its unique tricolored fur that appears dark at the base, lighter in the middle and dark at the tip. These bats overwinter in large groups in caves, abandoned mines and tunnels, and are sometimes found in culverts under roadways. During the spring, summer and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves. As its name suggests, the tricolored bat is distinguished by its unique tricolored fur that appears dark at the base, lighter in the middle and dark at the tip.[19]

Monarch butterfly (insect) is known for its large size, its orange and black wings, and its long annual migrations. Monarch butterflies are found wherever suitable feeding, breeding, and overwintering habitat exists. As caterpillars, monarchs feed exclusively on the leaves of milkweed. As adults, monarchs feed on nectar from a wide range of blooming native plants but can only lay eggs on milkweed plants. [20] Milkweed acts as a host plant and without it, the larvae would not be able to develop.

Additionally, the Pennsylvania Natural Heritage Program Species and Natural Features List[21] was reviewed to assist in identifying potential species protected by the state.

See Appendix F, Biological Resources, for a list of both state and federally listed species.

No Action:

Under the No Action alternative, existing conditions would remain, and normal maintenance activities would occur. The project area is in an urbanized environment and therefore has very limited biological resources present. Maintenance activities would not have any effect on the species identified above.

Proposed Action:

The project area is in an urbanized environment within existing ROW where the areas of disturbance are limited to areas previously impacted by utilities. Because the ROW has been previously impacted (pipeline laid in the ground near the location where new pipes will be laid and subsequently paved), and is an active roadway and residential area, the immediate project areas have very limited biological resources present. The City of Philadelphia is one of the world's largest metropolitan regions and as such, the project segments where work would occur do not contain the forested areas, caves nor vegetated habitat necessary to support the Indiana bat, Northern long-eared bat, or the tricolored bat. Therefore, in accordance with Section 7 of the Endangered Species Act PHMSA's assessment is that the project would have no effect to the Indiana bat or the northern long-eared bat. Under Section 7(a)(4) of the Endangered Species Act (ESA), Federal agencies must confer with the USFWS if their action would jeopardize the continued existence of a proposed species. PHMSA's assessment is that the project is unlikely to jeopardize the continued existence of the tricolored bat. As a candidate species, the monarch butterfly receives no statutory protection under the ESA. PHMSA's assessment is that the project would have no adverse impacts to state listed species or other biological resources and that there are no indirect or cumulative impacts anticipated as no impacts to habitat or species would occur.

Mitigation Measures:

No mitigation measures are necessary.

Cultural Resources

[19] https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus
[20] https://www.fws.gov/species/monarch-danaus-plexippus
[21] https://www.naturalheritage.state.pa.us/SpeciesFeatures.aspx

Question	Information and Justification
Does the project include any ground disturbing activities, modifications to buildings or structures, or construction or installation of any new aboveground components?	Yes, the project includes ground disturbing activities consisting of the installation of new pipelines and service lines. Meter sets would be replaced when new fuel lines are reconnected, as needed.
Is the project located within a previously identified local, state, or National Register historic district or adjacent to any locally or nationally recognized historic properties? This information can be gathered from the local government and/or State Historic Preservation Office.[22]	Yes.
Does the project or any part of the project take place on tribal lands or land where a tribal cultural interest may exist?[23]	Yes, the Delaware Nation, Oklahoma, Delaware Tribe of Indians, and the Eastern Shawnee Tribe of Oklahoma.
Are there any nearby properties or resources that either appear to be or are documented to have been constructed more than 45 years ago?[24] Does there appear to be a group of properties of similar age, design, or method of construction? Any designed landscapes such as a park or cemetery? Please provide photographs to show the context of the project area and adjacent properties.	Yes. The segments where work would occur contain properties that were built more than 45 years ago. Segments 4x5168 and 4x5258 are within 500 feet of the Cherashore Playground.
Has the entire area and depth of construction for the project been previously disturbed by the original installation or other activities? If so, provide any documentation of prior ground disturbances.	Yes. Other activities in the project location include the installation of facilities by various utilities.
Will project implementation require removal or disturbance of any stone or brick sidewalk, roadway, or landscape materials or other old or unique features? Please provide photos of the project area that include the roadway and sidewalk materials in the project and staging areas.	No.
Conclusion: PHMSA must consider the impact of projects for which they provide funding on historic and archeological properties[25] in accordance with Section 106 of the National Historic Preservation Act (Section 106). Pursuant to	

[22] Many SHPOs have an online system at https://www.nps.gov/subjects/nationalregister/state-historic-preservation-offices.htm that can tell you previously identified historic properties in your project area. The National Register list at https://www.nps.gov/subjects/nationalregister/database-research.htm can also be accessed online.

[23] The SHPO may have information on areas of tribal interest, or a good source is the HUD TDAT website at https://egis.hud.gov/TDAT/.

[24] Local tax and property records or historic maps may indicate dates of construction.

[25] Historic property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (National Register) maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and

36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the Undertaking may directly or indirectly affect historic resources. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW and utility easements, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW, which includes the limits of disturbance. The maximum vertical extent of the APE varies by work segment, as described in Appendix G, Cultural Resources. The Undertaking does not have the potential to cause visual or audible effects after the completion of construction.

Based on the proposed scope of work, the APE includes the existing roadways, parking lanes, and footways within the existing ROW associated with the thirteen work segments and the northeastern quarter of parcel 133N110002 where the Philip L. Sheerr School of Nursing auditorium is located.

No Action:

Under the No Action alternative, existing conditions would remain, and normal maintenance activities would occur. These activities could result in ground disturbance that might affect historic resources. However, no federal funding would be applied and therefore Section 106 would not be required.

Proposed Action:

To identify historic properties in the APE, PHMSA staff reviewed information included in the Pennsylvania State Historic Preservation Office's (SHPO) online data management and cultural resources GIS tool (PA-SHARE) and the City of Philadelphia's online Philadelphia Register of Historic Places inventory. PHMSA staff also conducted research to determine if there may be previously unidentified resources within the APE that are 45 years of age or older and potentially eligible for the National Register of Historic Places (NRHP) and assessed the archaeological sensitivity of the APE. PHMSA's assessment revealed that there are five (5) historic properties, as defined in 36 CFR 800.16(l), within or adjacent to the APE:

- The NRHP-eligible Philadelphia & Reading Railroad historic district
- The NRHP-eligible Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district
- The NRHP-eligible North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district
- The NRHP-listed Southwark School
- The NRHP-listed John L. Kinsey School, and
- The Philip L. Sheerr School of Nursing Auditorium.

The Undertaking will not alter any of the character-defining features of the Philadelphia & Reading Railroad historic district, the Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district, the North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district, the Southwark School, or the John L. Kinsey School that qualify them for inclusion in the NRHP under Criteria A and/or C or diminish their integrity. The work associated with the Undertaking consists of the installation and replacement of pipelines and service lines within existing roadways, parking lanes, and footways. No alterations to existing buildings are anticipated and the work will have no lasting physical, visual, or audible effects to these resources or their contributing features. The Undertaking also does not include land acquisition, nor would it limit access to or change the use of the resources.

The Philip L. Sheerr School of Nursing Auditorium building may be individually NRHP eligible under Criteria A for its association with the history of medicine and education in Philadelphia. However, it appears to be architecturally unexceptional and therefore does not appear to be NRHP eligible under Criterion C. Accordingly,

located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

the construction of a new meter-regulator outside of the Philip L. Sheerr School of Nursing Auditorium building would not alter any of the character-defining features that might qualify it for inclusion in the NRHP under Criteria A or diminish its integrity.

Furthermore, the work associated with the Undertaking is restricted to areas that demonstrate a low probability for intact significant archaeological resources. Therefore, in accordance with 36 CFR Part 800.5, PHMSA's assessment is that the Undertaking will have No Adverse Effect on historic properties identified within the APE.

A letter was sent on March 22, 2024, to the Pennsylvania Historical and Museum Commission, federally recognized tribes with a potential interest in the project area, and potential consulting parties outlining the Section 106 process, including a description of the undertaking, delineation and justification of the APE, identification of historic properties and an evaluation and proposed finding of no adverse effects. PHMSA has requested comments on the Section 106 process, identification of historic properties, and proposed finding within 30 days of receipt of the letter. See Appendix G, Cultural Resources, for more information.

Mitigation Measures:

If, during project implementation, a previously undiscovered archaeological or cultural resource that is or could reasonably be a historic property is encountered or a previously known historic property will be affected in an unanticipated manner, all project activities in the vicinity of the discovery will cease and PGW will immediately notify PHMSA. This may include discovery of cultural features (e.g., foundations, water wells, trash pits, etc.) and/or artifacts (e.g., pottery, stone tools and flakes, animal bones, etc.) or damage to a historic property that was not anticipated. PHMSA will notify the State Historic Preservation Office and participating federally recognized tribes and conduct consultation as appropriate in accordance with 36 CFR § 800.13. Construction in the area of the discovery must not resume until PHMSA provides further direction.

In the event that unmarked human remains are encountered during permitted activities, all work shall halt, and PGW shall immediately contact PHMSA as well as the proper authorities in accordance with applicable state statutes to determine if the discovery is subject to a criminal investigation, of Native American origin, or associated with a potential archaeological resource. At all times human remains must be treated with the utmost dignity and respect. Human remains and associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be photographed, collected, or removed until PHMSA has conducted the appropriate consultation and developed a plan of action. Project activities shall not resume until PHMSA provides further direction.

All work, material, equipment, and staging to remain within the road's existing right-of-way or utility easement or other staging areas as identified in the environmental documentation. If the scope of work changes in any way that may alter the effects to historic properties as described herein, the grant recipient must notify PHMSA, and consultation may be reopened under Section 106.

Section 4(f)	
Question	**Information and Justification**
Are there Section 4(f) properties within or immediately adjacent to the project area? If yes, provide a list of properties or as an attachment.	Yes. Several parks, recreational facilities and historic properties are located within or adjacent to the project segments.

Will any construction activities occur within the property boundaries of a Section 4(f) property? If so, please detail these activities and indicate if these are temporary or permanent uses of the Section 4(f) property. Further coordination with PHMSA is required for all projects that might impact a Section 4(f) property.	Yes. The gas service to the Einstein Nursing School located at 11th and Tabor will be renewed with direct burial. See below.

Conclusion:

Section 4(f) of the US Department of Transportation (USDOT) Act of 1966 as amended (Section 4(f)) (49 U.S.C. § 303(c)); is a federal law that applies to transportation projects that require funding or other approvals by the USDOT. Section 4(f) prohibits the Secretary of Transportation from approving any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or any land from an historic site of national, state, or local significance unless:

- There is no feasible and prudent alternative to the use of the land;
- The program or project includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site, resulting from such use.

PHMSA conducted a review of potential Section 4(f) properties within the project area. Several Section 4(f) recreational parks were identified, as well as a historic property. Fisher Park Playground is adjacent to Segment 4x5258. Cherashore Playground and the Einstein Nursing School are within 500 feet of Segment 4x5268. The Einstein Medical Nursing School (Einstein Medical) is registered as a historic property. The 12th and Cambria Playground is located just north of Segment 4X5253. The Carmella A DiTizio Playground is adjacent to Segment 4X5187 and the Charles J Ziehler Playground is adjacent to Segment 4x5307.

No Action:

Under the No Action alternative, there would be no change to existing pipeline infrastructure pursuant to federal funding provided by the Program. Therefore, there would be no use of Section 4(f) property under the No Action alternative.

Proposed Action:

Under the Proposed Action alternative, construction activities would not impact the resources identified above. Fisher Park Playground is located to the north of where pipeline replacement activities would occur for Segment 4x5258. Pipeline trenching activities for Segment 4x5268 would be in the roadway, near the south curb of Olney Avenue and there would be no impact to Cherashore Playground. PGW would install a new 1 ¼" plastic high pressure gas service pipe to the Sheerr Auditorium building at Einstein Medical by direct burial across the lawn. PGW would also build a new meter-regulator set outside of the building and would reconnect the fuel line. Pipeline activities would also occur near the Gratz building at Einstein Medical. The proposed trench would be in the roadway near building entrances; however pedestrian passageway would remain open and ingress/egress would not be impacted. Segment 4X5253 includes work located south of the 12th and Cambria Playground. No impacts to the park or ingress/egress would occur. Work conducted in Segment 4X5187 for pipeline replacement would occur on the opposite side of Carmella Playground and gas services would be replaced to the playground building located near Worth Street and Wakeling Street. Neither the trenching for pipeline replacement work nor the service line replacement would impact ingress/egress into the park. Segment 4x5307 includes work on the south curb of East Clarkson Avenue and the east curb of B Street which fall on the south and east sides of Ziehler Playground. The proposed pipeline work would not impact the ingress or egress of the Ziehler

Playground. It is noted that the Ziehler playground is currently under construction by the City and therefore other construction activities may occur at the same time and ingress/egress could be altered by construction activities undertaken by the City. In addition, as described in the Noise section of this Tier 2 EA, no adverse impacts associated with construction noise have been identified that could affect the use of this property. Therefore, PHMSA has determined there would be no use of any Section 4(f) resources.

Mitigation Measures:

PGW shall ensure that construction activities do not interfere with public access to and/or use of public recreational facilities during construction.

Land Use and Transportation	
Question	**Information and Justification**
Will the full extent of the project boundaries remain within the existing right-of-way or easements? If no, please describe any right-of-way acquisitions or additional easements needed.	Yes.
Will the project result in detours, transportation restrictions, or other impacts to normal traffic flow or to existing transportation facilities during construction? Will there be any permanent change to existing transportation facilities? If so, what are the changes, and how would changes affect the public?	Yes. PGW would apply to the City of Philadelphia Streets Department for lane closures as needed. There would be no permanent changes to existing transportation facilities.
Will the project interrupt or impede emergency response services from fire, police, ambulance or any other emergency or safety response providers? If so, describe any coordination that will occur with emergency response providers?	There are no anticipated interruptions to emergency response providers. Lane closures would be reviewed and approved by the City of Philadelphia. Additionally, all trench openings require street opening permits. PGW will coordinate with emergency response services as needed.

Conclusion:

The project is in various distinct locations throughout the City of Philadelphia. This metropolitan area consists of commercial and residential areas.

No Action:

Under the No Action alternative, the existing natural gas pipes would remain in their current location and no changes to land use would occur. Normal maintenance activities would occur, and pipes would be replaced under failed circumstances or when funding is available to replace the vintage pipelines. In either scenario, there would be no change to land use anticipated as existing pipelines would be replaced within this build-out environment.

Proposed Action:

PGW is proposing to replace pipeline infrastructure within the existing ROW and would not include adding pipeline to serve new areas. During construction, there may be short-term impacts to adjacent residences, businesses, and normal traffic patterns. Potential impacts include an increase in noise, dust, and transportation accessibility, because of construction and construction staging. PGW would apply to the City of Philadelphia Streets Department as lane closures as needed. Lane closures would temporarily impact normal traffic flow; however, the review and approval process by the City of Philadelphia Streets Department would ensure public safety and that there would be no unduly impact to traffic safety. Minor disruptions to on-street parking could occur, but access to existing residences would not be restricted. Normal traffic flow will be maintained to the extent possible and traffic control measures would be utilized to assist traffic negotiating through construction areas, as needed. PGW would notify emergency services of the scheduled work and would use various methods of communication to notify any potentially impacted residents, business owners, and the general public. Therefore, because the work consists of the replacement of existing pipeline, will not convert any new areas into a different use and impacts would only occur during construction, PHMSA's assessment is that there will be no impact to land use.

PHMSA considered the cumulative effects of this action with ongoing and planned transportation related construction projects that could cumulatively impact land use and transportation. Municipalities often have various maintenance, drainage improvement, and other projects occurring throughout the year. The City of Philadelphia would review and approve projects that cause disruptions to normal traffic patterns ensuring the safety of the public. Through this coordination, the overall cumulative effects of multiple projects would be minimized by planning and scheduling efforts with responsible agency oversight. Land use changes are not anticipated as the projects are occurring in an urbanized area that is built out and therefore will not change the existing residential or commercial use.

Mitigation Measures:

PGW shall maintain traffic flows to the extent possible and use traffic control measures to assist traffic negotiating through construction areas, as needed.

PGW shall coordinate with state and local agencies regarding detours and/or routing adjustments during construction and will notify any potentially impacted residents and/or business owners.

PGW shall have a traffic control plan in place, prior to construction, and coordinate with the appropriate agency well in advance of any impacted emergency services or essential agency functions.

Noise and Vibration	
Question	**Information and Justification**
Will the project construction occur for longer than a month at a single project location?	Yes. Overall construction for each segment would take over a month to complete; however various construction phases would occur at separate times on each block. Pipe installation on a 500 ft block would generally last 1 week with immediate backfill and temporary restoration. Tie-ins and service work would follow for approximately 2 weeks and paving would take less than a week.

Will the project location be in proximity (less than 50-ft.) to noise sensitive receivers (residences, schools, houses of worship, etc.)? If so, what measures will be taken to reduce noise and vibration impacts to sensitive receptors?	Jack hammers, pneumatic tampers, backhoes, and a hydrohammer may be used within 20 feet of a various structures: Morning Star Pentecostal; Church of our Lord Apostolic Faith Inc; Hill-Freedom World Academy High School; and New Horizon Baptist Church.
Will the project require high-noise and vibration inducing construction methods? If so, please specify.	No. PGW Projects would not require blasting operations. City and State noise regulations and policies would be adhered to during construction.
Will the project comply with state and local ordinances? If so, identify applicable ordinances and limitations on noise/vibration times or sound levels.	Yes. Philadelphia limits construction noise from 8pm to 7am on weekdays, except for emergencies or public works construction if the limited hours are not feasible. The Philadelphia Chapter 10-400 Noise and Excessive Vibration Ordinance applies to this project.
Will construction activities require large bulldozers, hoe ram, or other vibratory equipment within 20 feet of a structure?	Yes, jack hammers, pneumatic tampers, backhoes, and a hydrohammer could be used within 20 feet of a structure.

Conclusion:

The project is in thirteen discrete project areas throughout the City of Philadelphia. The ambient noise in the project area consists of a combination of environmental noise from road traffic, construction, industry, the built environment, population density and other sources. There are several sensitive noise receptors (residences, schools, churches, etc.) located adjacent to the streets where work would occur.

No Action:

Under the No Action alternative, the project would not move forward and the pipelines along the designated streets in the project area would not be replaced at this time. If replacement or repairs occur, noise from construction equipment would add to that of the current ambient noise and would be of a shorter duration.

Proposed Action:

The project would include the use of excavators, dump trucks, backhoe, pavers, and other similar construction equipment would be used to excavate trenches, lay pipe, compact soils, and re-pave the affected areas. Overall construction for each segment would take over a month to complete; however various construction phases would occur at separate times on each block. Pipe installation would generally last 1 week. The trenches where pipeline is laid would be backfilled immediately. The new gas lines would be connected to the existing natural gas system and service work would follow and last approximately 2 weeks. The project work would be located within proximity to sensitive noise receptors, and they are likely to experience noise impacts during construction resulting from construction equipment. PGW would follow all city and state noise regulations, including the City of Philadelphia's Chapter 10-400 Noise and Excessive Vibration Ordinance. The City of Philadelphia limits construction noise from 8pm to 7am on weekdays, except for emergencies or public works construction, if work during normal construction hours is not feasible.

PHMSA's assessment is that while sensitive noise receptors located in proximity are likely to experience temporary noise impacts, they would be minor and temporary and no adverse vibration impacts would result from the proposed work. PHMSA considered the cumulative effects of this action with ongoing and planned transportation related construction projects that could cumulatively have an impact on the noise and vibration

impacts within the City of Philadelphia. Urban areas often have paving, drainage improvement, and other construction or maintenance projects on going which could occur within or near the project area which would contribute to increased noise. Other construction and maintenance projects could occur at the same time as the Proposed Action alternative and would contribute to an increase in cumulative noise effects during construction. However, adhering to state and local noise ordinances would ensure the project does not cause cumulatively more than minor adverse noise or vibration impacts.
Mitigation Measures: PGW shall adhere to all city and state noise regulations.

Environmental Justice	
Question	**Information and Justification**
Using the EPA EJScreen or census data[26], is the project located in an area of minority and/or low-income individuals as defined by USDOT Order 5610.2(c)? If so, provide demographic data for minority and/or low-income individuals within ½ mile from the project area as a percentage of the total population.	Yes, based on review of socioeconomic data using the EPAs EJScreen, the population residing within the general project area contains 35-66 percent of low income and 44-97 percent minority populations, depending on the segment where work would occur.
Will the project displace existing residents or workers from their homes and communities? If so, what is the expected duration?	No.
Will the project require service disruptions to homes and communities? If so, what is the expected communication and outreach plan to the residents and the duration of the outages?	Yes. Services would be temporarily disconnected from the existing main and connected to the new gas main. Information about PGW's work is posted at least 30 days in advance on various social media platforms and PGW's Website. At least 3-days before pipeline work begins, PGW crews and contractors notify residents and businesses using door hangers.
Are there populations with Limited English Proficiency located in the project area? If so, what measures will be taken to provide communications in other languages?	Yes. Communication is offered in English, Spanish and Chinese.
Conclusion: Executive Order (E.O.) 14096—"Revitalizing Our Nation's Commitment to Environmental Justice for All" was enacted on April 21, 2023. E.O. 14096 on environmental justice does not rescind E.O. 12898 – "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," which has been in effect since February 11, 1994, and is currently implemented through DOT Order 5610.2C. This implementation will continue until further guidance is provided regarding the implementation of the new E.O. 14096 on environmental justice. PHMSA reviewed socioeconomic data using the EPAs EJScreen and found the population residing within project area 1 contains 50 percent low income and 98 percent minority populations; project area 2 contains 66 percent low income and 97 percent minority populations; project area 3 contains 62 percent low income and 74 percent	

[26] https://www.census.gov/quickfacts/fact/table/US/PST045222

minority populations; and project area 4 contains 35 percent low income and 44 percent minority populations. The Philadelphia County, PA average is 43 percent low income and 66 percent minority populations. See Appendix I, Environmental Justice, for socioeconomic data for project areas.

No Action:

Under the No Action alternative, existing and planned pipeline activities, including construction and maintenance activities, would continue unchanged. PGW would continue to use leak prone pipe material that could lead to safety incidents and service disruptions. Additionally, if a pipeline segment is not repaired or replaced prior to failure, it is likely to be associated with even more emissions under the No Action alternative. Thus, emissions benefits to the community associated with repairing or replacing existing pipelines with updated material would not be achieved and the incident risks and leaks would remain. There may be some degree of air pollution associated with construction activities for maintenance and repairs of existing pipelines under the No Action alternative, either through planned repair or replacement efforts or unplanned, emergency repairs or replacements.

Proposed Action:

The Proposed Action alternative would result in an overall reduction in GHG emissions. Construction activities would result in minor temporary air quality impacts, including the intentional venting of existing distribution lines prior to replacement. Noise impacts associated with construction are anticipated to be minor. Traffic impacts would be temporary and only minor disruptions or delays would occur. Natural gas services to existing customers would be temporarily disconnected from the existing main and connected to the new gas main. Interruptions to gas service should last no more than 8 hours. Each service line, connection and meter would be reviewed, and some services may need curb valve installations/replacements and some meter sets may have to be rebuilt. Information pertaining to the pipeline replacement work would be posted at least 30 days in advance on various social media platforms and PGW's Website (Pipeline Improvement Map)[27]. At least 3-days before pipeline work begins, PGW crews and contractors would notify residents and businesses using door hangers. Gas turn-ons would be scheduled with the customer at their convenience. Information on PGW's website is provided in English, Spanish and Chinese.

While there would be temporary impacts to residents resulting from the gas line replacement work, the removal of leak prone pipes would reduce leaks and the potential for incidents, resulting in an increase in pipeline safety across the system. Pipeline replacements would also improve operation and reliability of natural gas services. Therefore, consistent with Executive Order 12898 and DOT Order 5610.2(c), PHMSA's assessment is that the project would not result in disproportionately high and adverse effects on minority or low-income populations, or other underserved and disadvantaged communities. The project would have an overall beneficial effect on environmental justice populations and would not result in indirect or cumulative impacts.

Mitigation Measures:

PGW shall provide advanced notification of service disruptions and construction schedule to all affected parties including residents and businesses adjacent to the project area.

Safety

[27] https://www.pgworks.com/pipeline-map

Question	Information and Justification
Has a risk profile been developed to describe the condition of the current infrastructure and potential safety concerns?	Yes. PGW's DIMP Risk Model describes the condition of the current infrastructure and potential safety concerns.
Has a public awareness program been developed and implemented that follows the guidance provided by the American Petroleum Institute (API) Recommended Practice (RP) 1162?	Yes. PGW has conducted enhanced awareness education programs following the guidelines of the Supplemental Frequency and Activity in API RP 1162 Public Awareness Programs for Pipeline Operators incorporated by reference in 49 CFR Part 192.
Does the project area include pipes prone to leakage?	Yes.
Will construction safety methods and procedures to protect human health and prevent/minimize hazardous materials releases during construction, including personal protection, workplace monitoring and site-specific health and safety plans, be utilized? If yes, document measures and reference appropriate safety plans.	Yes. PGW contractors are required to comply with the provisions of the Occupational Safety and Health Act of 1970 and all applicable laws regarding health and safety. PGW personnel and Contractors are to utilize traffic and safety devices, personal protective equipment including fire retardant clothing as identified in PGW's Bulletin 295 Personal Protective Equipment Procedure. Contractor crews are subject to safety audits by PGW and if needed, must develop a Health and Safety Plan that conforms to 29 CFR 1910.120 to protect workers prior to commencement of work and outline the proper handling of materials to PADEP standards.
Has an assessment of the project been performed to analyze the risk and benefits of implementation?	Yes. The project will reduce the inventory of leak prone pipelines and their associated safety risks. It will also reduce emergency maintenance activities, potential injuries and fatalities associated with gas leaks, reduce emissions, increase reliability of pipelines, create jobs, and promote economic growth in historically disadvantaged areas.

Conclusion:

The proposed project would replace historic cast iron, steel, and plastic pipes. Pipelines that are known to leak based on the material include cast iron, bare steel, wrought iron, and historic plastics with known issues (PIPES Act of 2020). PHMSA establishes safety regulations for all pipelines (49 CFR Parts 190-199). In 2011, following major natural gas pipeline incidents, DOT and PHMSA issued a Call to Action to accelerate the repair, rehabilitation, and replacement of the highest-risk pipeline infrastructure. Among other factors, pipeline age and material are significant risk indicators. Pipelines constructed of cast and wrought iron, as well as bare steel, are among the pipelines that pose the highest risk. This is reflected in PGW’s DIMP plan. PHMSA continues to encourage legacy pipeline repair or replacement to increase the safety of these segments of the gas distribution systems. Pipeline incidents can result in death, injury, property damage, and environmental damage.

No Action:

Under the No Action alternative, the cast iron, steel and plastic pipes located in these segments would remain in their current location, state, and condition. Normal maintenance activities would occur, and pipes would be

replaced under failed circumstances. Safety risks resulting from existing leak prone pipes remaining in place would persist until the existing leak-prone pipes are replaced.

Proposed Action:

The Proposed Action alternative targets 8" and smaller low-pressure cast-iron mains, which are identified as high-risk in PGW's Distribution Integrity Management Plan, reducing the category's overall risk score by replacement. According to PGW, with a FY22 average of 1.91 leaks per mile, PGW's project would reduce approximately 9 leaks per year. The project would reduce the risk profile of existing pipeline systems prone to methane leakage and would also benefit disadvantaged communities with the safe provision of natural gas. The project responds to the need to address the potentially unsafe condition of the natural gas distribution system of pipelines. The replacement of pipelines would be constructed in accordance with industry best practices and would comply with all local, state, and federal regulations, including those for safety.

The abandonment of the existing pipeline would be conducted in accordance with PHMSA requirements found in 49 CRF 192.727 and 195.402(c)(10). These requirements include disconnecting pipelines from all sources and supplies of gas, purging all combustibles and sealing the facilities left in place. These requirements for purging and sealing abandoned pipelines would ensure that the abandoned pipelines are properly purged and cleaned and pose no risk to safety in their abandoned state. Therefore, PHMSA has determined this replacement project would improve the overall safety of PGW's infrastructure.

Mitigation Measures:

PGW shall ensure their DIMP procedures are updated as necessary, the work is constructed in accordance with industry best practices and the project will comply with all local, state, and federal regulations, including those for safety.

PGW shall use standard construction safety methods and procedures; and conduct regular safety audits of crews performing work in the field and subsequent follow-up reporting and/or training, as required.

III. Public Involvement

On November 9, 2022, PHMSA published a Federal Register notice (87 FR 67748) with a 30-day comment period soliciting comments on the "Tier 1 Nationwide Environmental Assessment for the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program." During the 30-day comment period, PHMSA received one comment letter from the APGA on various aspects of the program and air quality related analysis in the EA on December 9, 2022. This APGA letter is available for public review at the Docket No: PHMSA-2022-0123[28]. PHMSA reviewed the comment letter and determined the comments were not substantial and did not warrant further analysis. One comment provided by the APGA indicated that the majority of construction methods used for pipe replacements would be replacement by open trenching and that some may want to abandon the existing pipe rather than removing it for replacement. Any departures from methods described in the Tier 1 EA will require additional documentation from the project proponent, as reflected in this Tier 2.

[28] https://www.regulations.gov/document/PHMSA-2022-0123-0002/comment

As part of this Tier 2, PHMSA is soliciting public comments through a public comment period. This Tier 2 is available on PHMSA's website where comments can be submitted to the contact noted below. PHMSA will accept public comments for 30 days on this Tier 2. PHMSA will consider comments received and incorporate them in the decision-making process. Consultation with appropriate agencies on related processes, regulations, and permits is ongoing. Please submit all comments to: PHMSABILGrantNEPAComments@dot.gov and reference NGDISM-FY22-EA-2023-18 in your response.

Appendix A

Project Maps

Philadelphia Gas Works, Project Areas

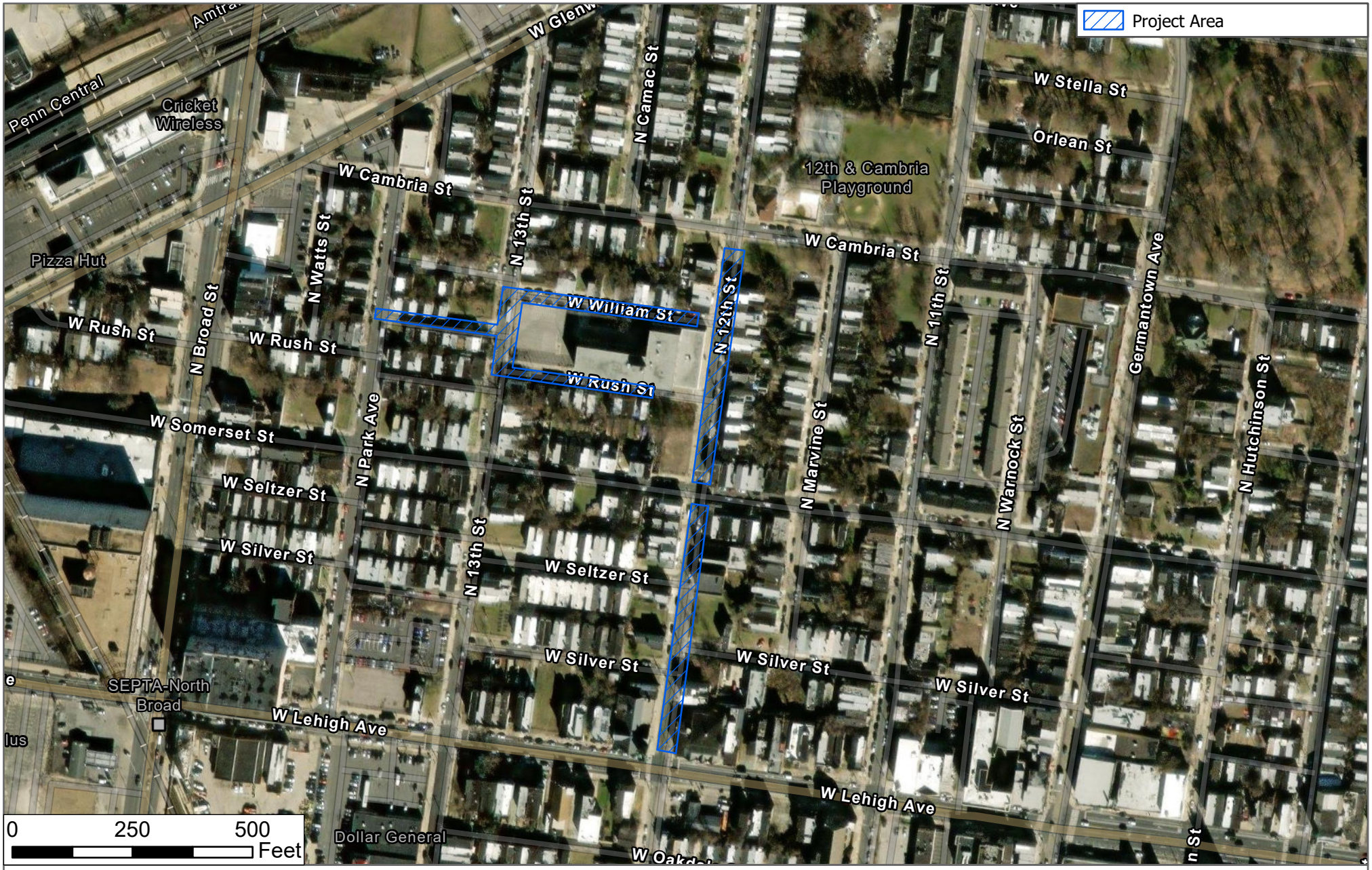
Name: Philadelphia Pennsylvania Gas Line Replacement
Scale: 73,000
Total Acreage: 31.6
USGS Basemap: Philadelphia, Camden
Philadelphia, PA Philadelphia County

Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed April, 2023.

Philadelphia Gas Works, Project Areas

Name: Philadelphia Pennsylvania Gas Line Replacement
Scale: 14,000
Total Acreage: 31.6
Philadelphia, PA Philadelphia County Area 1;
Segments 4x5182, 4x5195, 4x5268, 4x5341, 4x5342
4x5168, 4x5258, 4x5307, 4x5316

Philadelphia Gas Works, Project Areas



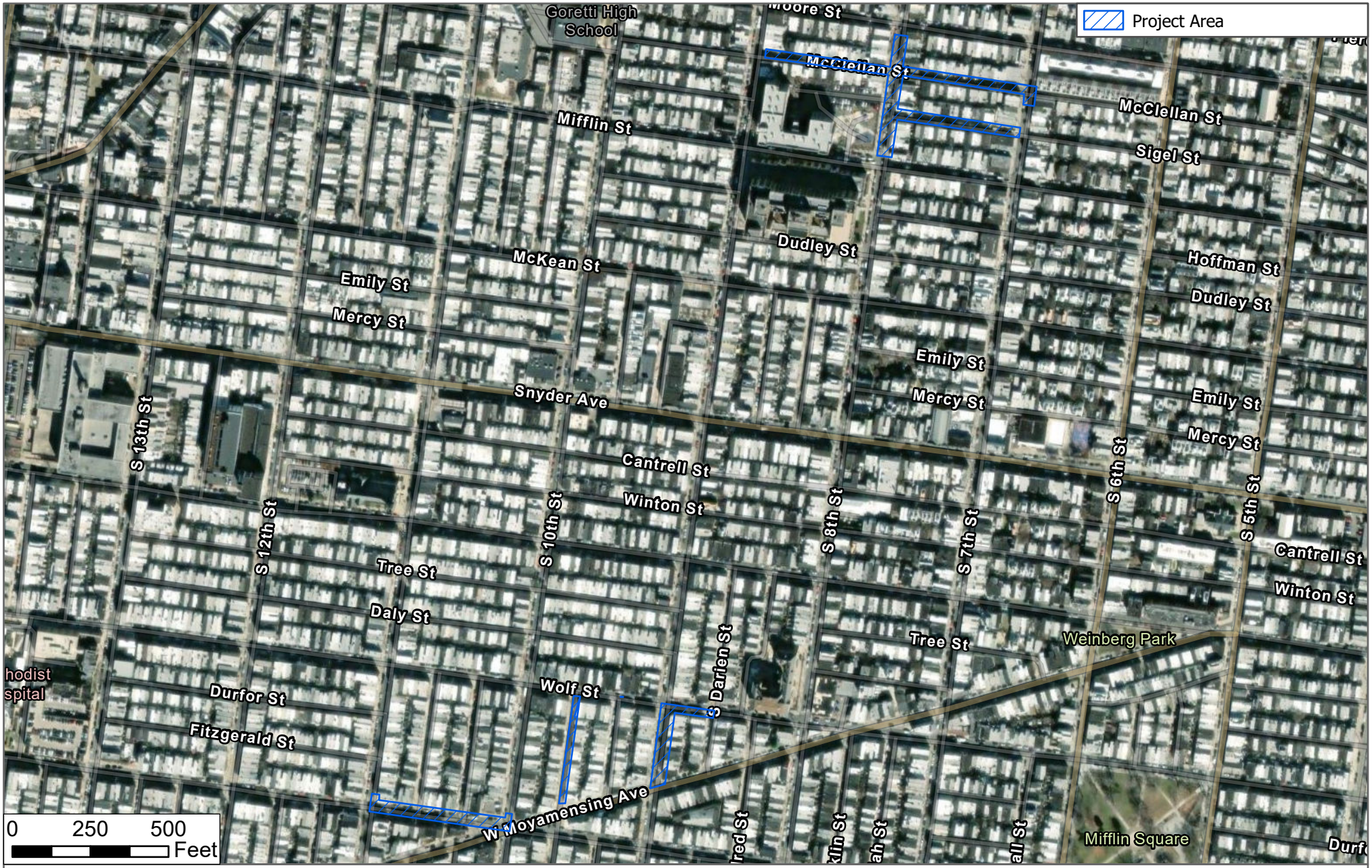
Name: Philadelphia Pennsylvania Gas Line Replacement
Scale: 3,250
Total Acreage: 31.6
Philadelphia, PA Philadelphia County
Area 2; Segment 4x5253

Philadelphia Gas Works, Project Areas

Name: Philadelphia Pennsylvania Gas Line Replacement
Scale: 3,000
Total Acreage: 31.6
Philadelphia, PA Philadelphia County
Area 3, Segment 4x5187

N

Philadelphia Gas Works, Project Areas



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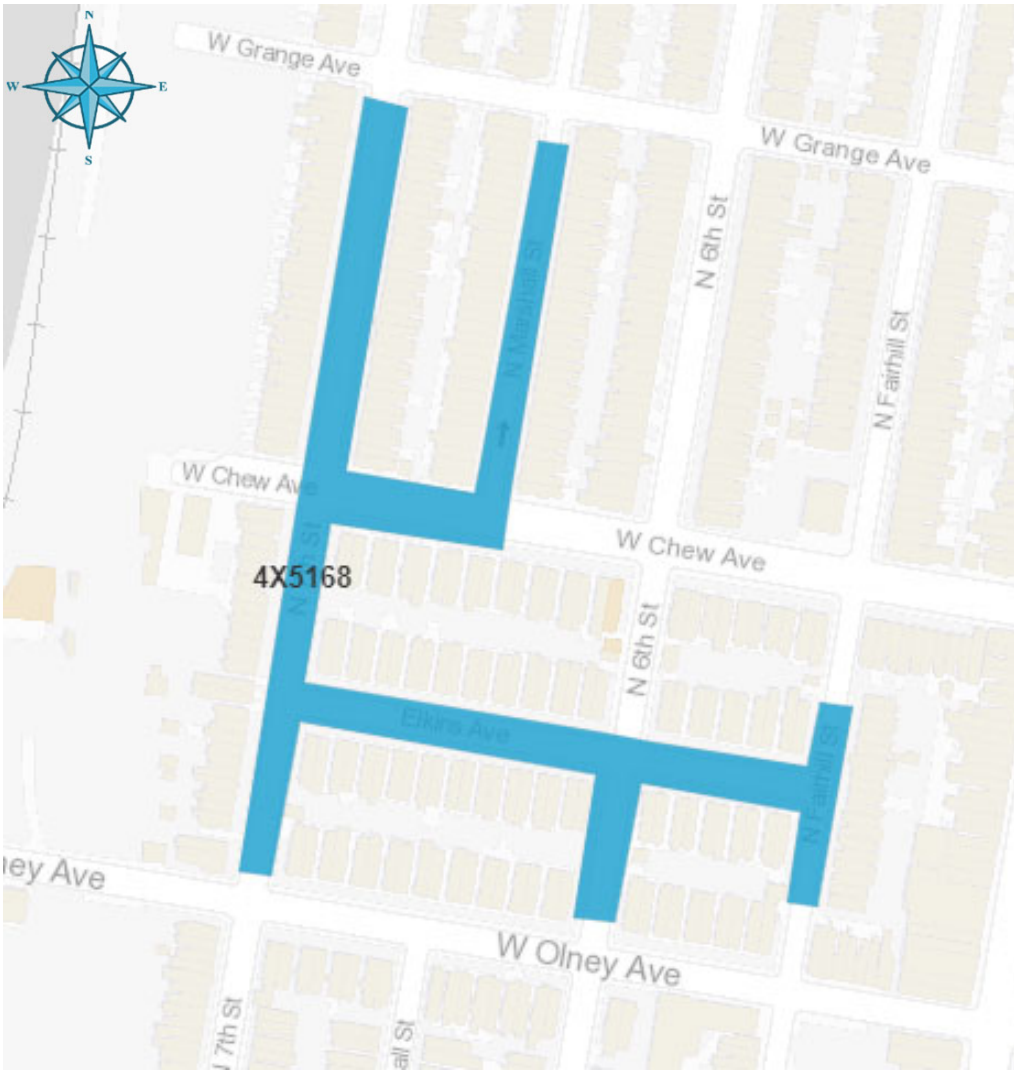
Scale: 5,000
Total Acreage: 31.6
Philadelphia, PA Philadelphia County
Area 4; Segment 4x5340, 4x5306

N

4x5168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W Chew Ave
W Chew Ave
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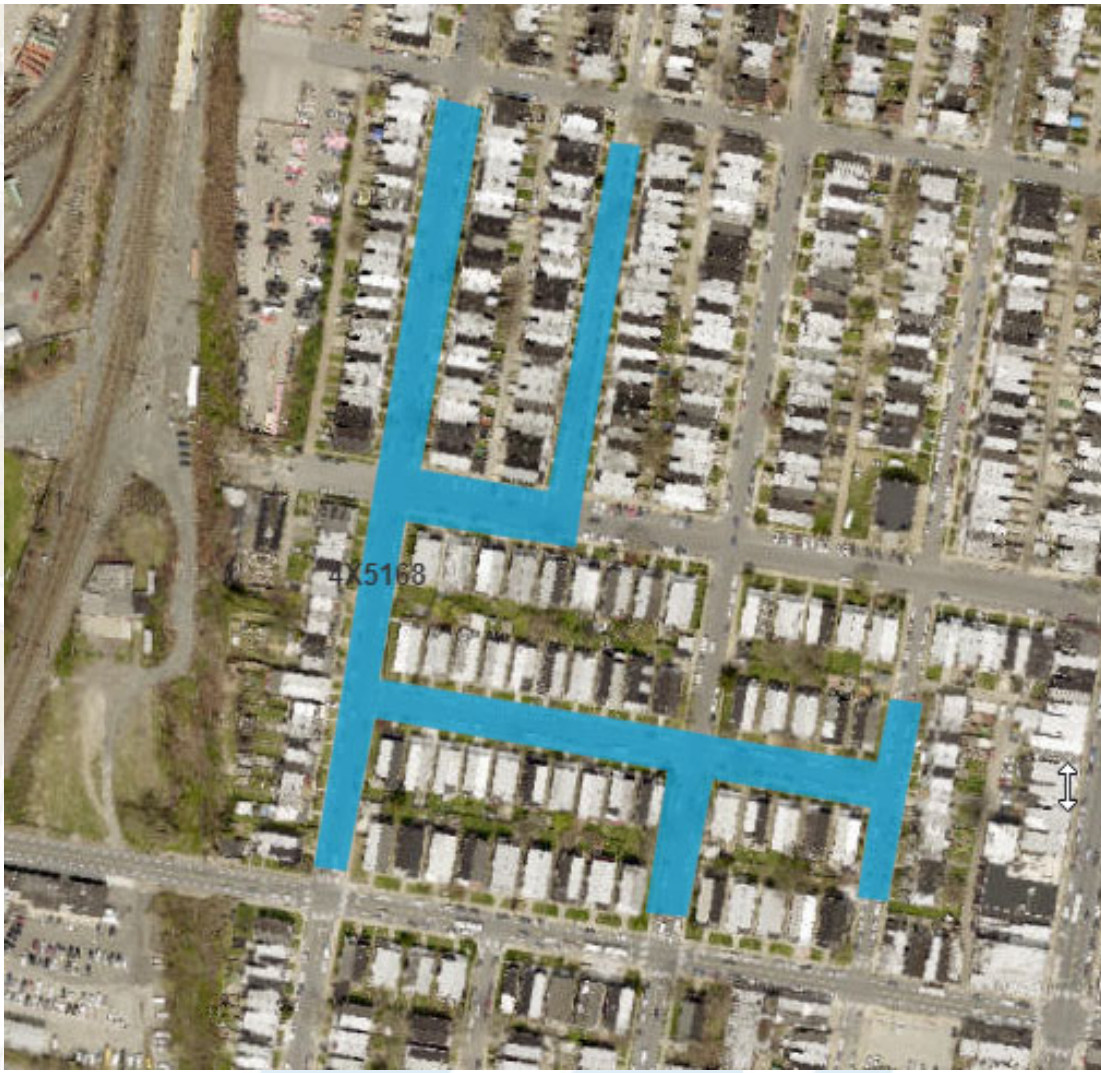
N 6th St
Elkins Ave
W Olney Ave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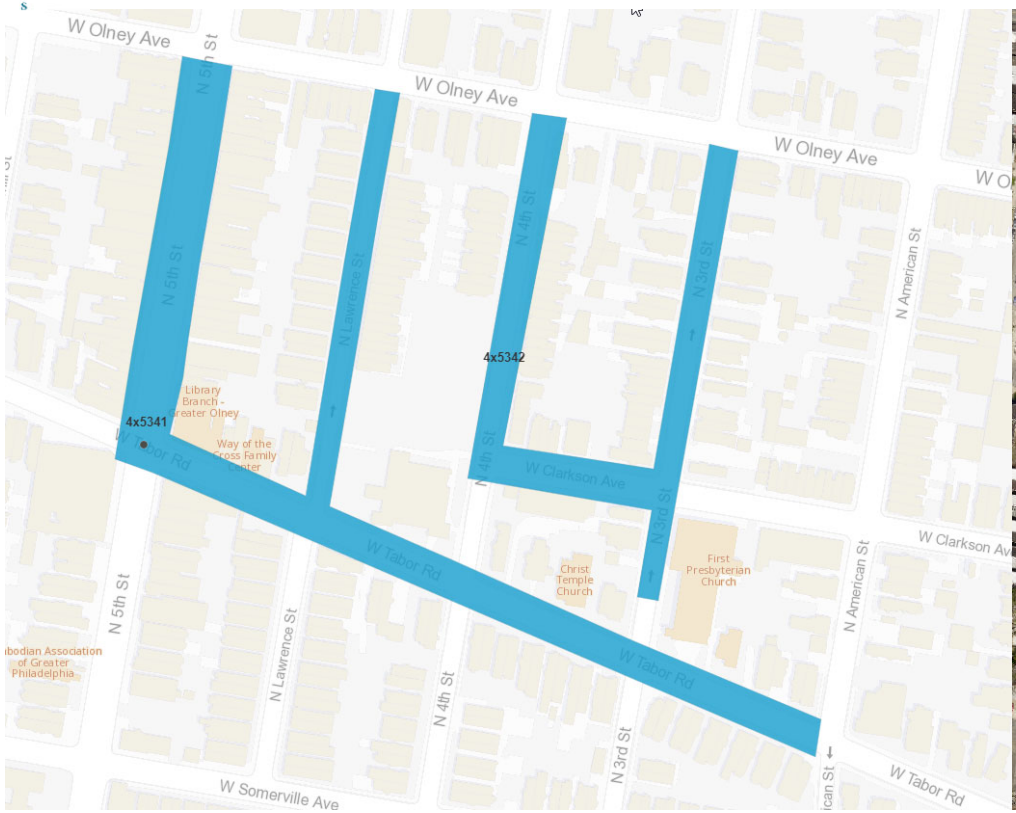
4x5341/4x5342



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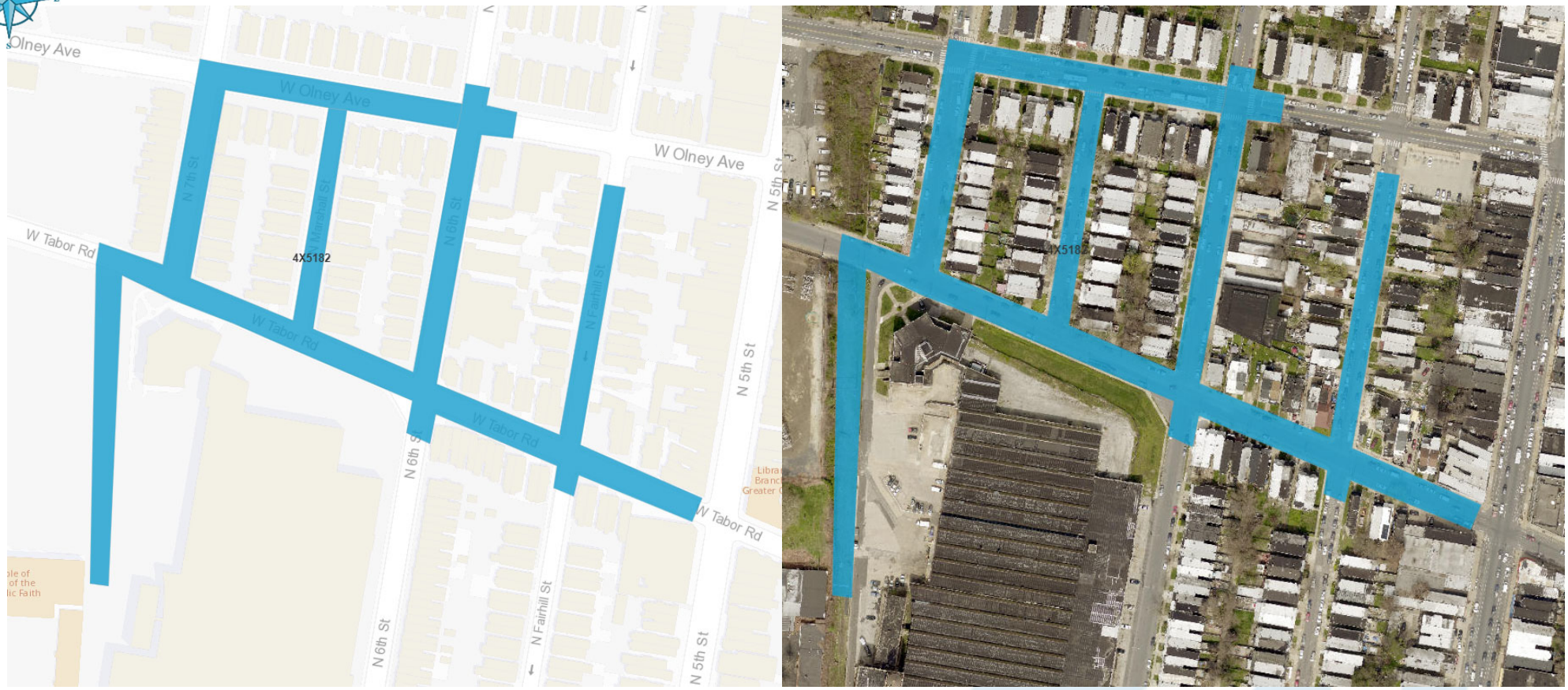
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W Olney Ave
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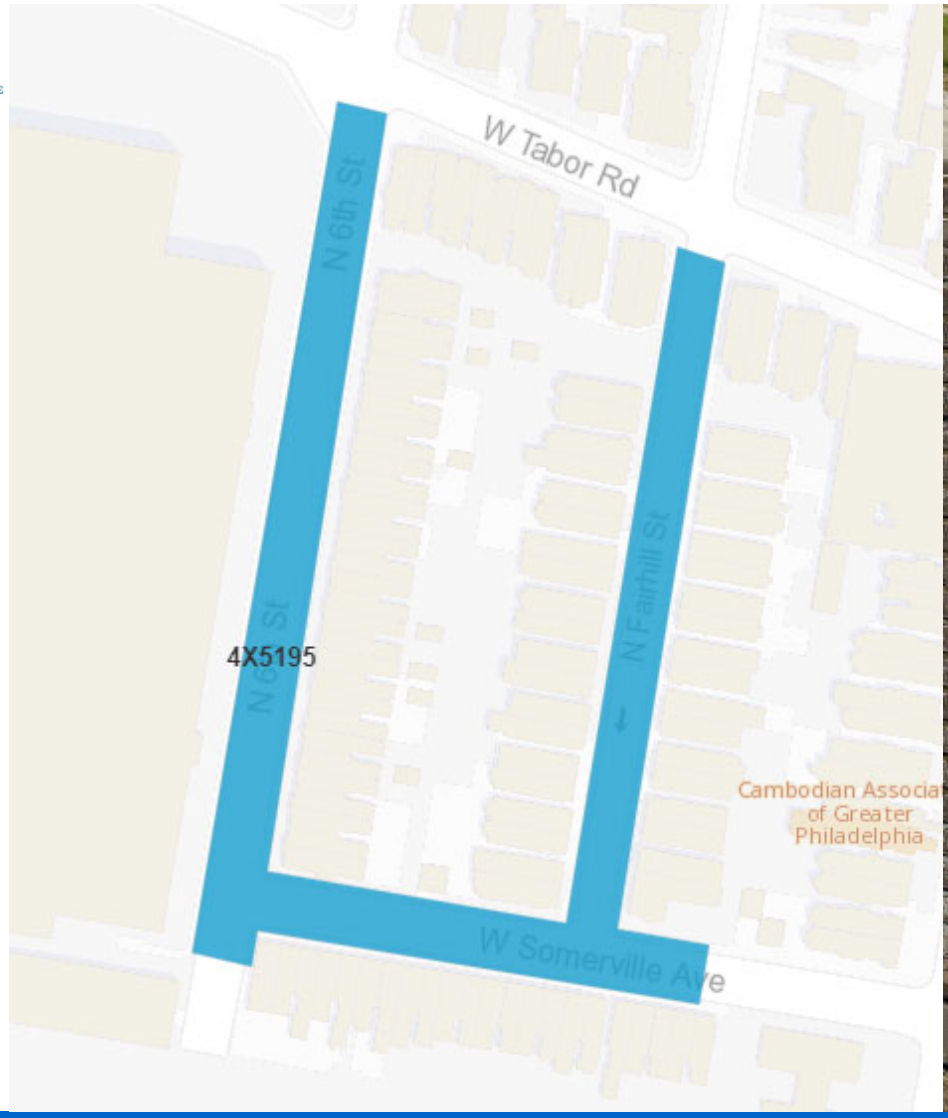
N Marshall St
N 6th St
N 5th St
W Tabor Rd
4X5182
W Tabor Rd
W Tabor Rd
W Tabor Rd
N 6th St
N Fairhill St
N 5th St
N Fairhill St
N 5th St
4X5182

4x5195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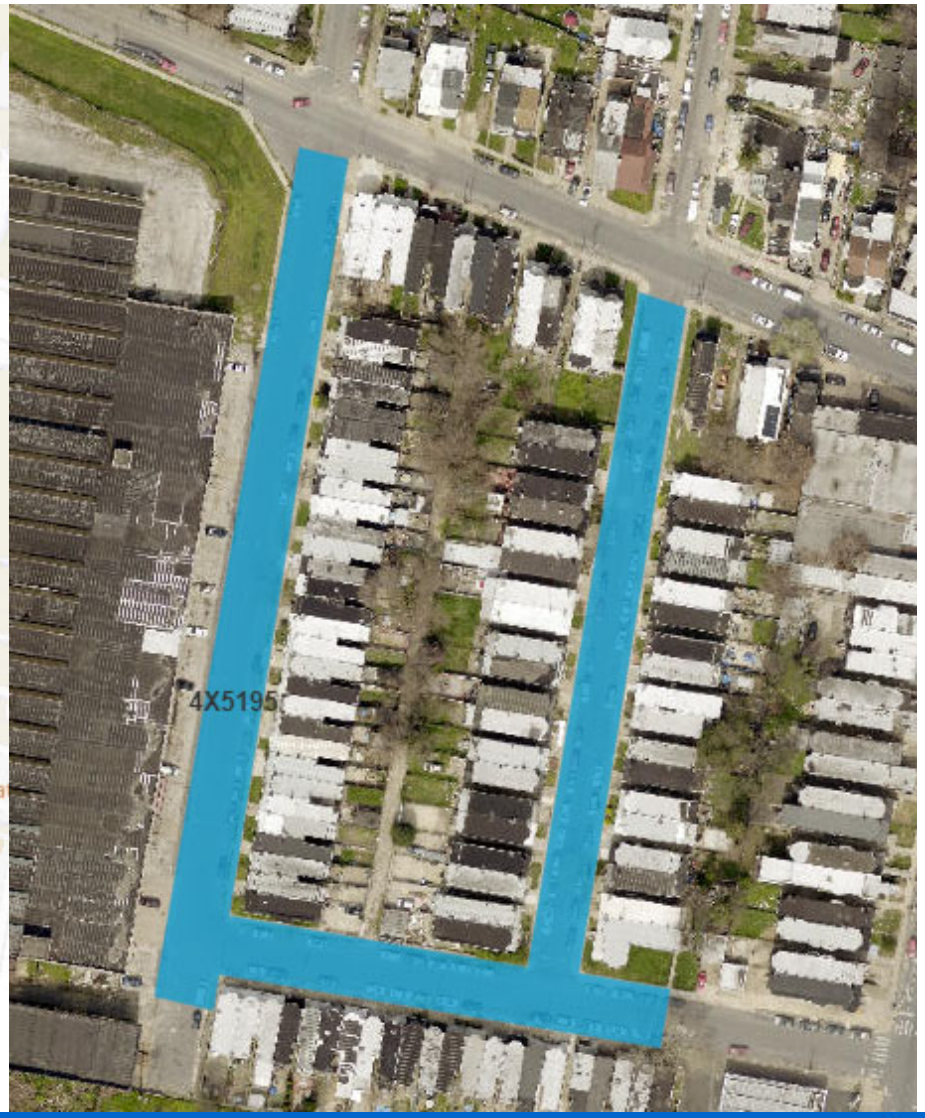
N Fairhill St
4X5195
Cambodian Associa
of Greater
Philadelphia
W Somerville Ave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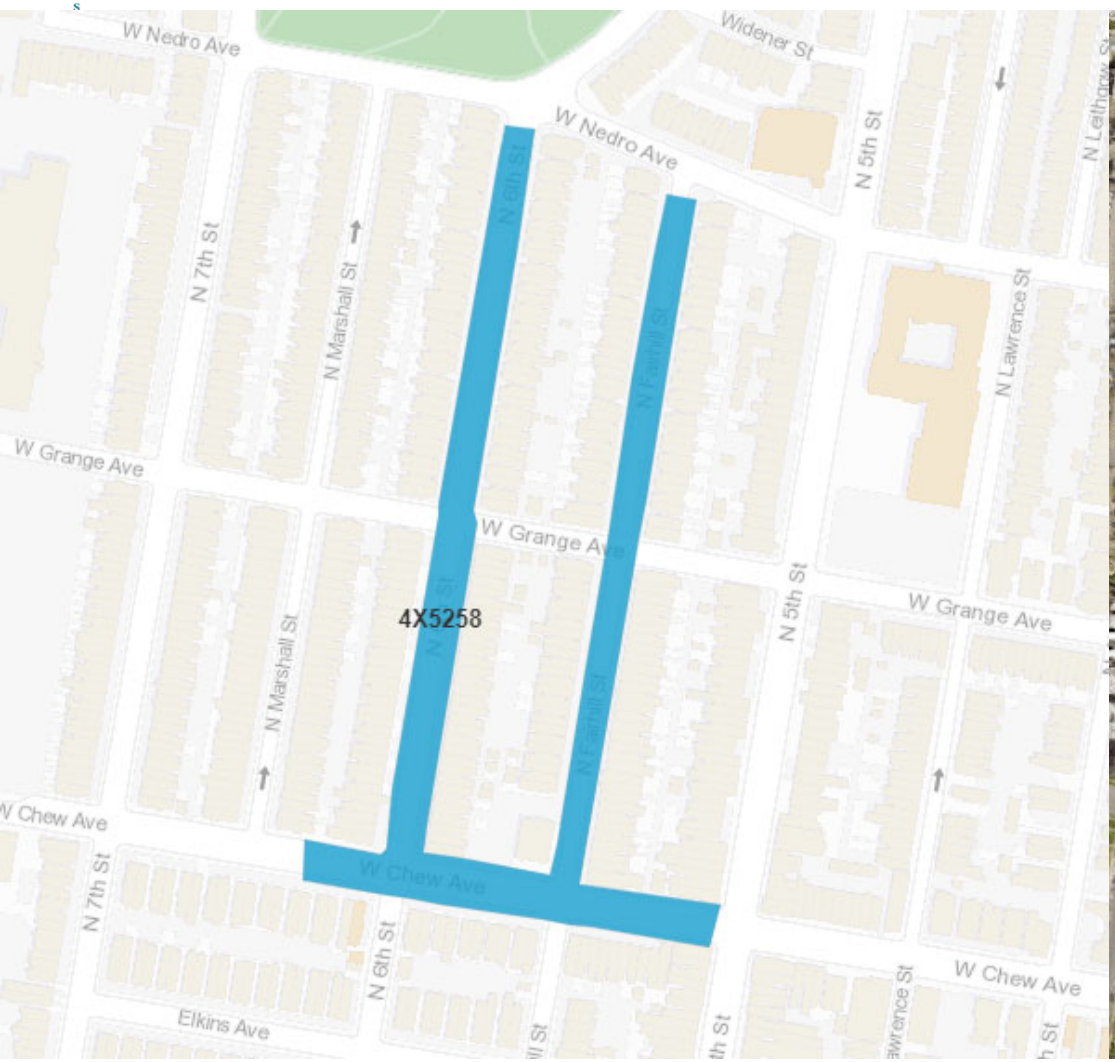
4x5258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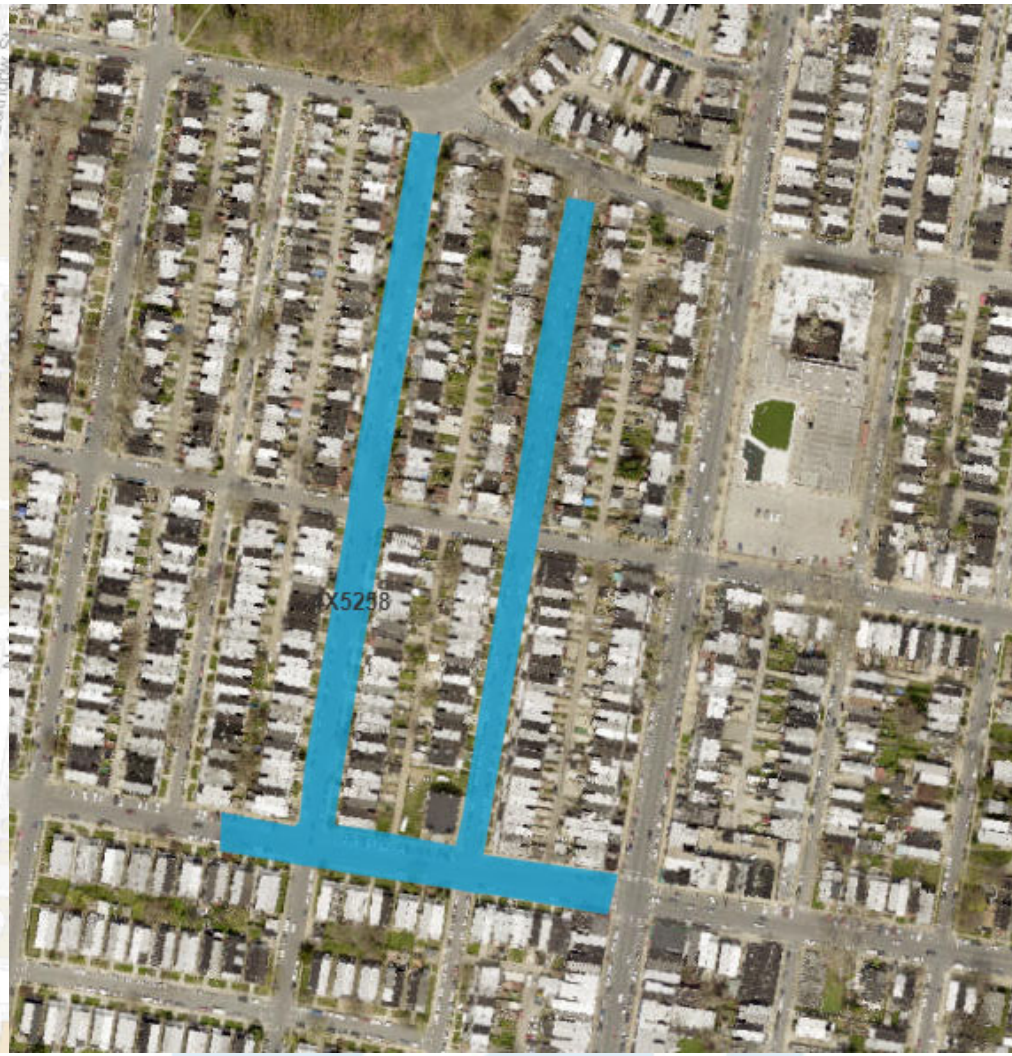
Elkins Ave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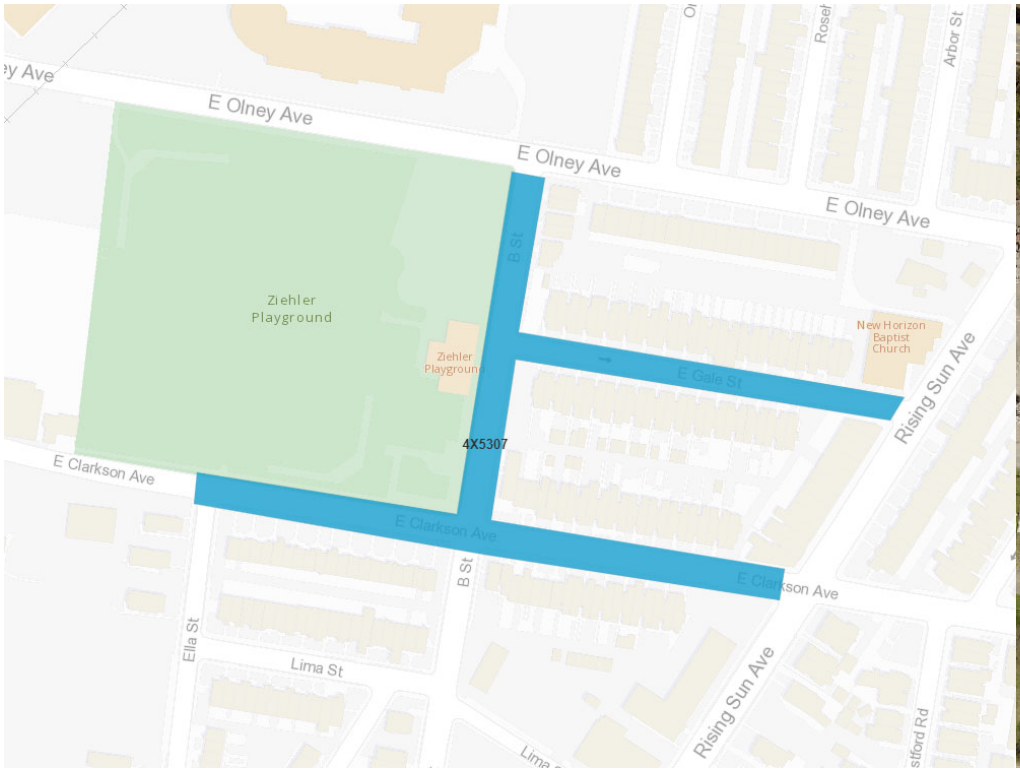
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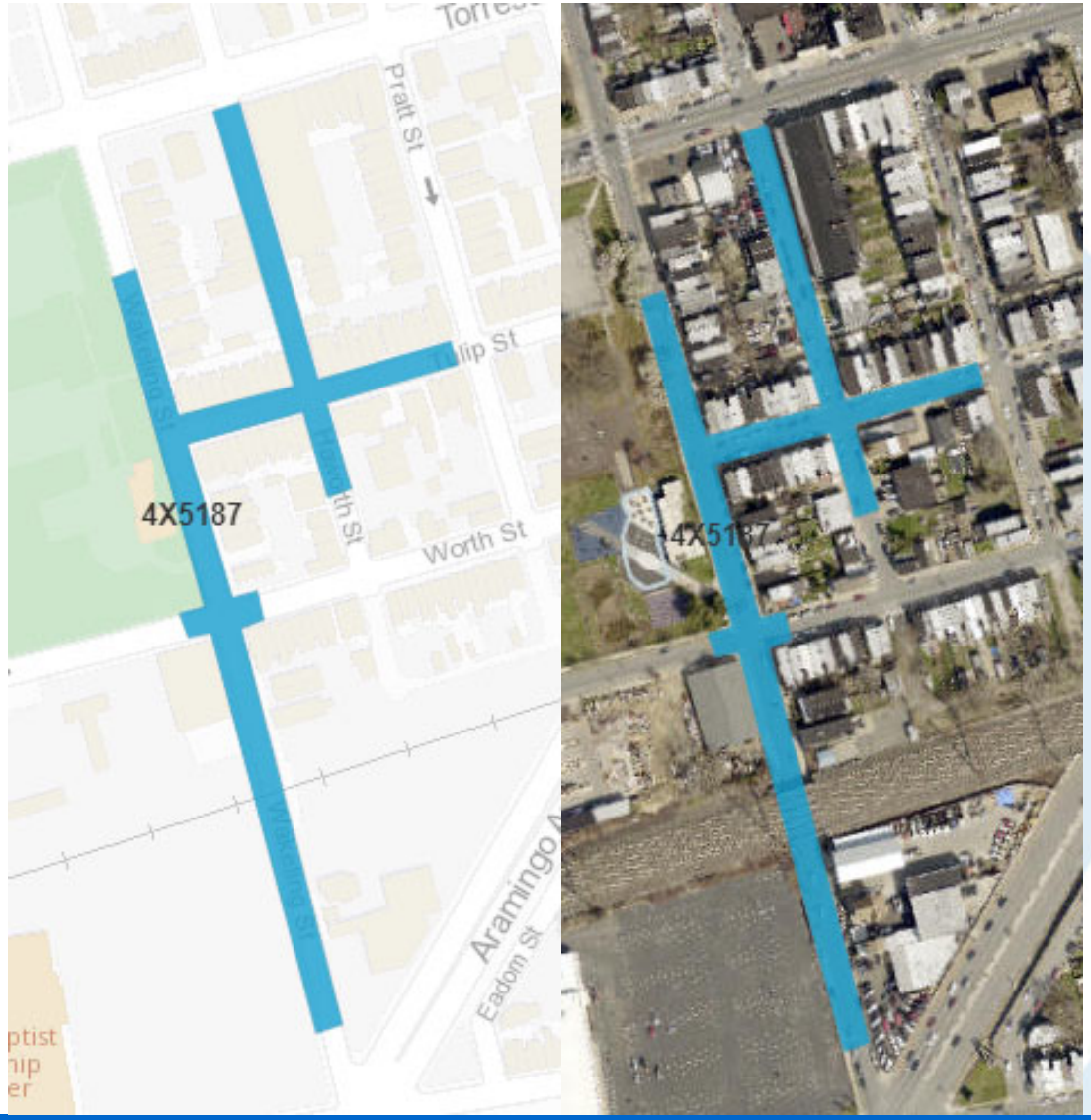
E Olney Ave
E Olney Ave
Ziehler Playground
Ziehler Playground
New Horizon Baptist Church
B St
E Gale St
Rising Sun Ave
4X5307
E Clarkson Ave
E Clarkson Ave
B St
Ella St
Lima St
Rising Sun Ave
Arbor St


4X5307

4x5187



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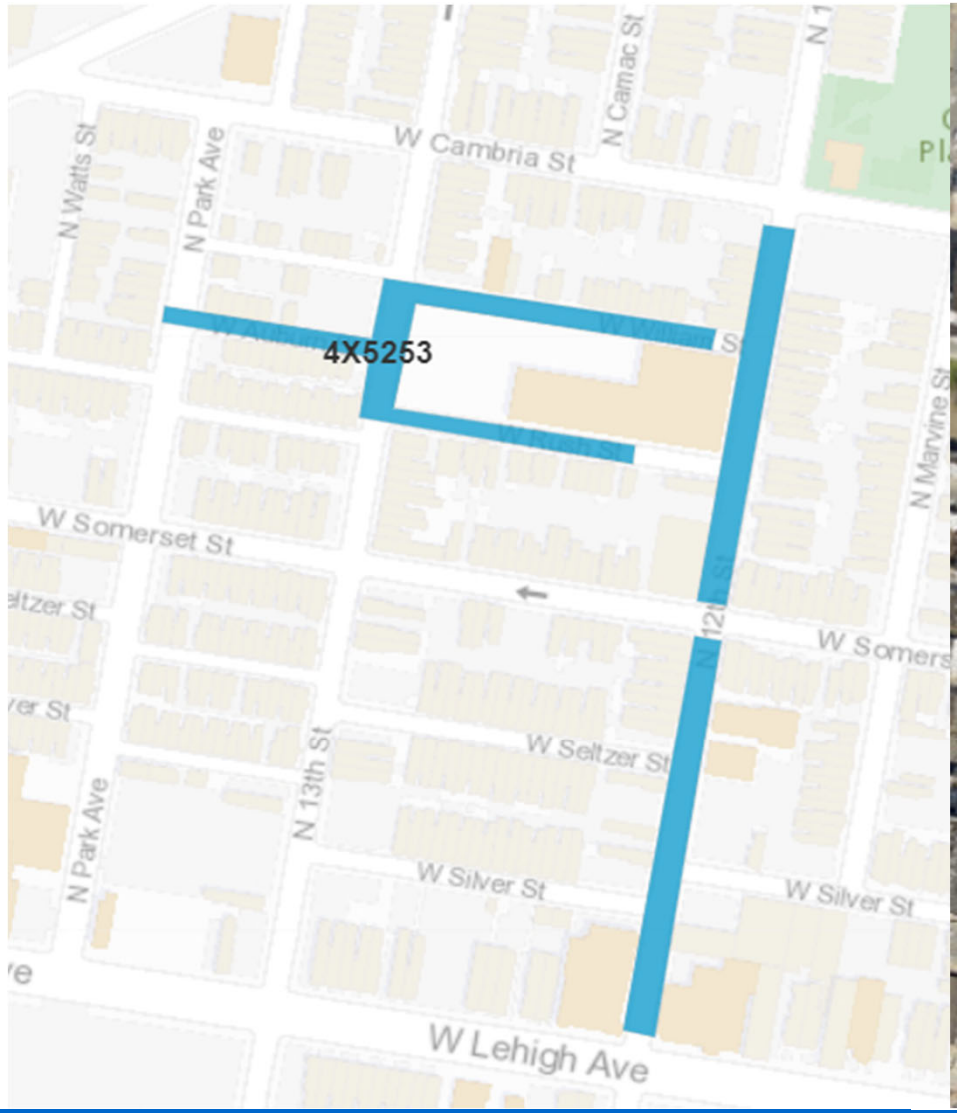
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W Somerset St
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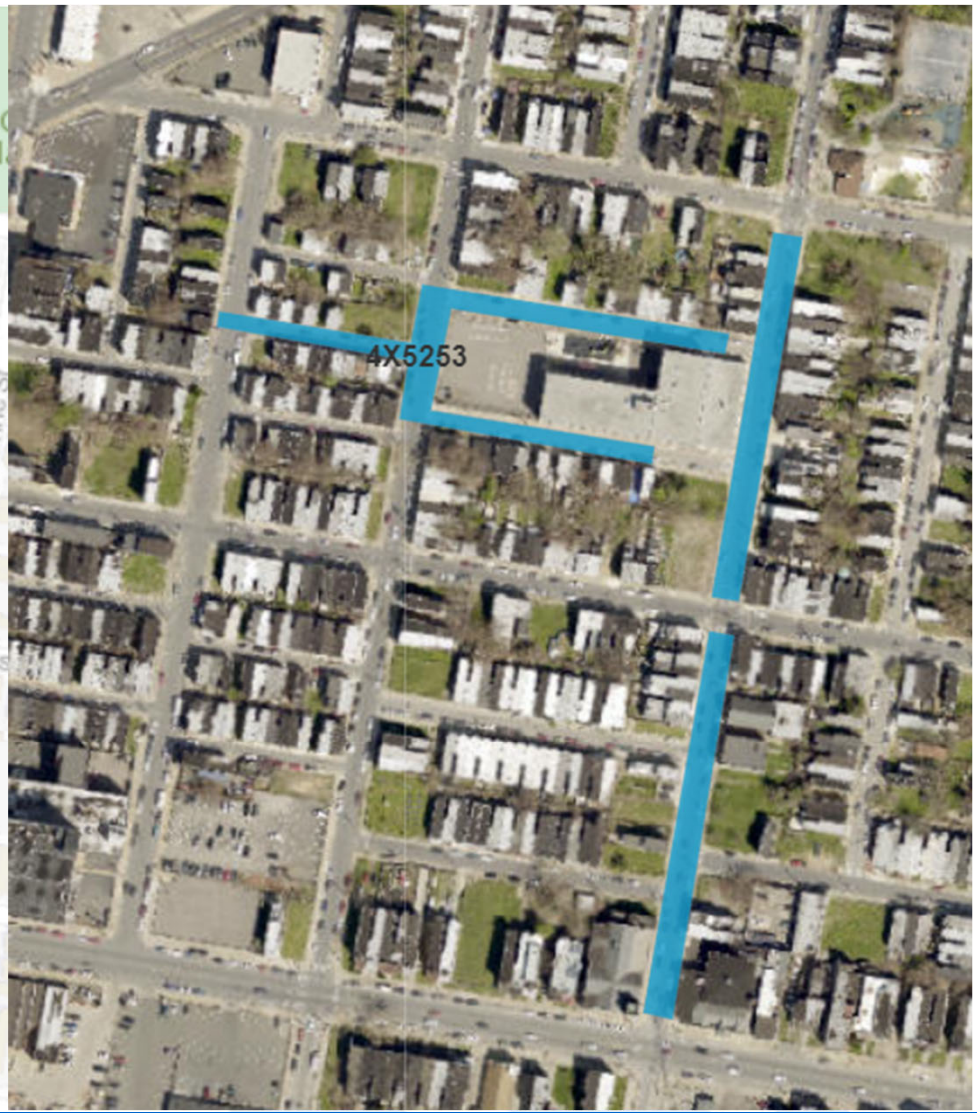
N 13th St
N Park Ave
W Silver St
W Silver St
W Lehigh Ave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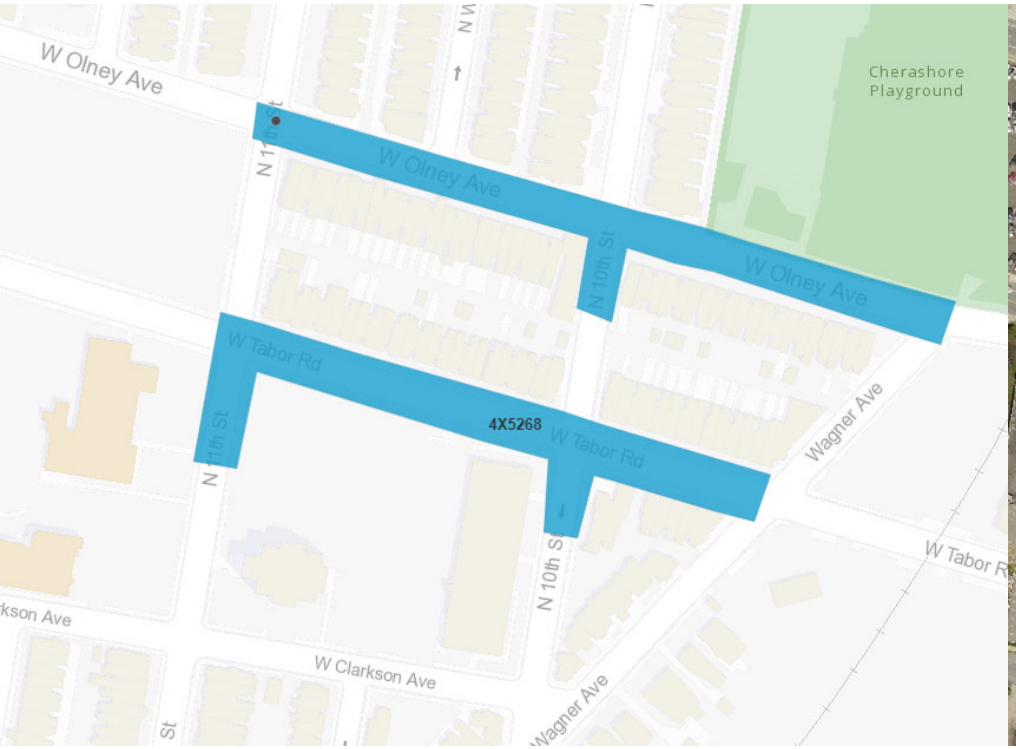
4x5268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Cherashore Playground
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N 10th St
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4X5268
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Wagner Ave
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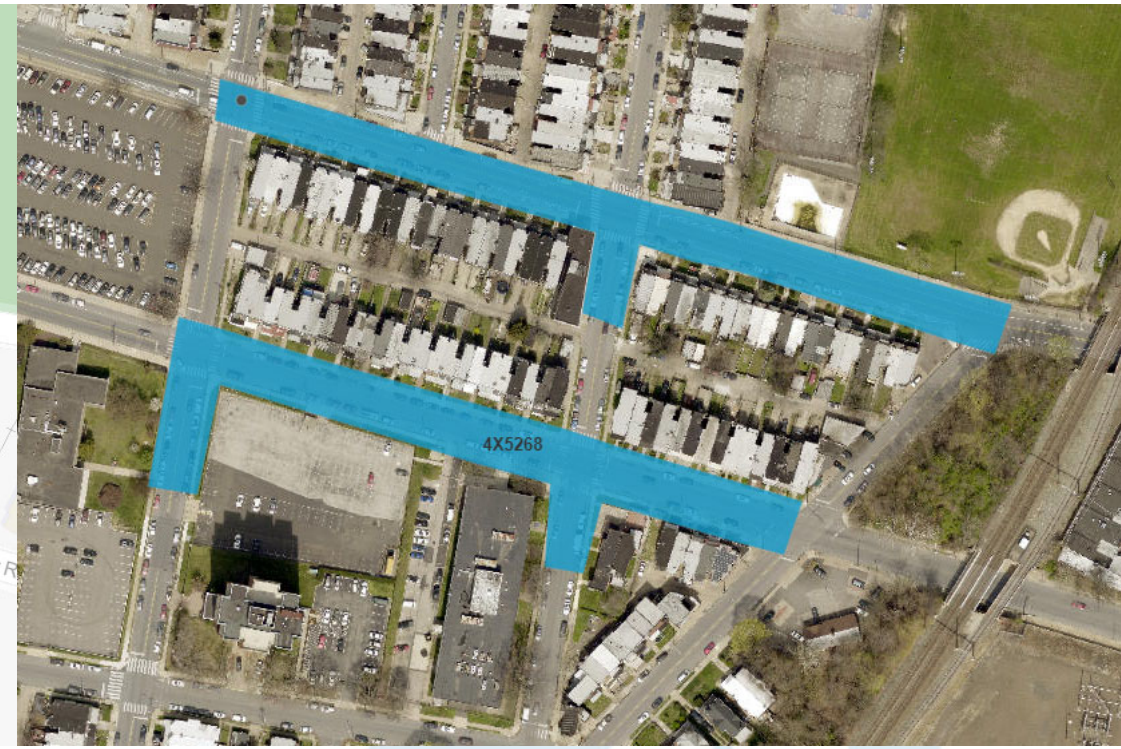
W Clarkson Ave
Wagner Ave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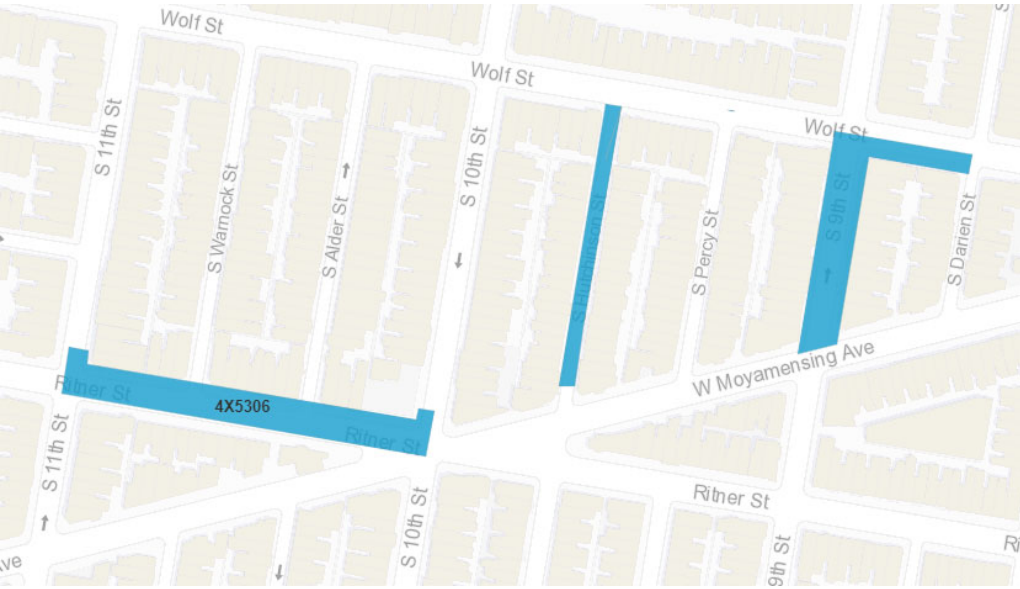
4x5306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Wolf St
Wolf St
S 11th St
S Warnock St
S Alder St
S 10th St
S Percy St
S 9th St
S Darien St
Ritner St
4X5306
Ritner St
W Moyamensing Ave
S 11th St
S 10th St
Ritner St


4X5306

4x5340


S 9th
Pierce St
S 8th St
Moore St
Moore St
Mc Clellan St
Mc Clellan St
4x5340
S 9th St
S 8th St
Sigel St
Southwark School
Mifflin St
Mifflin St
Bok Building
S 8th St
S 7th St
Hoffman St
Dudley St


4x5340

4x5316


66th Ave
66th Ave
N Uber St
Ridley St
Limekiln Pike
N 20th St
Hill-Freedman World Academy High School
N Uber St
4X5316
W 65th Ave
65th Ave
W 65th Ave
Stenton Ave
Colonial St
Limekiln Pike
N 20th St
Ogontz Ave
New Testament Family Fellowship
Stenton Ave
Chelten Ave
Chelten Ave


4X5316

Appendix B

Methane Calculations

Table 1. Average methane emission factors for natural gas pipelines (adapted from EPA GHG Inventory, Annex 3.6, Table 3.6-2)

Pipeline Material	Pre-1990 Installation (kg/mile)	1990-2020 Installation (kg/mile)	Average Rate (kg/mile/year)
Cast Iron	4,597.40	1,157.30	2,877.35
Unprotected steel	2,122.30	861.3	1,491.80
Protected steel	59.1	96.7	77.90
Plastic	190.9	28.8	109.85

Table 2. No Action Leak Rate

Pipeline Material Type	Average Rate (kg/mile/year)	Miles	Current Methane Leak Rate (kg/year)
Cast Iron	4,597.40	6.1	28,044
Unprotected steel	2,122.30	0	0
Protected steel	59.1	0.47	28
Plastic	190.9	0.05	10
Total Annual Methane Leak Rate			28,081
20-year Methane Emissions			561,629

Table 3. Proposed Action Leak Rate

Pipeline Material Type	Average Rate (kg/mile/year)	Miles	New Methane Leak Rate (kg/year)
Plastic	28.8	6.37	183
Year 1 Methane Reduction			27,664
Annual Methane Reduction			27,898
20-year Methane Reduction			557,726

Equation 1 was used to estimate blowdown emissions in MCF, assuming a pipeline diameter (d) and pressure (P) described in Table 3.

$$E_{blowdown} = V \times \frac{P_{pipe} + P_{atm}}{P_{atm}} \qquad (1)$$

Where the pipeline volume (V) is calculated by multiplying the cross-sectional area of the pipe by the length of pipeline (L):

$$V = \pi \times \frac{d^2}{4} \times L \qquad (2)$$

Table 4 Proposed Action - Methane Blowdown

Equation Inputs	**4x5168**	**4x5268**	**4x5195**	**4x5258**	**4x5182**	**4x5253**	**4x5306**	**4x5187**
Diameter (inches) Varies from 4"-12"	Varies	Varies	Varies	Varies	Varies	Varies	Varies	Varies
Blowdown Pressure	0.216547	0.216547	0.216547	0.216547	0.216547	0.216547	0.216547	0.216547
Length of Blowdown (feet)	3797	3041	2311	4328	4082	2451	1165	2210
Blowdown (MCF)	0.67	0.50	0.82	0.62	0.88	0.29	0.11	0.41

Equation Inputs	**4x5341**	**4x5342**	**4x5340**	**4x5316**	**4x5307**	**TOTALS**
Diameter (inches) Varies from 4"-12"	Varies	Varies	Varies	Varies	Varies	
Blowdown Pressure	0.216547	0.216547	0.216547	0.216547	0.216547	
Length of Blowdown (feet)	2528	1561	1765	3481	2323	
Blowdown (MCF)	1.69	0.25	0.31	0.68	0.38	
Total MCF for the project						**7.61 MCF**
Total kg for the project						**234 kg**

Table 5. Proposed Action- Estimated total project emissions.

	Total Emissions (kg)	Emissions (short tons)
CO	88.82	0.10
NOx	10,68.34	1.18
VOC	13.38	0.01
PM_{10}	16.89	0.02
$PM_{2.5}$	16.38	0.02
CO2	1,233414.13	1,359.60

Table 6. EPA's De Minimis Table for Nonattainment Areas

40 CFR 93.153(b)(2)- For purposes of paragraph (b) of this section the following rated apply in nonattainment areas (NAA's).	
https://www.epa.gov/general-conformity/de-minimis-tables	
	Tons/year
Ozone (VOC's or NOx):	
Serious NAA's	**50**
Severe NAA's	**25**
Extreme NAA's	**10**
Other ozone NAA's outside an ozone transport region:	**100**
Other ozone NAA's inside an ozone transport region:	
VOC	**50**
NOx	**100**
Carbon Monoxide: All maintenance areas	**100**
SO_2 or NO_2: All NAA's	**100**
PM_{10}:	
Moderate NAA's	**100**
Serious NAA's	**70**
$PM_{2.5}$ (direct emissions, SO_2, NOx, VOC, and Ammonia)	
Moderate NAA's	**100**
Serious NAA's	**70**
Pb: All NAA's	**25**

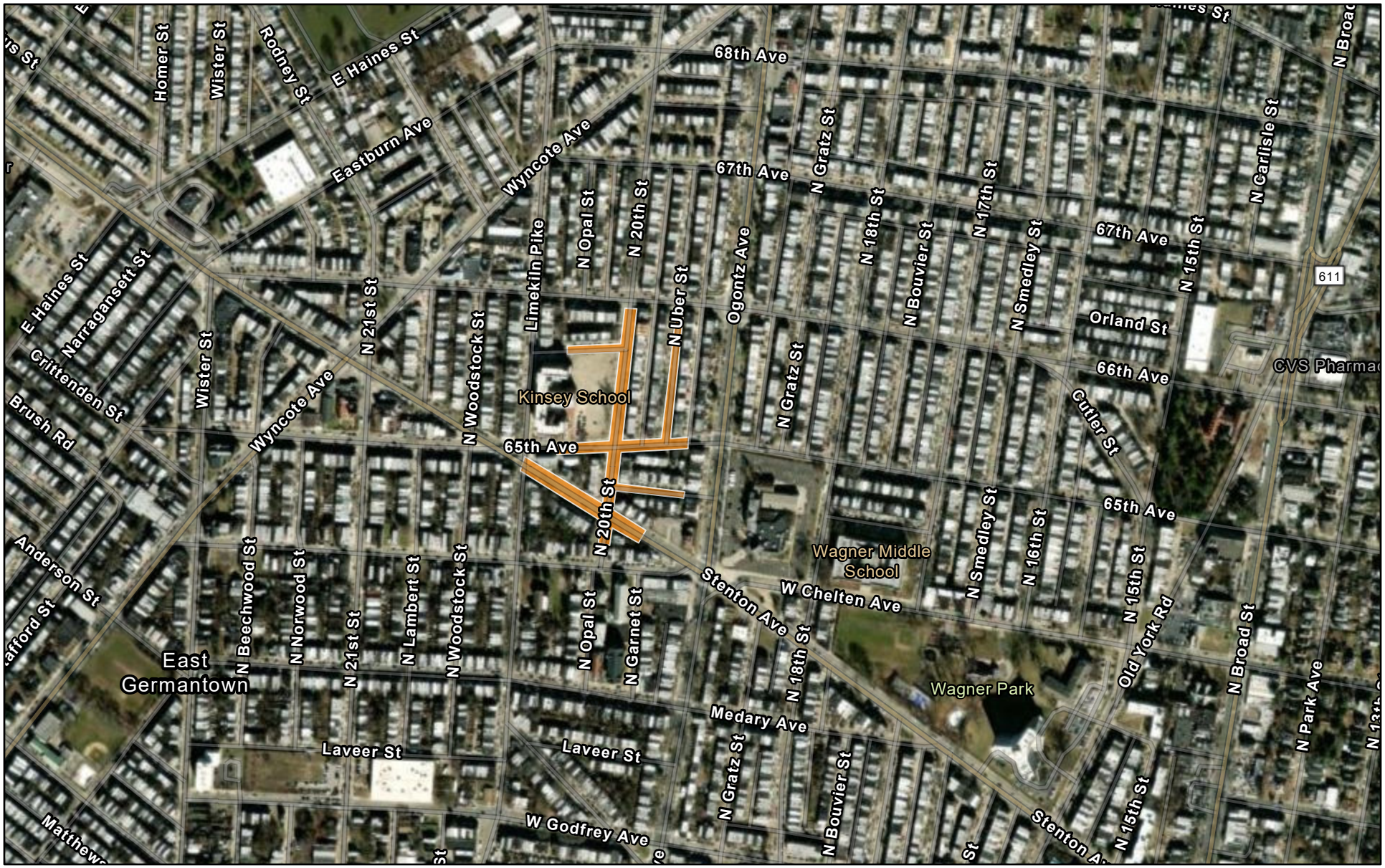
Table 7. EPA's De Minimis Table for Maintenance Areas

40 CFR 93.153(b)(2)- For purposes of paragraph (b) of this section the following rated apply in maintenance areas. https://www.epa.gov/general-conformity/de-minimis-tables	
	Tons/year
Ozone (NOx), SO_2 or NO_2:	
All maintenance areas	100
Ozone (VOC's)	
Maintenance areas inside an ozone transport region	50
Maintenance areas outside an ozone transport region	100
Carbon monoxide: All maintenance areas	100
$PM_{2.5}$ (direct emissions, SO_2, NOx, VOC, and Ammonia)	100
All Maintenance areas	100
Pb: All maintenance areas	25

Appendix C

Water Resources

Philadelphia Gas Works; NEPAssist: NWI, FEMA Flood



January 23, 2024

Flood Hazard Zones
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee

Wetlands
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Project Areas

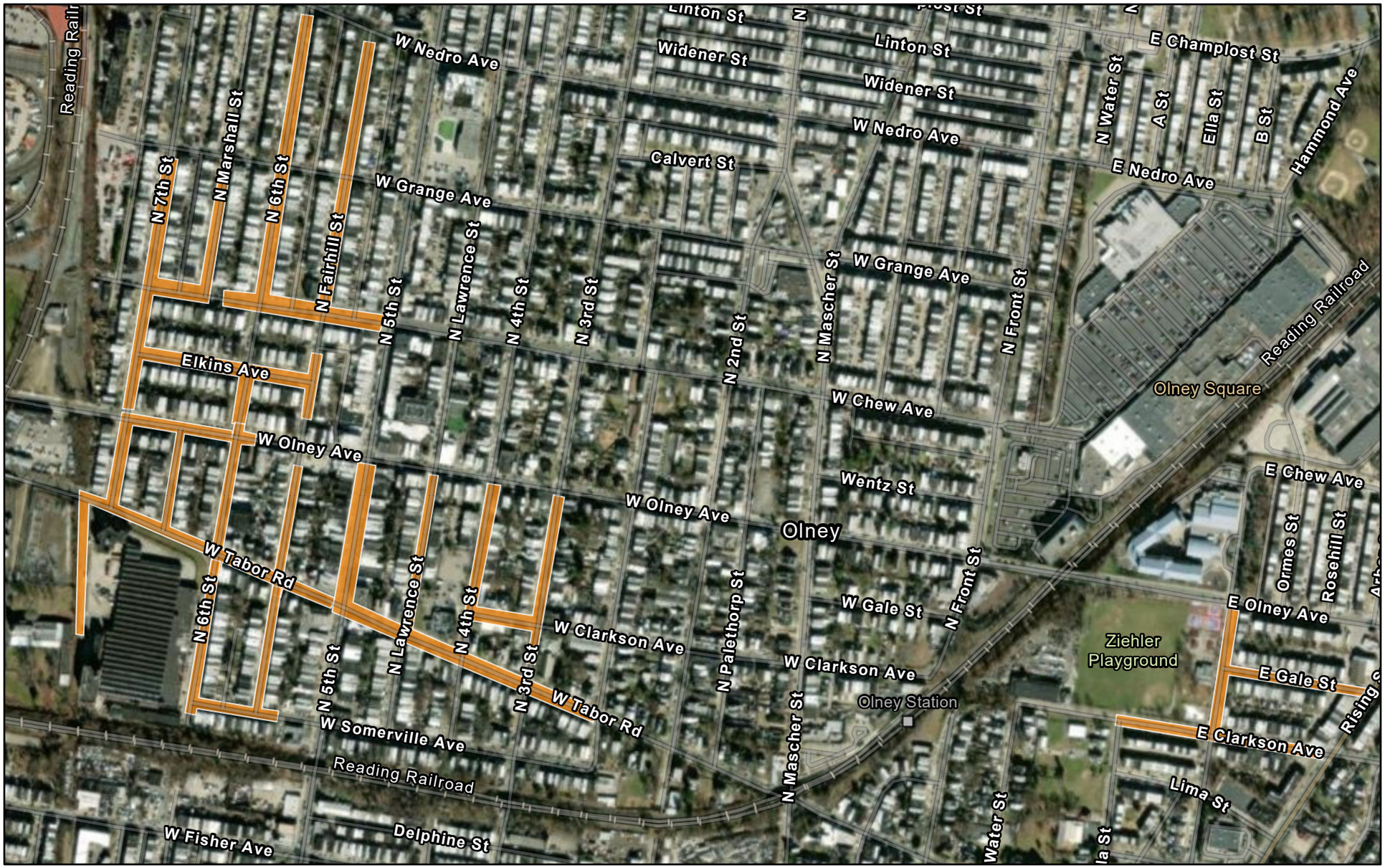
1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, Esri Community Maps Contributors, City of

Philadelphia Gas Works; NEPAssist: NWI, FEMA Flood



January 23, 2024

Flood Hazard Zones
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee

Wetlands
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Project Areas

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, Maxar, Esri Community Maps Contributors, City of

Philadelphia Gas Works; NEPAssist: NWI, FEMA Flood

January 23, 2024

Flood Hazard Zones
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee

Wetlands
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Project Areas

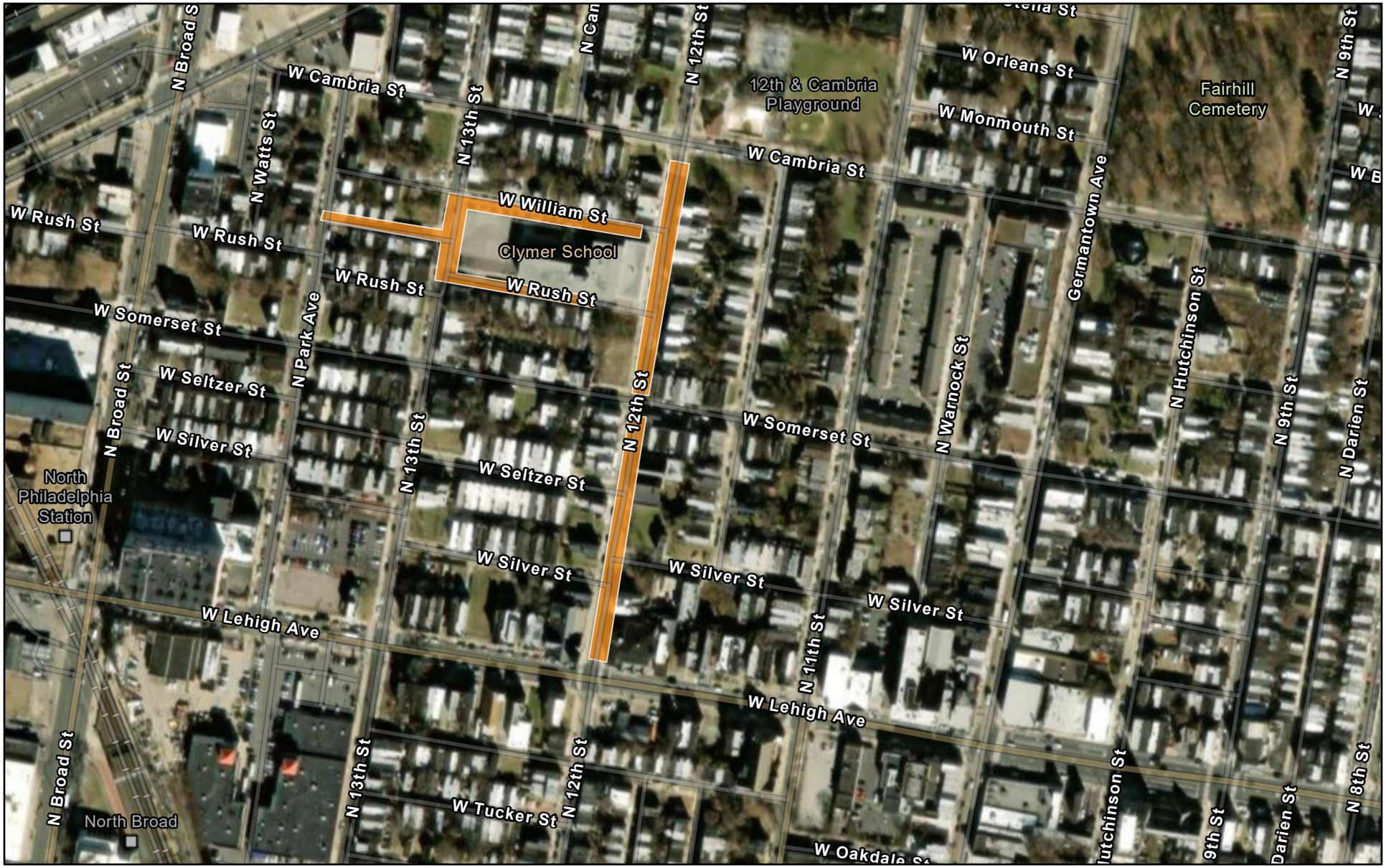
1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, Maxar, Esri Community Maps Contributors, City of

Philadelphia Gas Works; NEPAssist: NWI and FEMA Flood



January 23, 2024

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Project Areas

1:4,514

0 0.03 0.06 0.11 mi

0 0.04 0.09 0.18 km

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, Maxar, Esri Community Maps Contributors, City of

Philadelphia Gas Works; NEPAssist: NWI, FEMA Flood

January 23, 2024

Flood Hazard Zones
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee

Wetlands
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Project Areas
- Streams

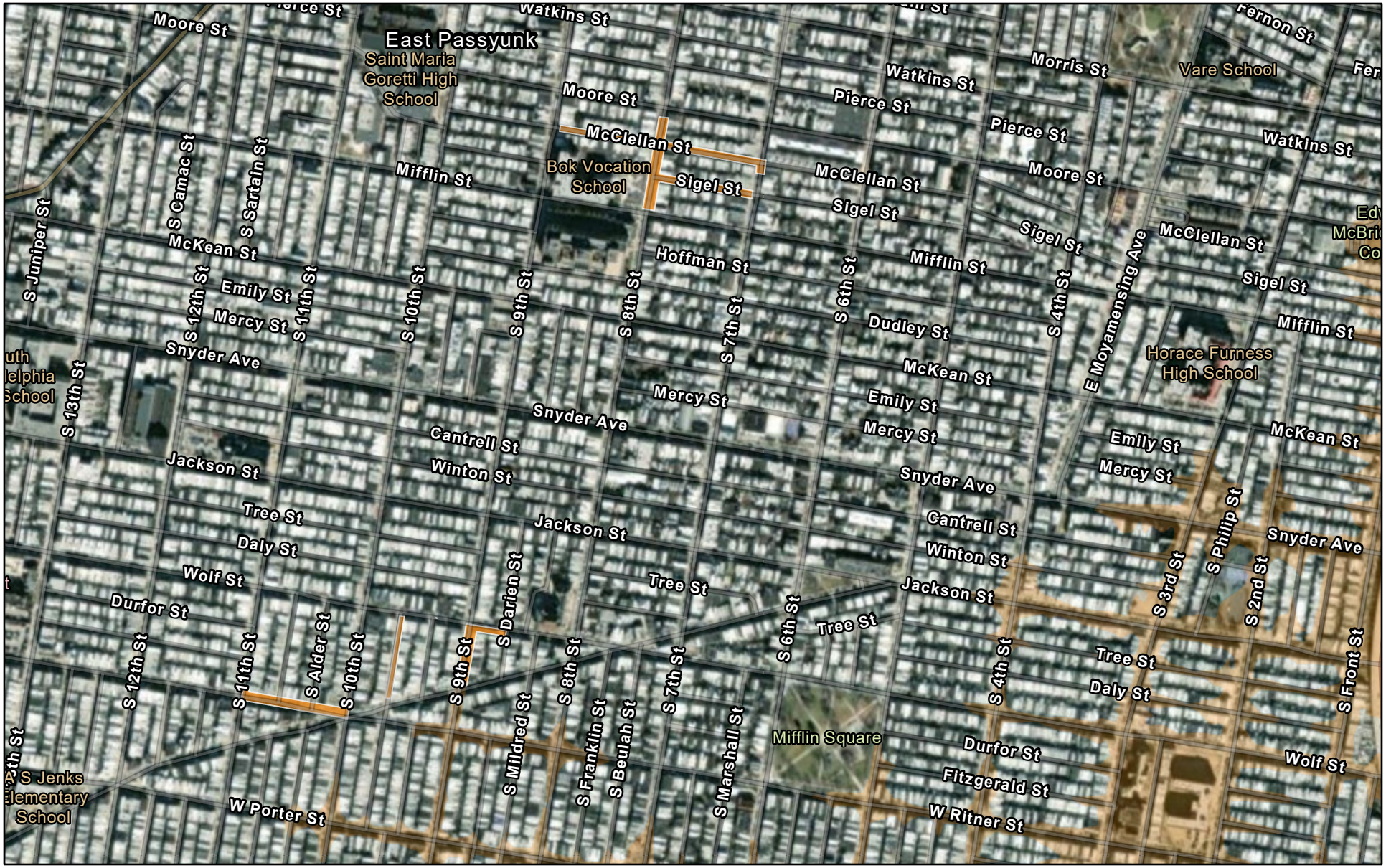
1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, Maxar, Esri Community Maps Contributors, City of

Philadelphia Gas Works; NEPAssist: NWI and FEMA Flood



January 23, 2024

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Project Areas

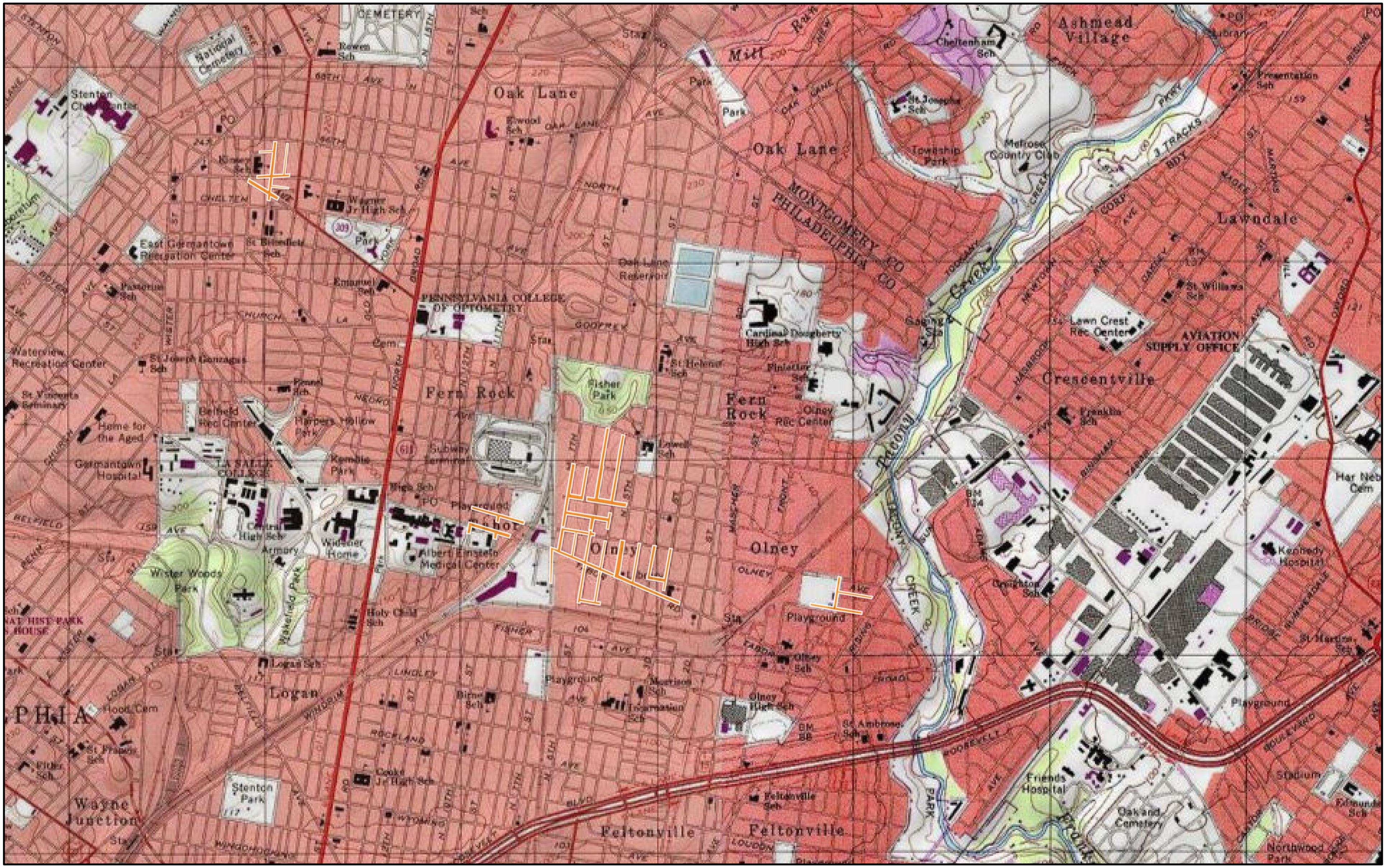
1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, Maxar, Esri Community Maps Contributors, City of

Philadelphia Gas Works; NEPAssist



January 24, 2024

Project Areas

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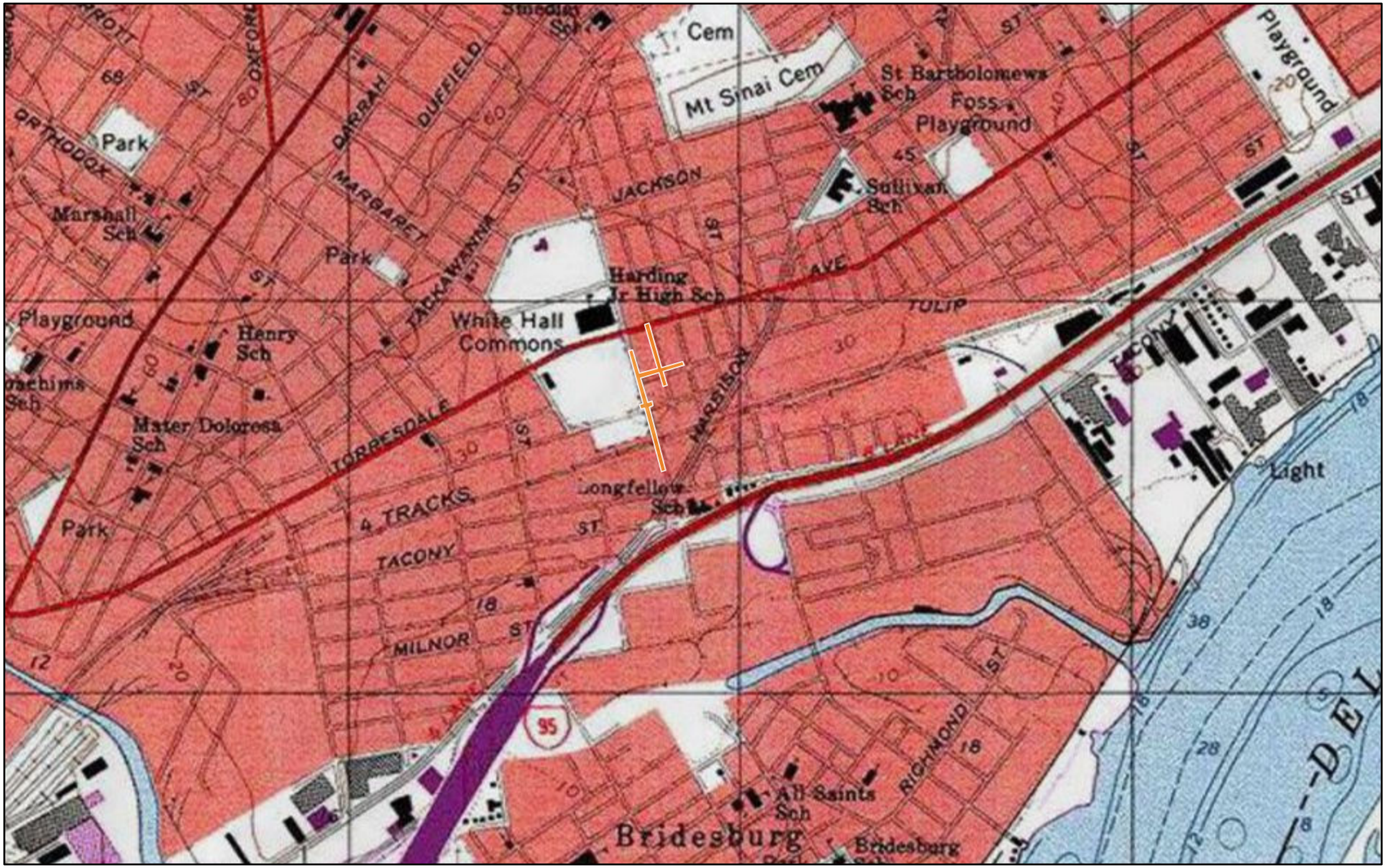
0 | 0.38 | 0.75 | 1.5 km

Philadelphia Gas Works; NEPAssist



January 24, 2024

Project Areas

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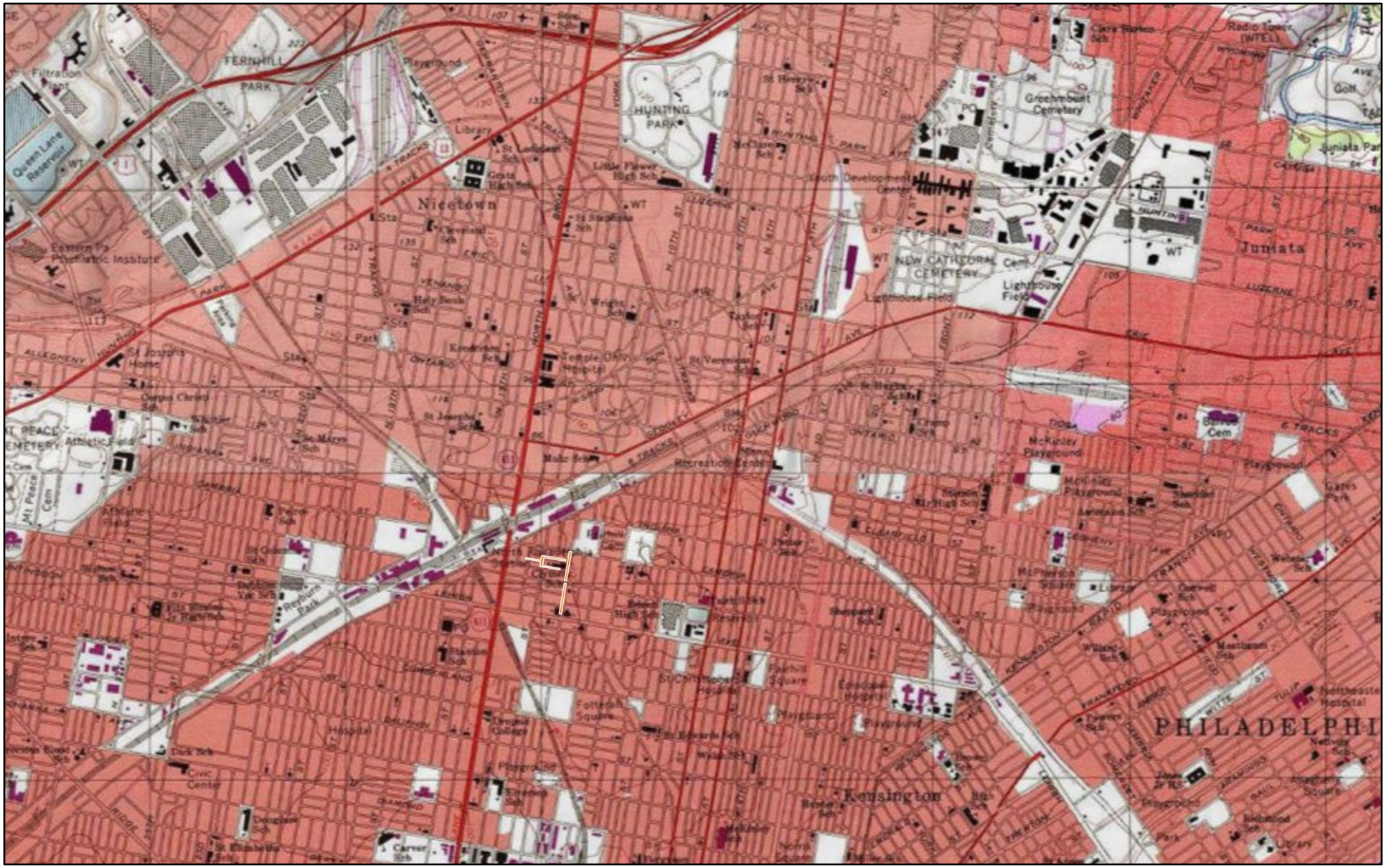
Philadelphia Gas Works; NEPAssist



January 24, 2024

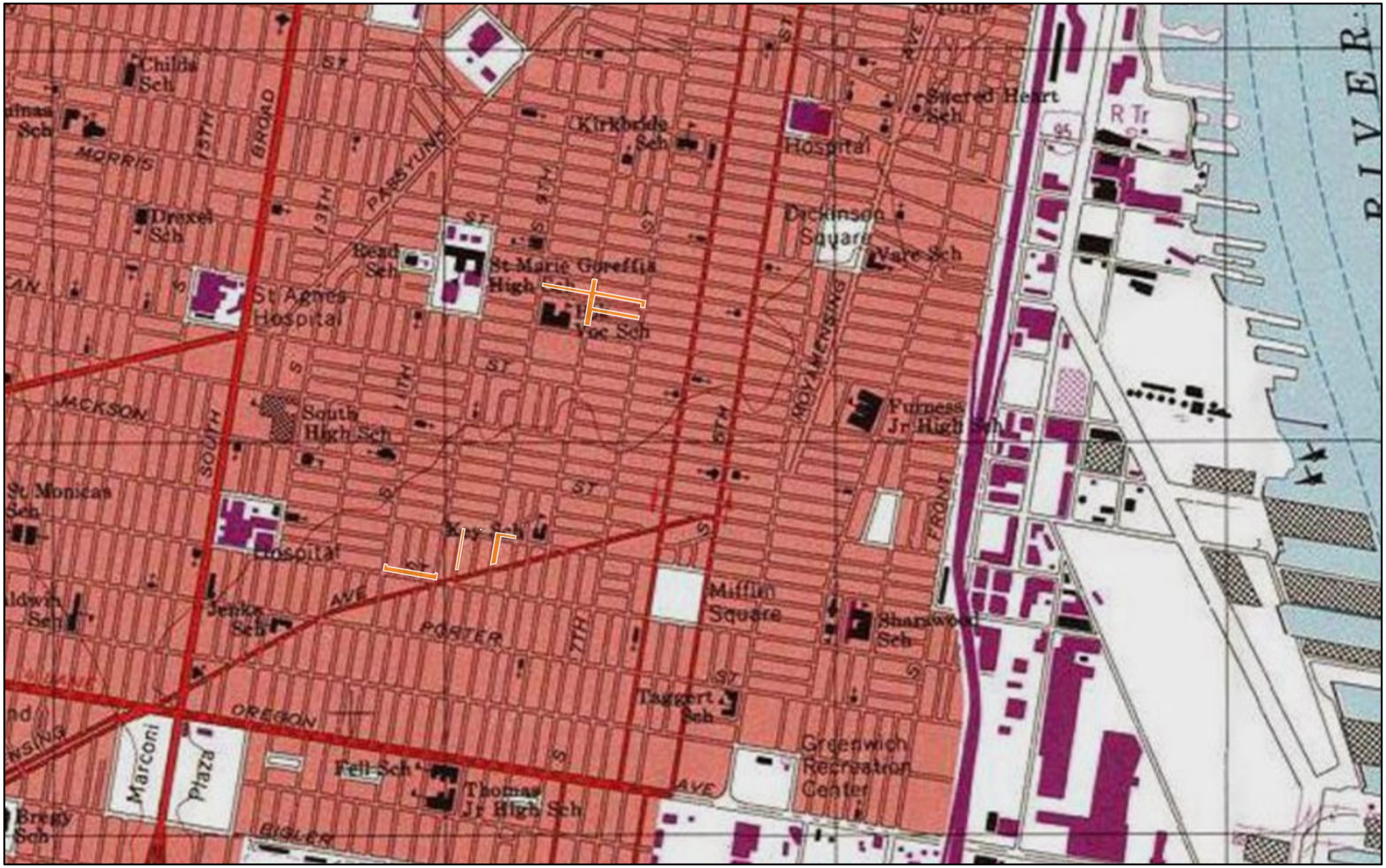
Project Areas

1:36,112

0 0.23 0.45 0.9 mi

0 0.38 0.75 1.5 km

Philadelphia Gas Works; NEPAssist



January 24, 2024

Project Areas

1:18,056

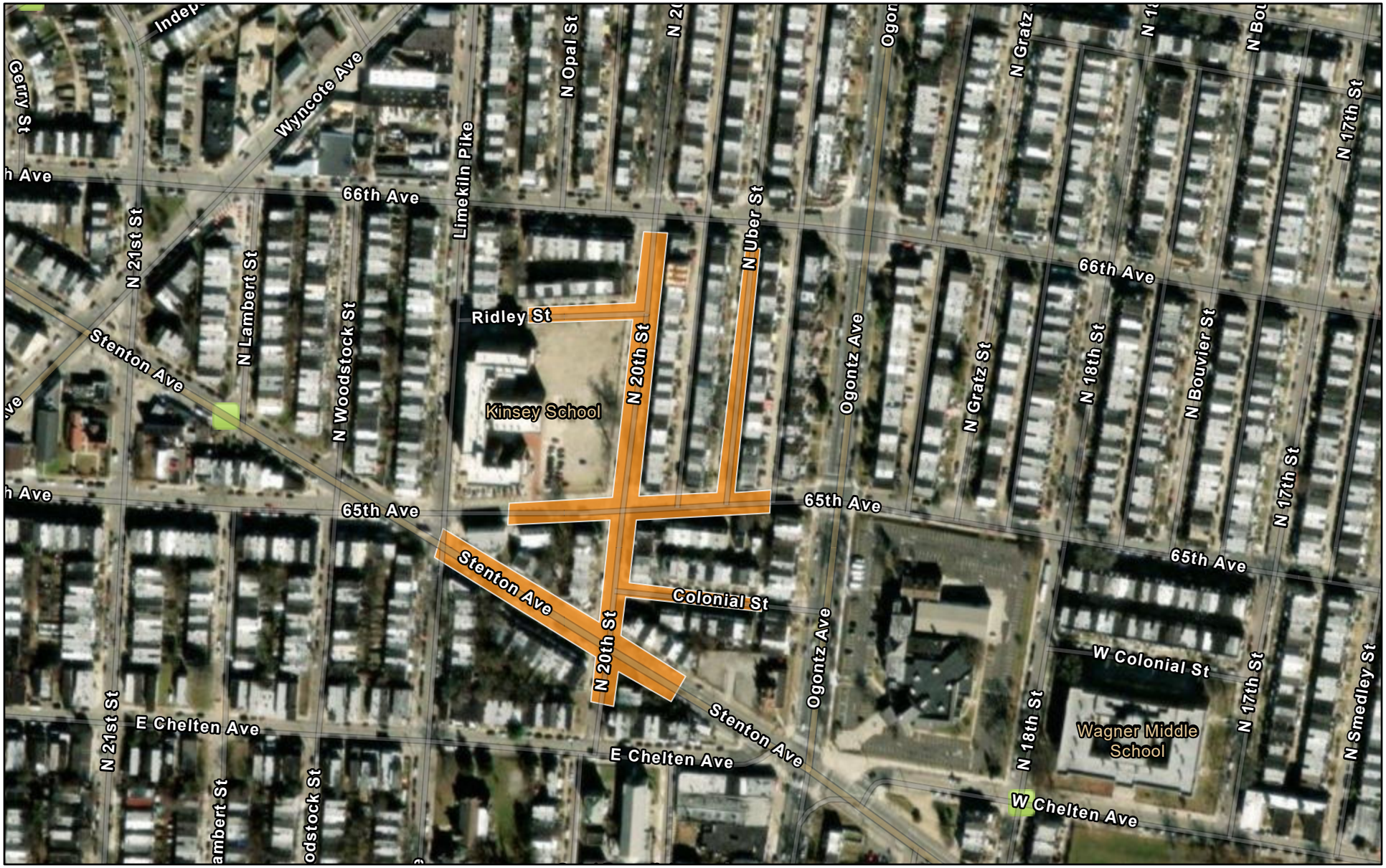
0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

Appendix D

Hazardous Materials

Philadelphia Gas Works; NEPAssist:EPA Facilities



January 23, 2024

Hazardous Waste (RCRAInfo)

Project Area; Segment 4x5316

1:4,514

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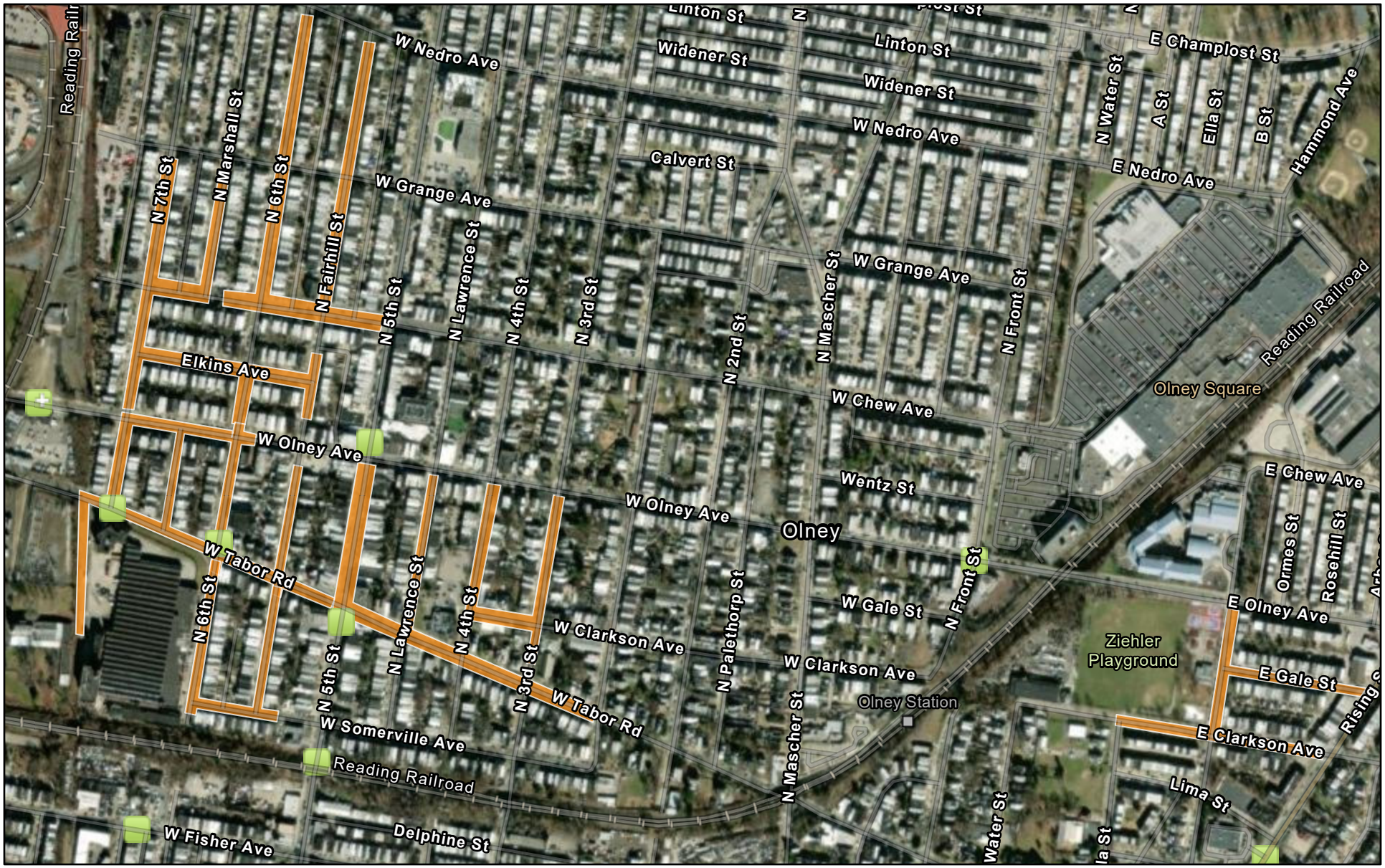
0 0.04 0.09 0.18 km

Philadelphia Gas Works; NEPAssist EPA Facilities



January 23, 2024

Hazardous Waste (RCRAInfo)

Hazardous Waste (RCRAInfo)

Project Areas; Segment 4x5168, 4x5182, 4x5195 4x5258, 4x5341, 4x5342, 4x5307

1:9,028

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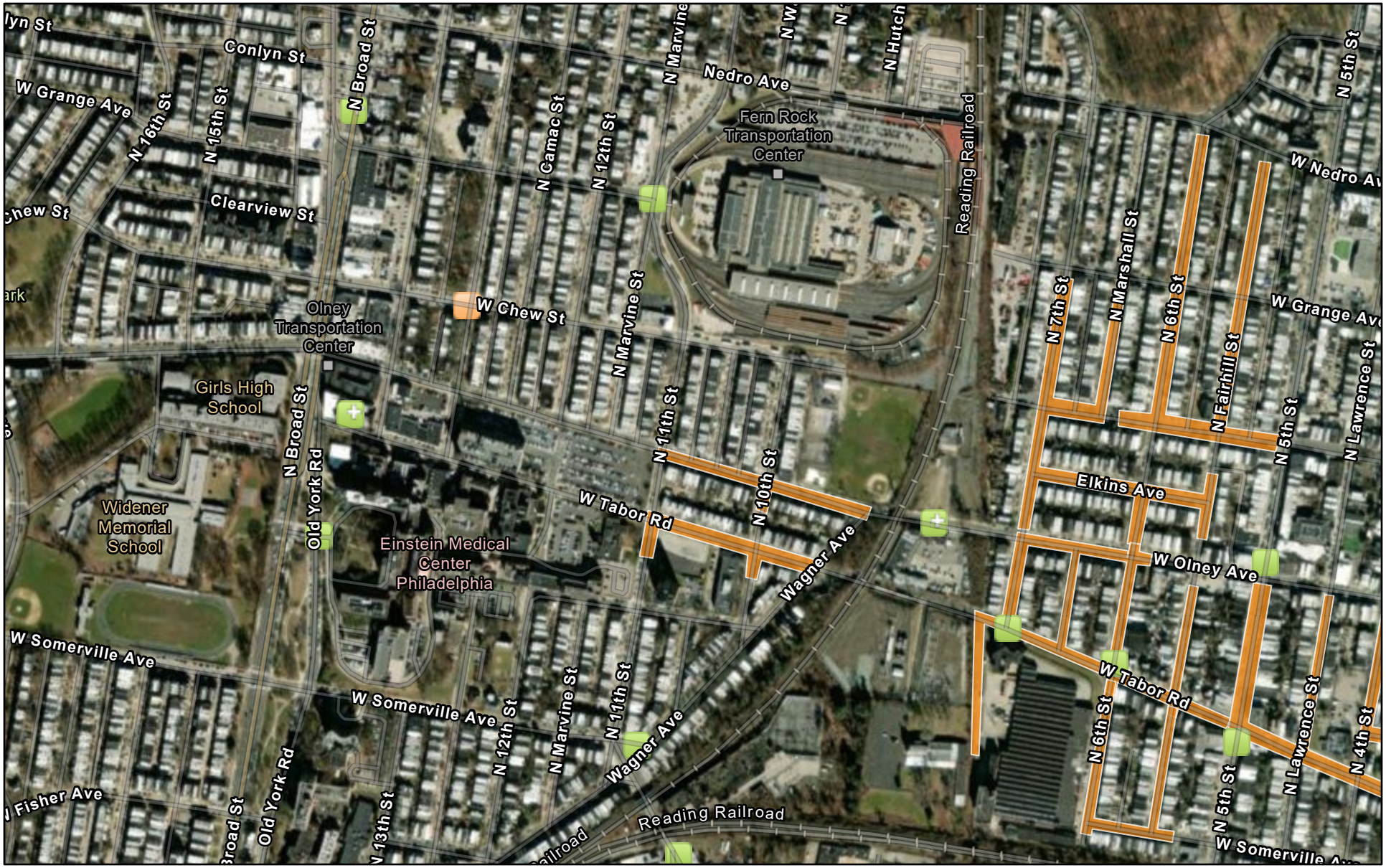
0 0.07 0.15 0.3 km

Philadelphia Gas Works; NEPAssist:EPA Facilities



January 23, 2024

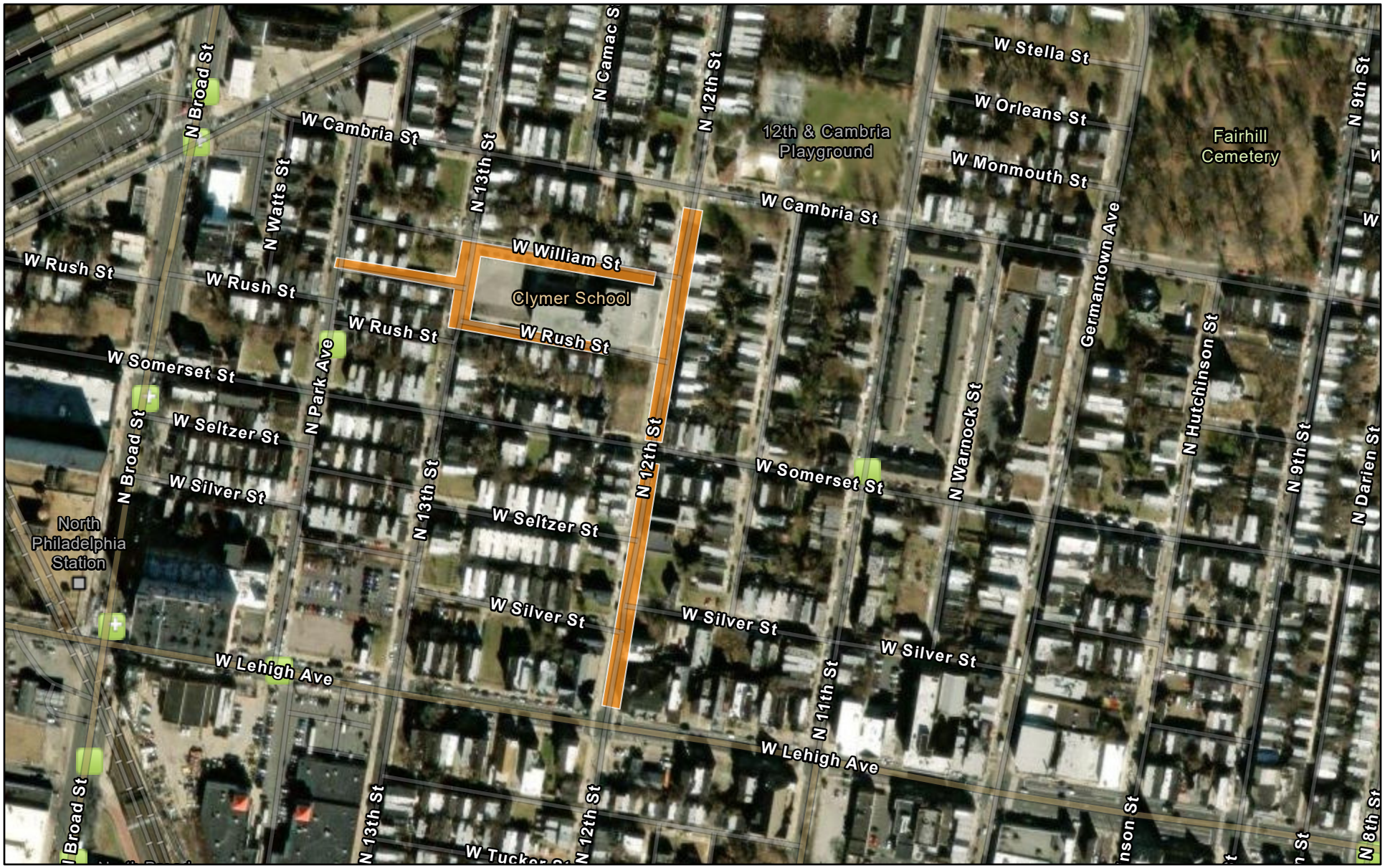
1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

- Brownfields (ACRES)
- Hazardous Waste (RCRAInfo)
- Hazardous Waste (RCRAInfo)
- Project Areas; Segments 4x5340, etc.

Philadelphia Gas Works; NEPAssist: EPA Facilities



January 23, 2024

Hazardous Waste (RCRAInfo)

Project Areas; Segment 4x5253

Hazardous Waste (RCRAInfo)

1:4,514

0 0.03 0.06 0.11 mi

0 0.04 0.09 0.18 km

Maxar, Esri Community Maps Contributors, City of Philadelphia, data.pa.gov, New Jersey Office of GIS, © OpenStreetMap, Microsoft, Esri, TomTom,

Philadelphia Gas Works; NEPAssist: EPA Facilities

January 23, 2024

- Brownfields (ACRES)
- Hazardous Waste (RCRAInfo)
- Hazardous Waste (RCRAInfo)
- Project Areas; Segment 4x5187

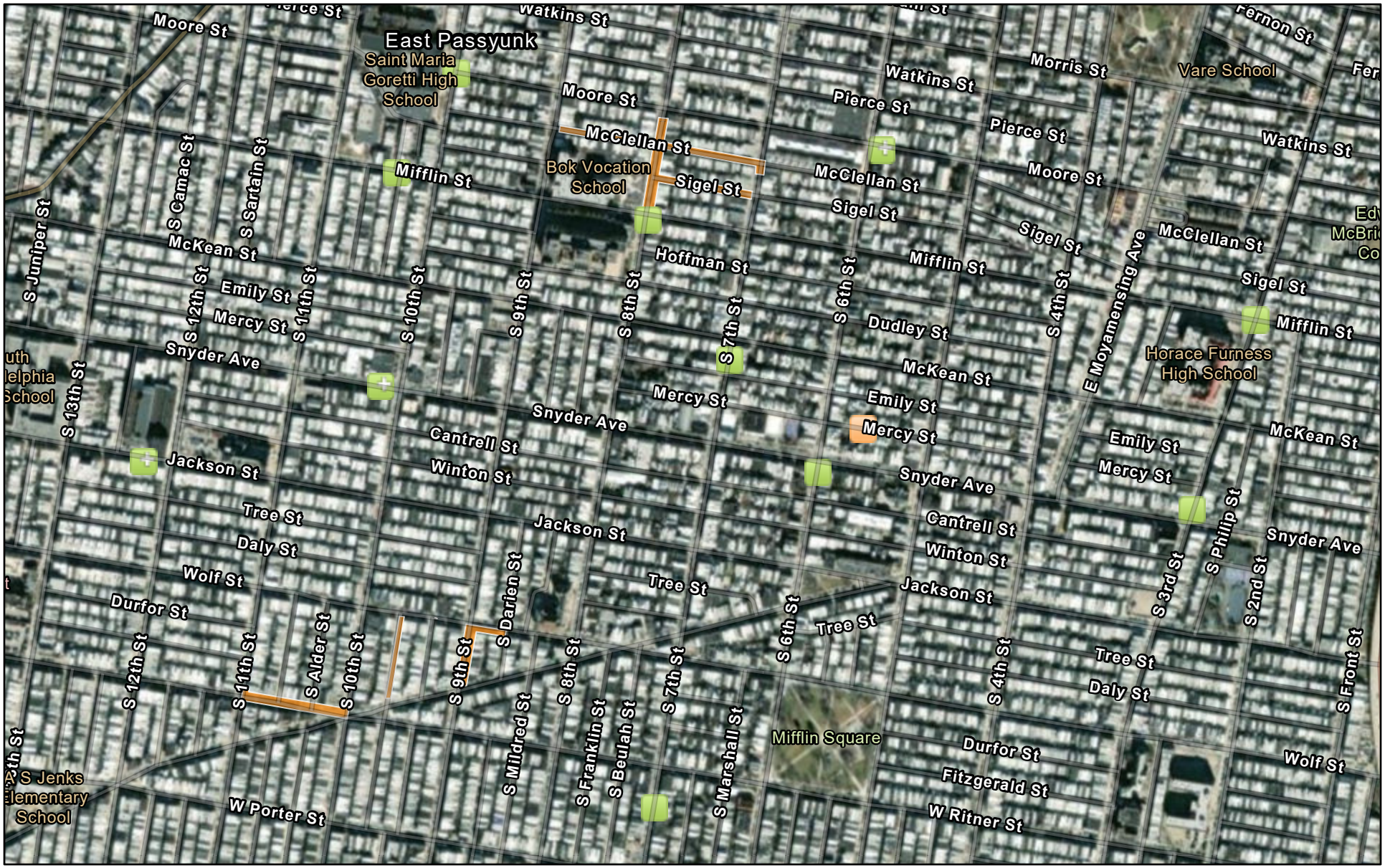
1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Maxar, Esri Community Maps Contributors, City of Philadelphia, data.pa.gov, New Jersey Office of GIS, © OpenStreetMap, Microsoft, Esri, TomTom,

Philadelphia Gas Works; NEPAssist: EPA Facilities



January 23, 2024

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

- Brownfields (ACRES)
- Hazardous Waste (RCRAInfo)
- Hazardous Waste (RCRAInfo)
- Project Areas; Segments 4x5306, 4x5340

Appendix E

Soils Report

United States Department of Agriculture

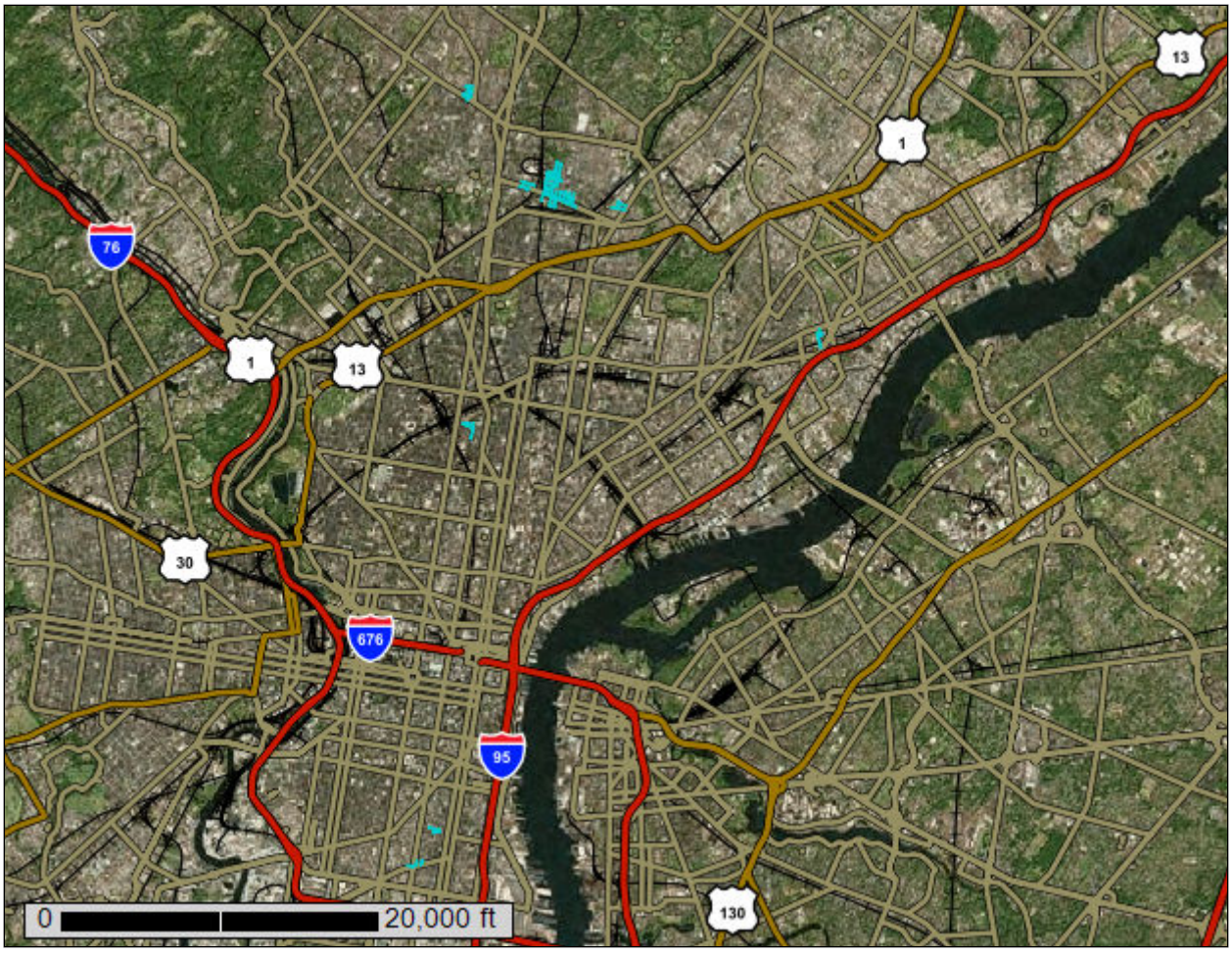
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Philadelphia County, Pennsylvania

Philadelphia Gas Works, Pipeline Replacement



January 23, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

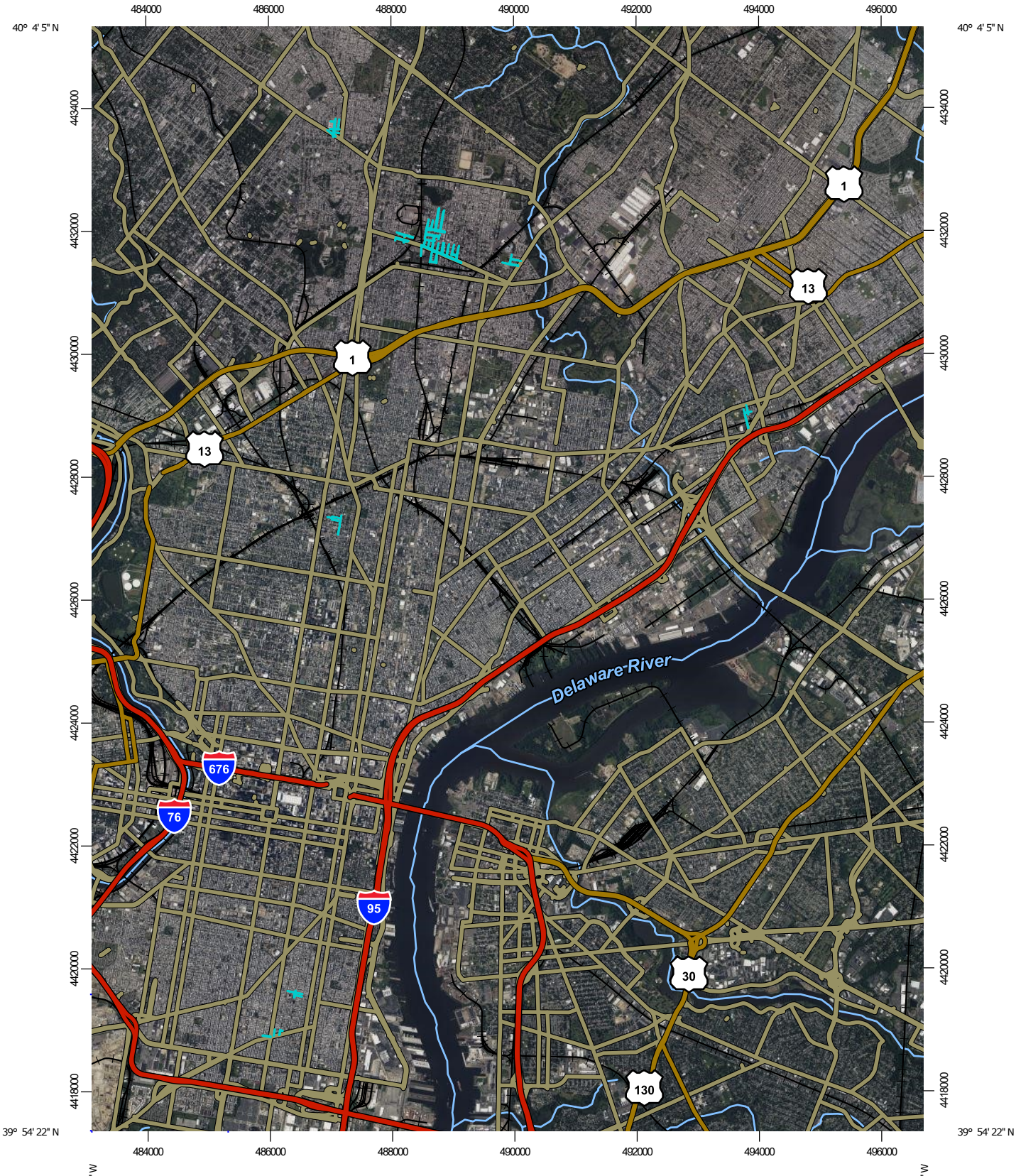
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:87,600 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 1000 2000 4000 6000

Feet
0 4000 8000 16000 24000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Philadelphia County, Pennsylvania
Survey Area Data: Version 19, Sep 8, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 3, 2022—Jul 22, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ub	Urban land	11.0	34.9%
UdB	Urban land-Chester complex, 0 to 8 percent slopes	20.5	65.1%
Totals for Area of Interest		**31.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Philadelphia County, Pennsylvania

Ub—Urban land

Map Unit Setting

National map unit symbol: 1lnm0
Mean annual precipitation: 36 to 50 inches
Mean annual air temperature: 46 to 59 degrees F
Frost-free period: 120 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Pavement, buildings and other artifically covered areas

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 10 inches to densic material
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components

Udorthents, steep

Percent of map unit: 10 percent
Landform: Mountains
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Mountaintop
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

UdB—Urban land-Chester complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 1lnm2
Elevation: 300 to 1,000 feet
Mean annual precipitation: 35 to 46 inches

Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 160 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 50 percent
Chester and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Pavement, buidlings and other artifically covered areas

Typical profile

C - 0 to 6 inches: variable

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 10 to 99 inches to lithic bedrock
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Description of Chester

Setting

Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Residuum weathered from mica schist

Typical profile

A - 0 to 10 inches: silt loam
B - 10 to 42 inches: silt loam
C - 42 to 68 inches: sandy loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 72 to 99 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F148XY024PA - Moist, Piedmont - felsic, Upland, Mixed Oak - Hardwood - Conifer Forest
Hydric soil rating: No

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Appendix F

Biological Resources

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
Phone: (814) 234-4090 Fax: (814) 234-0748
https://www.fws.gov/northeast/PAFO/index.html

In Reply Refer To: February 13, 2024
Project Code: 2024-0048715
Project Name: Philadelphia Gas Works Pipeline Replacement

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
(814) 234-4090

PROJECT SUMMARY

Project Code: 2024-0048715
Project Name: Philadelphia Gas Works Pipeline Replacement
Project Type: Operations and Maintenance - Natural Gas Distribution Facilities
Project Description: natural gas pipeline replacement
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.04410735,-75.13374166457172,14z

Counties: Montgomery and Philadelphia counties, Pennsylvania

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Department of Transportation
Name: Elizabeth Williams
Address: 55 Broadway
City: Cambridge
State: MA
Zip: 02142
Email elizabeth.williams1@dot.gov
Phone: 8572599218

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
Phone: (814) 234-4090 Fax: (814) 234-0748
https://www.fws.gov/northeast/PAFO/index.html

In Reply Refer To: February 13, 2024
Project Code: 2024-0048728
Project Name: Philadelphia Gas Works Pipeline Replacement Project (area 2)

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
(814) 234-4090

PROJECT SUMMARY

Project Code: 2024-0048728
Project Name: Philadelphia Gas Works Pipeline Replacement Project (area 2)
Project Type: Operations and Maintenance - Natural Gas Distribution Facilities
Project Description: Natural Gas Pipeline Replacement
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.99535295,-75.15112878874166,14z

Counties: Philadelphia County, Pennsylvania

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Department of Transportation
Name: Elizabeth Williams
Address: 55 Broadway
City: Cambridge
State: MA
Zip: 02142
Email elizabeth.williams1@dot.gov
Phone: 8572599218

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
Phone: (814) 234-4090 Fax: (814) 234-0748
https://www.fws.gov/northeast/PAFO/index.html

In Reply Refer To: February 13, 2024
Project Code: 2024-0048736
Project Name: Philadelphia Gas Works Pipeline Replacement Project (Area 3)

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
(814) 234-4090

PROJECT SUMMARY

Project Code: 2024-0048736
Project Name: Philadelphia Gas Works Pipeline Replacement Project (Area 3)
Project Type: Operations and Maintenance - Natural Gas Distribution Facilities
Project Description: Natural Gas Pipeline Replacement
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.0102612,-75.07215675073047,14z

Counties: Philadelphia County, Pennsylvania

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Department of Transportation
Name: Elizabeth Williams
Address: 55 Broadway
City: Cambridge
State: MA
Zip: 02142
Email elizabeth.williams1@dot.gov
Phone: 8572599218

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
Phone: (814) 234-4090 Fax: (814) 234-0748
https://www.fws.gov/northeast/PAFO/index.html

In Reply Refer To: February 13, 2024
Project Code: 2024-0048745
Project Name: Philadelphia Gas Works Pipeline Replacement Project (Area 4)

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
(814) 234-4090

PROJECT SUMMARY

Project Code: 2024-0048745
Project Name: Philadelphia Gas Works Pipeline Replacement Project (Area 4)
Project Type: Operations and Maintenance - Natural Gas Distribution Facilities
Project Description: Natural Gas Pipeline Replacement
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.92328485,-75.1618462308748,14z

Counties: Philadelphia County, Pennsylvania

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Department of Transportation
Name: Elizabeth Williams
Address: 55 Broadway
City: Cambridge
State: MA
Zip: 02142
Email elizabeth.williams1@dot.gov
Phone: 8572599218

Rank and Status Definitions

P HP biologists and other members of the Pennsylvania Biological Survey (https://www.pabiologicalsurvey.org/) use inventory data to recommend a state rank and conservation status for species that reflects how common or rare they are in Pennsylvania. Agencies rely upon this expertise and the atureServe status ranking process (https://explorer.natureserve.org/AboutTheData/Statuses) to help determine the status for each species in our lists.

State Legal Status Codes | Federal Codes | Global and State atureServe Ranks | Conservation Status Definitions

Plant Status Codes and Definitions

PE	**Pennsylvania Endangered** - Plant species which are in danger of extinction throughout most of their natural range within this Commonwealth, if critical habitat is not maintained or if the species is greatly exploited by man. This classification shall also include any populations of plant species that have been classified as Pennsylvania Extirpated, but which subsequently are found to exist in this Commonwealth.
PT	**Pennsylvania Threatened** - Plant species which may become endangered throughout most or all of their natural range within this Commonwealth, if critical habitat is not maintained to prevent their future decline, or if the species is greatly exploited by man.
PR	**Pennsylvania Rare** - Plant species which are uncommon within this Commonwealth because they may be found in restricted geographic areas or in low numbers throughout this Commonwealth.
PX	**Pennsylvania Extirpated** - Plant species believed by the Department to be extinct within this Commonwealth. These plants may or may not be in existence outside the Commonwealth. If plant species classified as Pennsylvania Extirpated are found to exist, the species automatically will be considered to be classified as Pennsylvania Endangered.
PV	**Pennsylvania Vulnerable** - Plant species which are in danger of population decline within Commonwealth because of their beauty, economic value, use as a cultivar, or other factors which indicate that persons may seek to remove these species from their native habitats.
TU	**Tentatively Undetermined** - A classification of plant species which are believed to be in danger of population decline, but which cannot presently be included within another classification due to taxanomic uncertainties, limited evidence within historical records, or insufficient data.
N	ocurrent legal status, but is under review for future listing.

Native Plant Species Legislative Authority: Title 17 Chapter 45, Conservation of ative Wild Plants, January 1, 1988; N Pennsylvania Department of Conservation and atural Resources.

Wild Birds and Mammals Status Codes and Definitions

PE **Pennsylvania Endangered** - Species in imminent d nger of extinction or extirp tion throughout their r nge in Pennsylv ni if the deleterious f ctors ffecting them continue to oper te. These re: 1) species whose numbers h ve lre dy been reduced to critic lly low level or whose h bit t h s been so dr stic lly reduced or degr ded th t immedi te ction is required to prevent their extirp tion from the Commonwealth; or 2) species whose extreme r rity or peripher lity pl ces them in potenti l d nger of precipitous declines or sudden extirp tion throughout their r nge in Pennsylv ni ; or 3) species th t h ve been cl ssified s "Pennsylv ni Extirp ted", but which re subsequently found to exist in Pennsylv ni s long s the bove conditions 1 or 2 re met; or 4) species determined to be "End ngered" pursu nt to the End ngered Species Act of 1973, Public L w 93 205 (87 St t. 884), s mended.

PT **Pennsylvania Threatened** - Species th t m y become end ngered within the foresee ble future throughout their a r nge in Pennsylv ni unless the c sual f ctors ffecting the org nism re b ted. These are: 1) species whose popul tions within the Commonwe lth re decre sing or h ve been he vily depleted by dverse f ctors nd while not a ctu lly end ngered, re still in critic l condition; 2) species whose popul tions m y be rel tively bund nt in the Commonwe lth but re under severe thre t from serious dverse f ctors th t h ve been identified nd documented; or 3) species whose popul tions re r re or peripher l nd in possible d nger of severe decline throughout their r nge in Pennsylv ni ; or 4) species determined to be "Thre tened" pursu nt to the End ngered Species Act of 1973, Public L w 93205 (87 St t. 884), s mended, th t re not listed s "Pennsylv ni End ngered".

Wild Birds and Mammals Legislative Authority: Title 34 Ch pter 133, G me nd Wildlife Code, revised Dec. 1, 1990, Pennsylv nia G me Commission.

Fish, A hibpians, Reptiles, and Aquatic Organis Stastus Codes and Definitions

PE **Pennsylvania Endangered** - All species decl red by: 1) the Secret ry of the United St tes Dep rtment of the Interior to be thre tened with extinction nd ppe r on the End ngered Species List or the N tive End ngered Species List published in the Feder l Register; or 2) h ve been decl red by the Pennsylv ni Fish Commission, Executive Director to be thre tened with extinction nd ppe r on the Pennsylv ni End ngered Species List published by the Pennsylv ni Bulletin.

PT **Pennsylvania Threatened** - All species decl red by: 1) the Secret ry of the United St tes Dep rtment of the Interior to be in such sm ll numbers throughout their r nge th t they m y become endangered if their environment worsens, nd ppe r on Thre tened Species List published in the Feder l Register; or 2) h ve been decl red by the Pennsylv ni Fish Commission Executive Director to be in such sm ll numbers throughout their r nge th t they m y become end ngered if their environment worsens nd ppe r on the Pennsylv ni Thre tened Species List published in the Pennsylv ni Bulletin.

PC Anim ls th t could become end ngered or thre tened in the future. All of these re uncommon, h ve restricted distribution or re t risk bec use of cert in spects of their biology.

N No current leg l st tus, but is under review for future listing.

Fish, Amphibians, Reptiles, and Aquatic Organisms Legislative Authority: Title 30, Ch pter 75, Fish nd Bo t Code, revised a Febru ry 9, 1991; Pennsylv ni Fish Commission.

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES
(https:// H r pa gov/Pages/ efault aspx) H

pennsylvania
GAME COMMISSION
(https:// H pgH pa gov/Pages/ efault aspx) H

pennsylvania
FISH AND BOAT COMMISSION
(https:// fisha boat om/Pages/ efault aspx) H

Western Pennsylvania
Conservancy
water, land, life.
(https:// tærla life org/) H

Find us on
(https://H fa ebook om/N PPA/)

PN P (Default aspx) | Forestry ome
(https:// r pa gov/StateForests/Pages/ efault aspx)
| Co ta t Us (o ta t aspx) | Sear h This Site (Sear h aspx) H

YouTube
(https:// youtube om/ /pe sylva ia r) H

Environmental Review List

The Environmental Review list includes threatened and endangered species, special concern species, and rare and significant ecological features, which are screened for in Conservation Explorer (https://conservationexplorer.dcnr.pa.gov/). The species and resources in our list have been categorized to be consistent with definitions in the Department of Environmental Protection's (DEP) Pennsylvania Natural Diversity Inventory (PNDI) Policy. Through the PNDI review process, each agency or commission provides conservation or enhancement recommendations for the species or feature under their jurisdiction to landowners, developers, and planners. As part of the permitting process, the DEP requires permit applicants to screen their land use projects for potential impacts to threatened or endangered species using the Conservation Explorer. Read more about DEP's PNDI Policy (https://www.gis.dcnr.state.pa.us/PNDI/021-0200-001 PNDI Policy.pdf) and rank and status definitions (rank.aspx) for further information.

A complete list of all other species and ecological features surveyed and tracked by PNHP, in addition to Environmental Review species is available on our Species and Natural Features List (SpeciesFeatures.aspx) webpage.

View the Using the Species List page (SpeciesInfo.aspx) for conservation status definitions and instructions on navigating this page.

Search: -- All Species --

By County Philadelphia

By HUC 8 Watershed

Lower Delaware

For more information on watersheds see the Aquatic Community Classification project (http://www.naturalheritage.state.pa.us/aquaticsIntro.aspx)

Species Status Filters

- [x] Threatened and Endangered Species
- [ ] Special Concern Species and Resources

Fact Sheets (The following links may be available for each species.)

PGC Factsheet PNHP Factsheet NatureServe Explorer USFWS Species Profile

Displaying -- All Species -- in the Lower Delaware Watershed

List updated October 2023. Definitions of the status and rank codes can be found here. (rank.aspx) * Denotes a Species of Greatest Conservation Need (SGCN).

Search:

Export to CSV

Scientific Name	Common Name	Federal Status	State Status	Proposed DCNR Status	G Rank	S Rank	Factsheets
*Acipenser brevirostrum**	Shortnose Sturgeon	LE	PE		G3	S2	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.105033) (https://www.fws.gov/species/shortnose-sturgeon-acipenser-brevirostrum)
*Acipenser oxyrinchus**	Atlantic Sturgeon	LE	PE		G3	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.102787) (https://www.fws.gov/species/atlantic-sturgeon-acipenser-oxyrinchus-oxyrinchus)
*Acris crepitans**	Eastern Cricket Frog		PE		G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.828419)
Agalinis auriculata	Eared False-foxglove		PE	PE	G3	S1	(factsheet.aspx?=14729) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.148670)
Ageratina aromatica	Small-Leaved White-Snakeroot		PT	PT	G5	S2	(factsheets/13290.pdf) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.132479)
*Alasmidonta heterodon**	Dwarf Wedgemussel	LE	PE		G1G2	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.108301) (https://www.fws.gov/sites/default/files/documents/508_dwarfwedgemussel_USFWS_factsheet_1.pdf)
Aletris farinosa	Colic-root		PE	PE	G5	S1	(factsheet.aspx?=15344) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.141280)
Alisma triviale	Northern Water-plantain		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.147119)
*Alosa mediocris**	Hickory Shad		PE		G4	S2	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.103525)
*Ardea alba**	Great Egret		PE		G5	S2B,S4N,S3M	(https://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/GreatEgret.aspx) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.103493/Ardea_alba)
Aristida purpurascens	Arrow-feathered Three Awned		PT	PT	G5	S2	(factsheet.aspx?=15507) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.133661)

Scientific Name	Common Name	Federal Status	State Status	Proposed DCNR Status	G Rank	S Rank	Factsheets
Asclepias variegata	White Milkweed		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.145300)
Asclepias verticillata	Whorled Milkweed		PT	PT	G5	S2	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.146524)
*Asio flammeus**	Short-eared Owl		PE		G5	S1B,S3N,S2M	(https://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/Short-EaredOwl.aspx) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.100351/Asio_flammeus)
*Asio otus**	Long-eared Owl		PT		G5	S1B,S3N,S3M	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.101120/Asio_otus)
*Bartramia longicauda**	Upland Sandpiper		PE		G5	S2B,S2M	(https://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/UplandSandpiper.aspx) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.102059/Bartramia_longicauda)
Bidens bidentoides	Swamp Beggar-ticks		PE	PE	G3G4	S1	(factsheet.aspx?=13043) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.145335)
*Bombus affinis**	Rusty Patched Bumble Bee	LE			G2	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.108845) (https://www.fws.gov/species/rusty-patched-bumble-bee-bombus-affinis)
*Botaurus lentiginosus**	American Bittern		PE		G5	S2B,S3M	(https://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/AmericanBittern.aspx) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.103409/Botaurus_lentiginosus)
Bouteloua curtipendula	Tall Gramma		PT	PT	G5	S2	(factsheet.aspx?=15512) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.128943)
Carex bicknellii	Bicknell's Sedge		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.153304)
Carex bullata	Bull Sedge		PE	PE	G5	S1	(factsheet.aspx?=15008) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.128993)
Carex longii	Long's Sedge		PT	PT	G5	S2S3	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.140767)
Carex lupuliformis	False Hop Sedge		PE	PE	G4	S1	(factsheet.aspx?=15086) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.155684)
Carex polymorpha	Variable Sedge		PE	PT	G3	S2	(factsheet.aspx?=15108) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.128460)
Castilleja coccinea	Scarlet Indian-paintbrush		PT	PT	G5	S2	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.135078)
Chasmanthium laxum	Slender Sea-oats		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.130778)
Chrysopsis mariana	Maryland Golden-aster		PT	PE	G5	S1	(factsheet.aspx?=13068) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.153034)
*Circus hudsonius**	Northern Harrier		PT		G5	S2B,S3M	(https://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/NorthernHarrier.aspx) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.104766/Circus_hudsonius)
Cirsium horridulum	Horrible Thistle		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.132867)
*Cistothorus stellaris**	Sedge Wren		PE		G5	S1B,S1M	(https://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/SedgeWren.aspx) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.105322/Cistothorus_platensis)
Cladium mariscoides	Twig Rush		PE	PE	G5	S2	(factsheet.aspx?=15168) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.155072)
Clematis viorna	Vase-vine Leather-flower		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.134724)
Clitoria mariana	Butterfly-pea		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.129948)
Corallorhiza wisteriana	Spring Coral-root		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.129515)
Crocanthemum bicknellii	Bicknell's Hoary Rockrose		PE	PE	G5	S2	(factsheet.aspx?=13564) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.133066)
Cyperus diandrus	Umbrella Flatsedge		PE	PE	G5	S2	(factsheets/15173.pdf) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.142875)
Dichanthelium scoparium	Velvety Panic-grass		PE	PE	G5	S1	(factsheet.aspx?=15575) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.161555)

Scientific Name	Common Name	Federal Status	State Status	Proposed DCNR Status	G Rank	S Rank	Factsheets
Echinochloa walteri	Walter's Barnyard-grass		PE	PE	G5	S1	(factsheet.aspx?=15594) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.135237)
Eleocharis intermedia	Matted Spike-rush		PT	PT	G5	S2	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.145729)
Eleocharis obtusa var. peasei	Wrights Spike Rush		PE	PE	G5TNR	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.144232)
Eleocharis parvula	Little-spike Spike-rush		PE	PE	G5	S1	(factsheet.aspx?=15205) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.146044)
Eleocharis tuberculosa	Long-tubercled Spike-rush		PX	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.129824)
Ellisia nyctelea	Ellisia		PT	PT	G5	S2	(factsheet.aspx?=14002) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.149653)
Endotropis lanceolata	Lance-leaved Buckthorn		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.133186)
Eriophorum gracile	Slender Cotton-grass		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.141592)
Euphorbia polygonifolia	Small Sea-side Spurge		PT	PT	G5?	S2	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.130985)
Euphorbia purpurea	Glade Spurge		PE	PE	G3	S1	(factsheet.aspx?=13783) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.159702)
Euthamia caroliniana	Grass-leaved Goldenrod		PT	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.131342)
Fimbristylis annua	Annual Fimbry		PT	PT	G5	S2	(factsheet.aspx?=15224) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.138252)
Galactia regularis	Eastern Milk-pea		PX	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.158621)
*Gasterosteus aculeatus**	Threespine Stickleback		PE		G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.104745)
Glyceria obtusa	Blunt Manna-grass		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.157305)
*Glyptemys muhlenbergii**	Bog Turtle	LT	PE		G2G3	S2	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.101495) (https://www.fws.gov/species/bog-turtle-glyptemys-muhlenbergii)
Gratiola aurea	Golden Hedge-hyssop		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.157040)
Heteranthera pauciflora	Multiflowered Mud-plantain		PE	PE	G3	S1	(factsheet.aspx?=15763) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.156393)
Hypericum densiflorum	Bushy St. John's-wort		PT	PR	G5	S3	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.146113)
Hypericum gymnanthum	Clasping-leaved St. John's-wort		PE	PE	G4	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.150315)
Ilex opaca	American Holly		PT		G5	S4S5	(factsheet.aspx?=12926) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.132716)
Iris prismatica	Slender Blue Iris		PE	PE	G4G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.150352)
Isotria medeoloides	Small-whorled Pogonia	LT	PE	PE	G2G3	S1	(factsheet.aspx?=15435) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.137976) (https://www.fws.gov/species/green-fiveleaf-orchid-isotria-medeoloides)
*Ixobrychus exilis**	Least Bittern		PE		G4G5	S2B,S2M	(https://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/LeastBittern.aspx) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.106202/Ixobrychus_exilis)
Juncus dichotomus	Forked Rush		PE	PE	G5	S1	(factsheet.aspx?=15302) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.138352)
Juncus militaris	Bayonet Rush		PE	PE	G5	S1	(factsheet.aspx?=15314) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.141665)

Scientific Name	Common Name	Federal Status	State Status	Proposed DCNR Status	G Rank	S Rank	Factsheets
Juncus scirpoides	Scirpus-like Rush		PE	PE	G5	S1	(factsheet.aspx?=15317) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.140516)
*Kinosternon subrubrum subrubrum**	Southeastern Mud Turtle		PE		G5T5	S1	(factsheets/21721.pdf) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.102162)
Linum intercursum	Sandplain Wild Flax		PE	PE	G4	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.132144)
Linum sulcatum	Grooved Yellow Flax		PE	PE	G5	S1	(factsheet.aspx?=14129) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.131004)
*Lithobates sphenocephalus utricularius**	Coastal Plains Leopard Frog		PE		G5TNR	S1	(http://www.naturalheritage.state.pa.us/factsheets/Southern%20Leopard%20Frog.pdf) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.856964)
Lobelia kalmii	Brook Lobelia		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.142920)
Lobelia puberula	Downy Lobelia		PE	PE	G5	S1	(factsheet.aspx?=13456) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.138628)
Lycopodiella appressa	Southern Bog Clubmoss		PT	PT	G5	S2	(factsheet.aspx?=15905) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.133400)
Lycopus rubellus	Bugleweed		PE	PE	G5	S1	(factsheet.aspx?=14044) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.155814)
Lyonia mariana	Stagger-bush		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.129341)
Lysimachia hybrida	Lance-leaf Loosestrife		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.153895)
Lythrum alatum	Winged-loosestrife		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.157008)
Magnolia virginiana	Sweet Bay Magnolia		PT	PT	G5	S2	(factsheet.aspx?=14153) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.144735)
Matelea obliqua	Oblique Milkvine		PE	PE	G4?	S1	(factsheet.aspx?=12958) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.151302)
Muhlenbergia uniflora	Fall Dropseed Muhly		PE	PR	G5	S3	(factsheets/15660.pdf) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.139000)
Neottia bifolia	Southern Twayblade		PE	PE	G4	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.141348)
*Nyctanassa violacea**	Yellow-crowned Night-heron		PE		G5	S1B,S2M	(https://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/Yellow-CrownedNight-Heron.aspx) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.106355/Nyctanassa_violacea)
*Nycticorax nycticorax**	Black-crowned Night-heron		PE		G5	S2B,S3M	(https://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/Black-crownedNightHeron.aspx) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.104974/Nycticorax_nycticorax)
Passiflora lutea	Passion-flower		PT	PT	G5	S2	(factsheet.aspx?=14261) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.135591)
Phemeranthus teretifolius	Round-leaved Fame-flower		PT	PT	G4	S2	(factsheets/14366.pdf) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.133524)
Phyllanthus caroliniensis	Carolina Leaf-flower		PE	PE	G5	S1	(factsheet.aspx?=13785) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.135182)
Platanthera peramoena	Purple-fringeless Orchid		PT	PT	G5	S2	(factsheet.aspx?=15461) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.156892)
Poa autumnalis	Autumn Bluegrass		PE	PE	G5	S1	(factsheet.aspx?=15697) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.135613)
Polygala cruciata	Cross-leaved Milkwort		PE	PE	G5	S1	(factsheet.aspx?=14264) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.133878)
Populus balsamifera	Balsam Poplar		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.139406)
Potamogeton vaseyi	Vasey's Pondweed		PE	PE	G4	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.144223)

Scientific Name	Common Name	Federal Status	State Status	Proposed DCNR Status	G Rank	S Rank	Factsheets
Potentilla paradoxa	Bushy Cinquefoil		PE	PE	G5T5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.134169)
*Pseudemys rubriventris**	Northern Red-bellied Cooter		PT		G5	S2S3	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.106410)
Quercus falcata	Southern Red Oak		PE	PE	G5	S1	(factsheet.aspx?=13895) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.154985)
Quercus phellos	Willow Oak		PE		G5	S2S3	(factsheet.aspx?=13902) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.155566)
*Rallus elegans**	King Rail		PE		G4	S1B,S1M	(https://www.pgc.pa.gov/Wildlife/EndangeredandThreatened/Pages/KingRail.aspx) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.962122/Rallus_elegans)
Rhexia mariana	Maryland Meadow-beauty		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.146605)
Rubus cuneifolius	Sand Blackberry		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.146446)
Sagittaria calycina	Long-lobed Arrow-head		PE		G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.155772)
Schoenoplectiella smithii	Smith's Bulrush		PE	PE	G5?	S1	(factsheet.aspx?=15251) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.159404)
Scleria muehlenbergii	Reticulated Nutrush		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.144369)
Scleria pauciflora	Few Flowered Nutrush		PT	PT	G5	S2	(factsheet.aspx?=15257) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.137192)
Scutellaria serrata	Showy Skullcap		PX	PE	G4G5	S1	(factsheet.aspx?=14099) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.159911)
Sericocarpus linifolius	Narrow-leaved White-topped Aster		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.159943)
Sparganium androcladum	Branching Bur-reed		PE	PE	G4G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.136360)
Spiranthes vernalis	Spring Ladies'-tresses		PE	PE	G5	S1	(factsheet.aspx?=15475) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.153069)
Sporobolus heterolepis	Prairie Dropseed		PE	PE	G5	S1	(factsheet.aspx?=15738) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.148538)
Symphyotrichum depauperatum	Serpentine Aster		PT	PT	G2	S2	(factsheet.aspx?=12998) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.159156)
Symphyotrichum novi-belgii	New York Aster		PT	PT	G5	S2	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.133498)
Trichostema setaceum	Blue-curls		PE	PE	G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.132170)
Triphora trianthophora	Nodding Pogonia		PE	PE	G4?	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.144833)
Triplasis purpurea	Purple Sandgrass		PE	PE	G4G5	S1	(factsheet.aspx?=15747) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.141693)
Vernonia glauca	Tawny Ironweed		PE	PE	G5	S1	(factsheet.aspx?=13283) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.155922)
Viburnum nudum	Possum-haw		PE	PE	G5	S1	(factsheet.aspx?=13672) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.154233)
Viola brittoniana	Coast Violet		PE	PE	G4G5	S1	(https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.134405)

Showing 1 to 114 of 114 entries (filtered from 223 total entries)

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Appendix G

Cultural Resources

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March 22, 2024

Andrea Lowery
PHMC Executive Director – State Historic Preservation Officer
Pennsylvania Historical and Museum Commission
State Historic Preservation Office
Commonwealth Keystone Building, Second Floor
400 North Street
Harrisburg, PA 17120-0093

Section 106 Consultation: City of Philadelphia, Philadelphia Gas Works Natural Gas Pipeline Replacement Project
Grant Recipient: Philadelphia Gas Works
Project Location: City of Philadelphia, Philadelphia County, Pennsylvania

Dear Andrea Lowery:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides funds authorized under the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program. PHMSA proposes to provide funds to the Philadelphia Gas Works (PGW) for the replacement of pipeline (Undertaking). PHMSA is initiating consultation for the above referenced Undertaking in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated implementing regulations, 36 CFR Part 800 (Section 106).

Project Description/Background

The Undertaking consists of the replacement of 6.1 miles (mi) of cast iron pipe and 0.5 mi of steel and plastic pipes with high density polyethylene (PE) pipe to reduce leaks, enhance safety, and improve operations. All work would be conducted in densely developed urban residential neighborhoods in the City of Philadelphia that feature a mix of paved public streets, alleyways, and sidewalks, compact residential, commercial, and light industrial properties, public parks, and schools. Project location maps are enclosed in **Attachment A** and photographs presenting the overall character of the project area are included in **Attachment B**.

The Undertaking has been organized into thirteen (13) work segments described in **Table 1** below. The existing mains measure 12 inches (in) or smaller in diameter. The replacement pipe will be installed within 3 ft to the right or left of the existing pipe as necessary. In most cases the depth of cover for the new PE pipe will be 3 feet (ft). The existing pipe will be capped, purged, and abandoned in place. The anticipated depth of ground disturbance across all of the work segments ranges between 4 and 8 ft, and the anticipated width of ground disturbance ranges between 2 and 8 ft. All pipeline replacement activities will occur within the existing right of way (ROW) in the roadway and/or adjacent footways using open trenching methods. All project staging activities will take place within the existing ROW in existing paved roadways, parking lanes, and footways. No new easements will be required for installation.

Two exceptions to the above-described conditions will occur. At the Philip L. Sheerr School of Nursing Auditorium located on the grounds of Jefferson Einstein Hospital (formerly Einstein Hospital) southwest of the intersection of N 11th Street and W Tabor Road, PGW proposes to install a new 1.25-in high pressure service pipe to the auditorium by open trenching across the lawn and to build a new meter-regulator set outside of the building. The existing service will be capped, purged, and abandoned in place, and the new meter-regulator set will replace the existing set.

At the Gratz Building at 1000 W Tabor Road PGW will replace the existing 3-in steel low pressure gas service with a new 3-in low pressure PE pipe. The existing service will be capped, purged, and abandoned in place. All service line work at the Gratz Building will take place within the existing ROW in existing parking lanes and adjacent footways.

Table 1. Work Segments

Work Segment	Segment Location by Block	Installation Location	Maximum Depth of Disturbance	Maximum Width of Disturbance	Location of Service Work if Required
4x5342	300 W Clarkson Avenue, 5500 N 4th Street, 5500 N 3rd Street, 5400 N 3rd Street	Roadway	4′ 4″	2′	Parking Lane and Footway
4x5187	2100-2200 Wakeling Street, 5000 Tulip Street, 2100 Haworth Street	Roadway	4′ 2″	4′	Parking Lane and Footway
4x5306	2300 S Hutchinson Street, 800 Wolf Street, 2300 S 9th Street, 1000 Ritner Street	Roadway	4′ 6″	4′	Parking Lane and Footway
4x5340	700 Sigel Street, 700-800 McClellan Street, 1800 S 8th Street, 1800 S 7th Street	Roadway	4′ 6″	4′	Parking Lane and Footway
4x5168	5600-5700 N 7th Street, 5600 N 6th Street, 5600 N Fairhill Street, 5700 N Marshall Street, 600 W Chew Avenue, 500-600 W Elkins Avenue	Roadway and Footway	5′ 6″	2′ 6″	Parking Lane and Footway
4x5182	500-700 W Tabor Road, 5500 N 7th Street, 5500 N Marshall Street, 5500 N 6th Street, 5500 N Fairhill Street, 600 W Olney Street	Roadway	7′ 6″	2′	Roadway, Parking Lane, and Footway
4x5195	5400 N Fairhill Street, 5400 N 6th Street, 500 W Somerville Avenue	Roadway	4′	2′	Parking Lane and Footway
4x5258	5700-5800 N 6th Street, 5700-5800 N Fairhill Street, 600 Chew Avenue	Roadway and Footway	4′	2′ 6″	Parking Lane and Footway
4x5268	900-1000 W Olney Avenue, 5400 N 11th Street, 900-1000 W Tabor Road, 5500 N 10th Street	Roadway and Footway	8′	2′ 6″	Parking Lane and Footway
4x5341	200,300,400 W Tabor Road, 5400, 5500 N Lawrence Street, 5500 N 5th Street	Roadway	7′	2′	Parking Lane and Footway

Work Segment	Segment Location by Block	Installation Location	Maximum Depth of Disturbance	Maximum Width of Disturbance	Location of Service Work if Required
4x5253	1200 W Rush Street, 1200 W Williams Street, 1300 West Auburn Street, 2700-2800 N 12th Street	Roadway	4′	4′	Parking Lane and Footway
4x5316	1900-2000 Stenton Avenue, 1900 Colonial Street, 1900-2000 W 65th Avenue, 6400-6500 N 20th Street, 2000 Ridley Street, 6500 N Uber Street	Roadway	4′	8′	Parking Lane and Footway
4x5307	300 E Gale Street, 200-300 E Clarkson Avenue, 5500 B Street	Roadway	4′ 6″	3′	Parking Lane and Footway

Area of Potential Effects (APE)

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the undertaking may directly or indirectly affect historic resources. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW, which includes the limits of disturbance. The maximum vertical extent of the APE varies by work segment (**Table 1**). The Undertaking does not have the potential to cause visual or audible effects after the completion of construction with the exception of the new meter-regulator set at the Sheerr Auditorium.

Based on the proposed scope of work, the APE includes:

- The existing roadways, parking lanes, and footways within the existing ROW associated with the thirteen work segments described in **Table 1** and
- The northeastern quarter of parcel 133N110002 on which the Philip L. Sheerr School of Nursing Auditorium is located.

For the purposes of the discussion that follows, the project work segments have been assigned to seven areas based on their location and have been designated APE Areas 1 through 7 (**Table 2**).

Table 2. Work Segments by Area

APE Area	Work Segments
1	4x5316
2	4x5168, 4x5182, 4x5195, 4x5258, 4x5268, 4x5341, 4x5342
3	4x5307
4	4x5187
5	4x5253
6	4x5340
7	4x5306

The APE encompasses paved roadways, parking lanes, sidewalks, and an open grassy area outside Sheerr Auditorium. The APE is depicted on maps included in **Attachment A**.

Identification and Evaluation

To identify historic properties in the APE, individuals who meet the Secretary of the Interior's (SOI) Professional Qualification Standards reviewed information included in the Pennsylvania State Historic

Preservation Office's (SHPO) online data management and cultural resources GIS tool (PA-SHARE) and the City of Philadelphia's online Philadelphia Register of Historic Places inventory. SOI-qualified individuals likewise conducted research to determine if there may be previously unidentified resources within the APE that are 45 years of age or older and potentially eligible for the National Register of Historic Places (NRHP) and assessed the archaeological sensitivity of the APE.

Historic Architecture

According to PA-SHARE nine (9) previously recorded architectural resources are located in or intersect the APE for historic architecture (**Table 3**). See **Attachment B** for available photographs of identified historic properties.

Table 3. Previously Documented Above-Ground Resources in the APE for Historic Architecture

Name	NRHP Eligibility	ID	Associated Work Segment
Philadelphia & Reading Railroad (P&R)	NRHP Eligible District under Criteria A and C	2010RE02630	Adjacent to 4x5268 and 4x5182
Pennsylvania Railroad: Main Line (Philadelphia to New York) (PRR)	NRHP Eligible District under Criterion A and C	1994RE01403	Intersects 4x5187
North Pennsylvania Railroad (Philadelphia to Bethlehem) (NPRR)	NRHP Eligible District	1995RE42969	Adjacent to 4x5268 and 4x5182
Lenni Lenape Path	Undetermined	2019RE06519	Mapped route of the Lenni Lenape Path—running north-south between N 10th Street and N 13th Street—intersects 4x5268 and 4x5253
Minsi Path	Undetermined	2019RE17250	Mapped route of the Minsi Path intersects 4x5253
Southwark School (1835 S 9th Street)	NRHP Listed Building under Criteria A and C	1985RE00106	Adjacent to 4x5340
John L. Kinsey School (6501 Limekiln Pike)	NRHP Listed Building under Criteria A and C	1985RE00658	Adjacent to 4x5316
Ashburner Street Bridge	Not Eligible	2004RE05829	Located in 4x5168
1012-1028 Ritner Street	Undetermined	1995RE51462	Adjacent to 4x5306

According to the Philadelphia Register of Historic Places a single property that has been designated as historic by the Philadelphia Historical Commission intersects the APE (**Table 4**).

Table 4. Above-Ground Resources Listed in the Philadelphia Register of Historic Places

Name	Significance	Notes	Associated Work Segment
Einstein Hospital Grounds (5401-65 Old York Road)	Listed on the Philadelphia Register of Historic Places	The Einstein Hospital Grounds historic resource listing is limited to the original columns from the Second U.S. Mint (i.e., the Strickland Columns) arrayed along Old York Road on the campus' west side and the individually listed Henry S. Frank Memorial Synagogue likewise located on the west side of the campus.	A new 1.25-in high pressure service pipe will be installed via open trenching between work segment 4x5268 and Philip L. Sheerr School of Nursing Auditorium on the east side of the campus and a new meter-regulator set will be built outside the auditorium.

The Philadelphia & Reading Railroad (P&R) historic district is NRHP eligible under Criteria A and C. One of the first railroads in operation in the United States, the P&R was chartered in 1833 to carry anthracite coal from central Pennsylvania. Where the district passes between work segments 4x5268 and 4x5182, it features a north-south oriented overgrown railroad embankment located just west of N 7th Street and a northeast-southwest oriented fill-elevated active railroad line passing just east of Wagner Avenue that serves SEPTA Regional Rail commuter trains. Elevated grade-separated crossings carry the active line across W Olney Avenue and W Tabor Road.

The Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district (PRR) also known as the Amtrak Northeast Corridor is NRHP eligible under Criteria A and C. Chartered in 1846, PRR service reached Jersey City and New York in 1871 and electrified its Philadelphia-New York line between 1928 and 1938. Where the PRR intersects 4x4187, it is carried over Wakeling Street by an elevated grade-separated crossing.

Formed in 1852 to serve Philadelphia and surrounding counties, the North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district (NPRR) is NRHP eligible—likely under Criteria A and C as above. Where it passes between work segments 4x5268 and 4x5182, its boundaries are identical to those of the P&R.

According to PA-SHARE, the NRHP eligibility of the Lenni Lenape Path and the Minsi Path—both Native American footpaths—has not been determined. Passing through Philadelphia's highly urbanized cityscape, no visible remnants of the paths remain in the vicinity of the Undertaking. Accordingly, both the Lenni Lenape Path and the Minsi Path appear to lack sufficient integrity to be NRHP eligible.

The Southwark School built in 1909 and the John L. Kinsey School built in 1915 are both good examples of late gothic revival architecture and were listed in the NRHP under Criteria A for Education and C for Architecture as part of the Philadelphia Public Schools Thematic Resources Nomination.

According to PA-SHARE, the Ashburner Street Bridge is not eligible for inclusion in the NRHP. Additionally, there is no visible evidence for its continued existence in segment 4x5168.

According to PA-SHARE, the NRHP eligibility of the brick rowhomes at 1012-1028 Ritner Street, built c.1934, has not been determined. While well maintained examples of early-twentieth century Philadelphia rowhomes, the residences at 1012-1028 Ritner Street do not appear architecturally significant, nor do they possess any obvious association with important historical figures or events. Accordingly, they do not appear to be eligible for the NRHP.

Located on the Einstein Hospital Grounds, the Philip L. Sheerr School of Nursing Auditorium building is a plain two-story, brick institutional building surrounded by a manicured lawn and high metal fence. The Philip L. Sheerr School of Nursing Auditorium building was built in the mid-1950s as part of the newly established Albert Einstein Medical Center—itself the result of the merger of the Jewish Hospital and Mt. Sinai Hospital in 1953. At the time of their merger the two hospitals likewise merged their nursing schools. While architecturally unassuming, the building, as a surviving element of the mid-1950s campus, may be individually eligible for the NRHP under Criterion A for its association with the history of medicine and education in Philadelphia. The Philadelphia Historical Commission does not consider the auditorium to be a contributing element of the Philadelphia Register of Historic Places listed Einstein Hospital Grounds.

With the exception of the proposed service line and meter-regulator installation at the Philip L. Sheerr School of Nursing Auditorium building the scale and nature of the Undertaking is limited to the replacement of pipelines and the connection of existing service lines within existing roadways, parking lanes, and footways. Consequently, the identification effort for additional above-ground historic properties focused on identifying properties that are susceptible to any limited effects of the Undertaking and could experience diminished integrity. A review of the APE found no potentially significant above-ground resources that have the potential to be affected by the Undertaking, which will not include any physical changes to buildings or lasting visual or audible impacts to their surroundings.

Archaeology

The APE encompasses the thirteen (13) work segments described in **Table 1** and the northeastern quarter of parcel 133N110002 on which the Philip L. Sheerr School of Nursing Auditorium is located. For the purpose of the following discussion, the previously discussed work segments were grouped into seven areas based on location and have been designated APE Areas 1 through 7 (**Table 2**).

Area 1 is the northernmost APE area and is located in East Germantown near the intersection of Ogontz Avenue and Stenton Avenue. Area 2 is one mile southeast of Area 1 and is situated east of North Broad Street along West Tabor Avenue. Area 3 is less than a half-mile east of Area 2 and situated just west of Rising Sun Avenue. Area 4 is the easternmost APE segment and is located in the Frankford neighborhood near the intersection of Torresdale Avenue and Aramingo Avenue. Area 5 is located in the Fairhill neighborhood east of North Broad Street and north of West Lehigh Avenue. Area 6 is located in the East Passyunk neighborhood along McClelland Street, Sigel Street, South 8th Street and South 7th Street. Area 7 is the southernmost APE segment situated between the East Passyunk and Whitman neighborhoods along West Moyamensing Avenue.

Pennsylvania's cultural resource database, PA-SHARE, was examined to identify the presence of previously recorded archaeological sites and previously conducted archaeological surveys within the APE. No previously recorded archaeological sites and one previously conducted archaeological survey were identified within the APE. In 2017, a Phase I archaeological survey was performed for a proposed wireless telecommunications facility along West Tabor Avenue (Gall and Gall 2017). The 2017 survey boundary intersects with Area 2 along West Tabor Avenue. No sites were identified.

A quarter-mile search radius around each APE was also examined for archaeological sites and surveys. This search revealed no archaeological sites. In addition to the single archaeological survey within the APE, four surveys were identified within a quarter mile (**Table 5**). In 1979, a cultural resources survey was conducted at the Frankford Arsenal approximately 1,000 feet from Area 4. One archaeological site, 36PH13, was identified during the survey. Though the PA-SHARE database shows the site as a point outside of the quarter-mile search radius of Area 4, it likely includes the entirety of the Frankford Arsenal property. The arsenal boundary is located at least 900 feet southeast of Area 4. A 1994 Federal Highway Administration project of Interstate 95 was conducted approximately 450 feet south of Area 4. The 1994

survey area spans several miles of Interstate 95, and no sites identified during the survey are located within a quarter mile of Area 4. In 2010, archaeological testing was performed ahead of construction of the Evelyn Sanders Townhouses approximately 1,000 feet northeast of Area 5. No archaeological sites were identified. In 2021, an archaeological survey was conducted for the Interstate 95 Delaware Avenue Extension. A portion of the survey area lies approximately 350 feet east of Area 4, and no sites were identified.

Table 5. Previously Conducted Archaeological Surveys within a Quarter Mile of the APE for Archaeology

Survey Report Title	**Citation**	**Report Number**
Historical & Archaeological Survey, Frankford Arsenal, PH Co, PA	Townsend 1979	1979SR00004
Phase I Report, I-95 Intermobility Project, City Of Philadelphia & Bensalem Twp., BU CO., PA	Beauregard 1994	1994SR00277
Archaeological and Historical Assessment for the HUD/Evelyn Sanders Townhouse Project, Philadelphia, Philadelphia County	McNichol 2010	2010SR00152
Phase I Archaeological Survey Wireless Telecommunications Facility Collocation PHI Fisher Park 2 5400-5450 North 6th Street Philadelphia, Philadelphia County	*Gall and Gall 2017*	*2017SR00257*
Phase IA Archaeological Sensitivity Study, I-95 BS5: Delaware Avenue Extension, Philadelphia County, Pennsylvania	Marble 2021	2021SR00125

**Italicized entry is located within Area 2*

The Historic Philadelphia Burial Places Map (via Philadelphia Archaeological Forum) and the Find a Grave online database were examined for cemeteries within the APE. As a result of the search, no known cemeteries are located within the APEs. However, six known historic cemeteries were identified within a quarter mile (**Table 6**). Two cemeteries, the St. Benedict's Roman Catholic Church Grounds and the Epiphany of Our Lord Roman Catholic Church Grounds, each contain one burial which is that of their respective former priests. However, the exact location of the burials within the church parcel boundaries are not known. The St. Mary's Cemetery was formerly located at the present-day Saint Maria Goretti High School property but was relocated in 1959. Today, the parcel contains dozens of buildings. Two cemeteries, the St. James Church Cemetery and Fairhill Cemetery, show clear headstones in modern aerial imagery. According to Find a Grave, the M'Mahon/Dukes Burial Ground was established around 1811 and the final interment occurred in 1846. Modern aerial imagery shows the boundary as being developed with townhouses and it is unclear whether the cemetery was relocated or lies beneath the modern buildings. The Fairhill Cemetery is a Quaker cemetery containing several notable historical figures. No cemeteries are known to exist within the APE.

Table 6. Known Historic Cemeteries within a Quarter Mile of the APE for Archaeology

Cemetery Name	**Within Search Radius of Area**
St. Benedict's Roman Catholic Church Grounds	1
St. James Church Cemetery	3
M'Mahon/Dukes Burial Ground	5
Fairhill Cemetery	5
St. Mary's Cemetery (relocated)	6

Cemetery Name	Within Search Radius of Area
Epiphany of Our Lord Roman Catholic Church Grounds	7

An examination of Web Soil Survey data within the APE reveals two soil classes including Urban land and Urban land-Chester complex soils. Urban land-Chester complex soils make up 65 percent of the APE and Urban land makes up 35 percent. Typically slopes greater than 15 percent are not suitable for human occupation, and both soil types within the APE vary from 0 to 8 percent slope. Major waterways surrounding modern-day Philadelphia, including the Schuylkill River to the west and the Delaware River to the east provided a suitable location for precontact inhabitants and historic inhabitants alike. Massive development during the historic period shows the soils and available water supply continued to provide generous conditions for the population.

Historic topographic maps from 1891, 1893, 1949, and 1950 and historic aerial photographs from 1940, 1948, and 1951 were examined for archaeological resource potential within the APE. The presence of structures on historic maps and aerial photography may indicate the likelihood of historic period archaeological deposits associated with the occupation of these structures. The APE is comprised of several segments of highly developed urban area in Philadelphia. The earliest available historic topographic map for Areas 1 through 4 is from 1893 and depicts Areas 1, 2 and 3 to be less developed than Area 4. In Areas 1 and 2, there appear to be no roads following the APE. Area 4 is near the Frankford Arsenal, which was established in the early 19th century. The 1893 topographic map is the earliest available for Areas 5, 6 and 7. Area 5 is less developed than the immediate surroundings except for one road that appears to bisect the M'Mahon/Dukes Burial Ground. The 1893 map also shows that Area 6 follows roads that existed in 1893, and Area 7 lies just outside the limits of road development. Mid-20th century topographic mapping shows that all areas to be aligned to roadways. By this time, the areas surrounding the APE show heavy development of schools, hospitals, municipal buildings, residences, city parks, and train stations. Aerial imagery from 1940, 1948, and 1951 was examined to better understand the historical development of the APE. In all areas, imagery revealed the presence of high density urban residential development and roads by the mid-20th century.

Background research revealed that one archaeological survey has been conducted within the APE. No archaeological sites were identified. Examination of soils data revealed urban soils throughout the APE, indicating widespread historical land disturbance. Six historic cemeteries are present within a quarter mile of the APE, though none are located within or adjacent to it. Historic topographic maps and aerial imagery show that the neighborhoods surrounding the APE experienced rapid and intensive residential and commercial development over the last 130 years.

Project ground disturbance will take place in densely populated and highly developed urban neighborhoods and will be contained to the existing ROW. No new easements will be required for installation. New pipelines will be installed adjacent to the existing pipeline, which will then be abandoned. While there is potential for archaeological deposits to exist in some portions of the right-of-way, the previous construction of roads and sidewalks and the installation of underground utilities including water, sewer, communication lines, and the existing gas pipeline has likely highly disturbed the right-of-way. Due to the limited scope of work for the proposed project and the likelihood of a disturbed context within the APE, an archaeological survey is not recommended at this time.

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are five (5) historic properties as defined in 36 CFR 800.16(l) within or adjacent to the APE:

- The NRHP-eligible Philadelphia & Reading Railroad historic district

- The NRHP-eligible Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district
- The NRHP-eligible North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district
- The NRHP-listed Southwark School
- The NRHP-listed John L. Kinsey School, and
- The Philip L. Sheerr School of Nursing Auditorium.

The Undertaking will not alter any of the character-defining features of the Philadelphia & Reading Railroad historic district, the Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district, the North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district, the Southwark School, or the John L. Kinsey School that qualify them for inclusion in the NRHP under Criteria A and/or C or diminish their integrity. The work associated with the Undertaking consists of the installation and replacement of pipelines and service lines within existing roadways, parking lanes, and footways. No alterations to existing buildings are anticipated and the work will have no lasting physical, visual, or audible effects to these resources or their contributing features. The Undertaking also does not include land acquisition, nor would it limit access to or change the use of the resources.

The Philip L. Sheerr School of Nursing Auditorium building may be individually NRHP eligible under Criteria A for its association with the history of medicine and education in Philadelphia. However, it appears to be architecturally unexceptional and therefore does not appear to be NRHP eligible under Criterion C. Accordingly, the construction of a new meter-regulator outside of the Philip L. Sheerr School of Nursing Auditorium building would not alter any of the character-defining features that might qualify it for inclusion in the NRHP under Criteria A or diminish its integrity.

Furthermore, the work associated with the Undertaking is restricted to areas that demonstrate a low probability for intact significant archaeological resources. Therefore, in accordance with 36 CFR Part 800.5, the Undertaking will have No Adverse Effect on historic properties identified within the APE.

Consulting Party Outreach

PHMSA has identified parties that may be interested in the Project and its effects on historic properties. PHMSA invites the individuals/organizations copied on this letter to participate as Section 106 consulting parties. Invited parties should indicate their willingness to participate as a consulting party and provide comments on the enclosed form (Attachment C) within 30 calendar days from the date on this letter. Note that a non-response is considered to be a declination to participate; however, interested parties can request to join consultation at any time in the process. If any invited party expresses concern about the Project's potential effects to historic properties, PHMSA will consult with the party to resolve those concerns prior to project implementation.

PHMSA will also invite the following federally recognized tribes to participate in consultation by separate letter:

- Delaware Nation, Oklahoma
- Delaware Tribe of Indians
- Eastern Shawnee Tribe of Oklahoma

Request for Section 106 Concurrence

Based on the information presented above, PHMSA has determined that the Undertaking will result in No Adverse Effect to properties that are either in, or eligible for inclusion in, the National Register of Historic Places. PHMSA is submitting this Undertaking to your office for your review and comment. PHMSA requests your concurrence with this determination of effect within 30 calendar days of the date of this letter. Should you need additional information please contact Brian M. Albright, Section 106 specialist, at PHMSASection106@dot.gov or 856-381-6233.

Sincerely,

Matt Fuller
Senior Environmental Protection Specialist

MF/ba

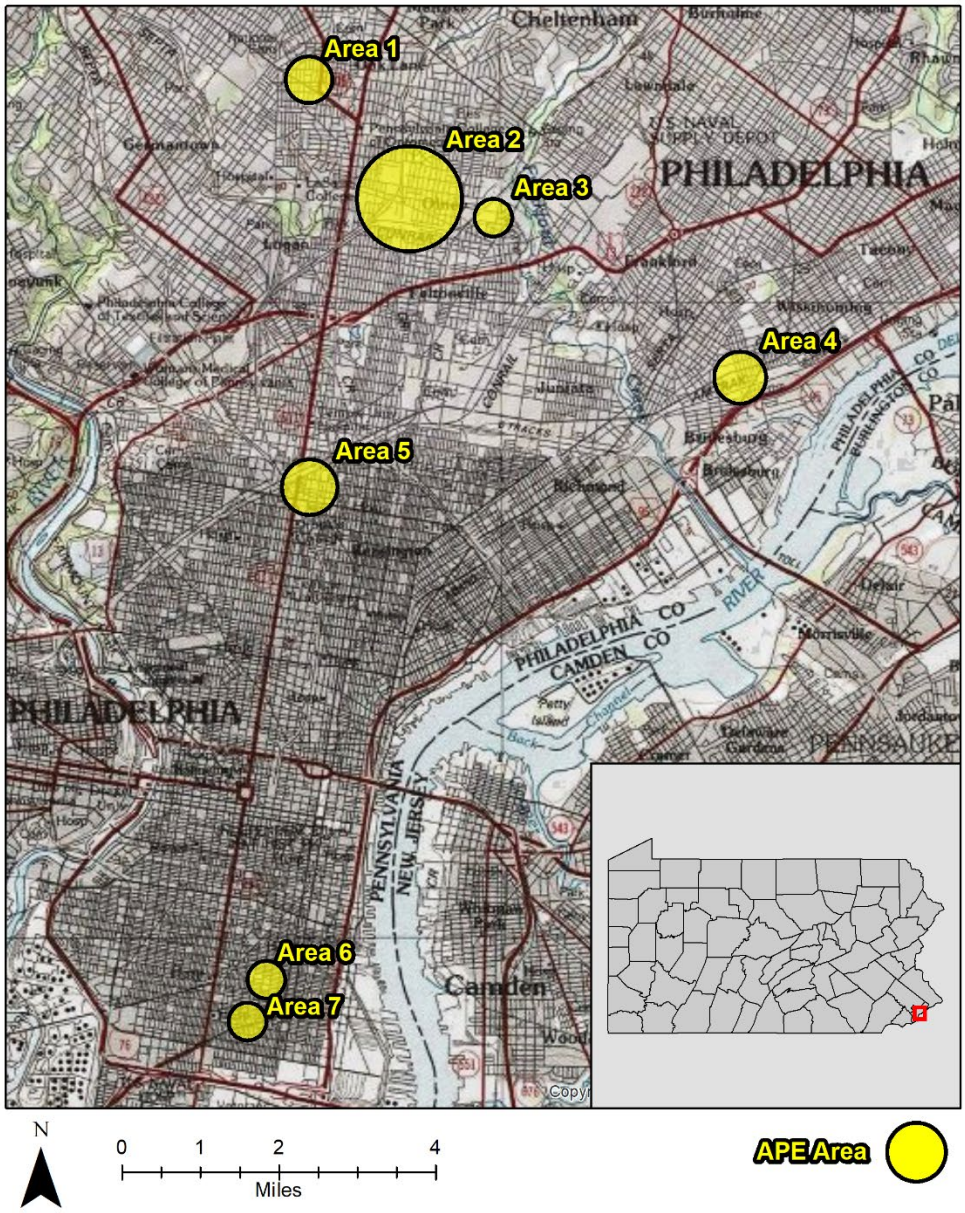
cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center
Renee Taylor, PHMSA Grant Specialist
Joseph Hawkinson, Philadelphia Gas Works
David R. Brigham, Librarian and CEO, Historical Society of Pennsylvania
Robert Thomas, Architectural Historian and Chair, Philadelphia Historical Commission

Enclosures:
Attachment A: Project Location and APE Maps
Attachment B: Project Area Photographs
Attachment C: Consulting Party Response Form

ATTACHMENT A

Project Location and APE Maps

Project Location Map



APE Area 1


4x5316
John L. Kinsey School
St. Benedict's Roman Catholic Church Grounds
Independence St
Wyncote Ave
Eastburn Ave
Woolston Ave
N Woodstock St
67th Ave
N 20th St
N Opal St
N Gratz St
N 18th St
66th Ave
Gerry St
N 21st St
N Lambert St
Limekiln Pike
Ridge Ave
Ogontz Ave
65th Ave
Stenton Ave
Colonial St
W Colonial St
E Chelten Ave
Chelten Ave
N Norwood St
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Medary Ave
Laveer St
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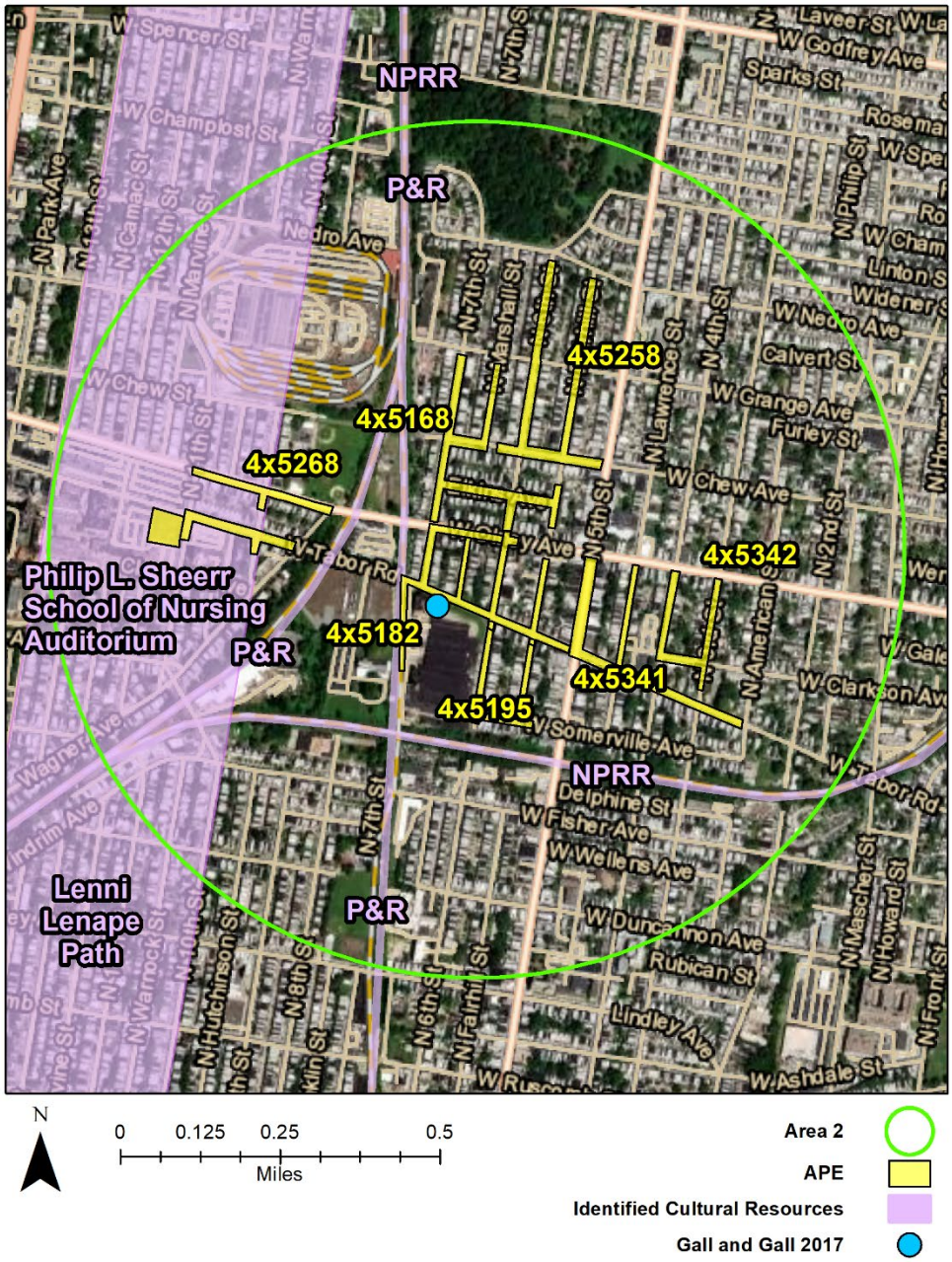
Miles
N
Area 1
APE
Identified Cultural Resources

APE Area 2


NPRR
P&R
4x5258
4x5168
4x5268
4x5342
Philip L. Sheerr
School of Nursing
Auditorium
P&R
4x5182
4x5341
4x5195
NPRR
Lenni
Lenape
Path
P&R
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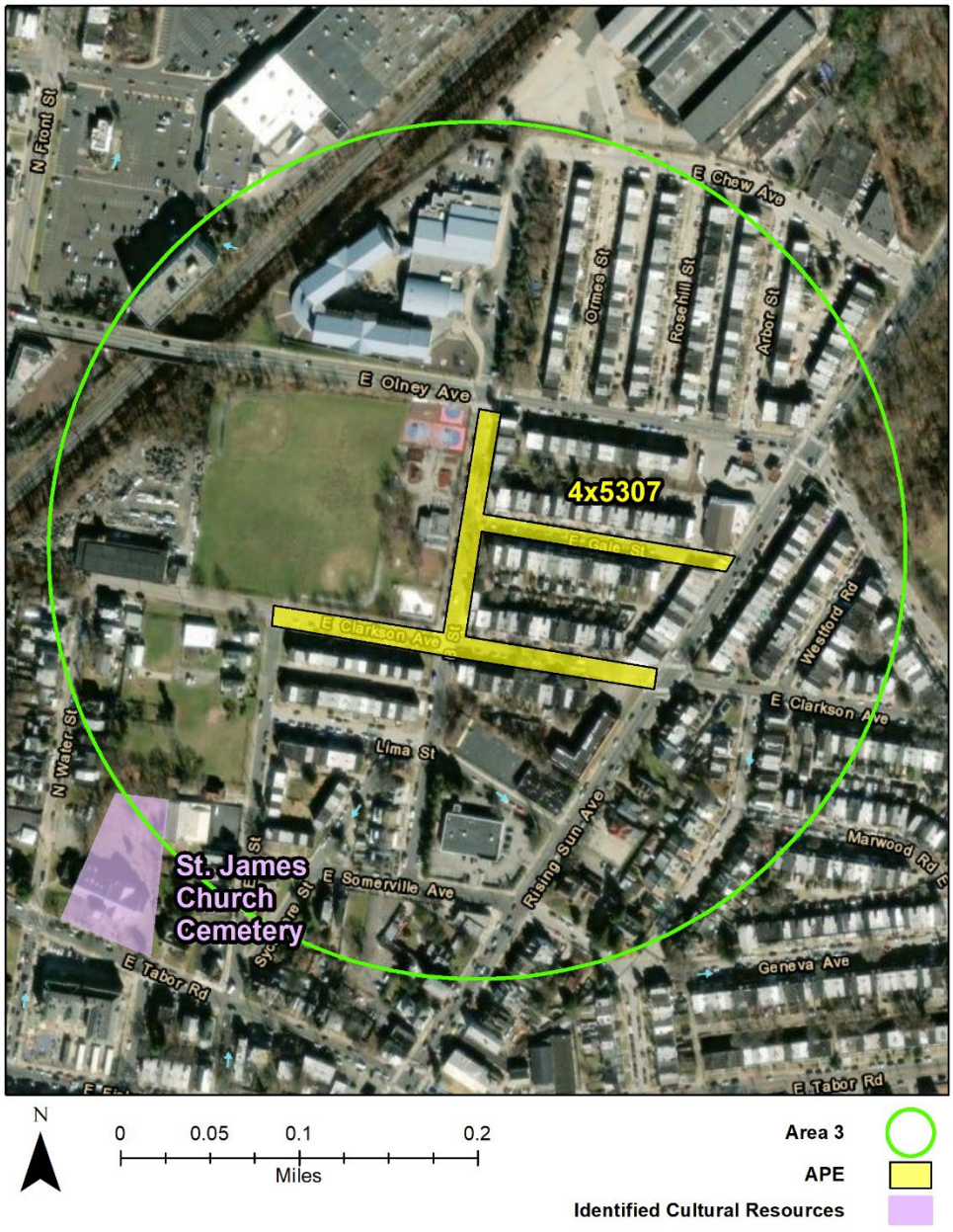
0.5
Miles
Area 2
APE
Identified Cultural Resources
Gall and Gall 2017

APE Area 3


N Front St
E Chew Ave
Ormes St
Rosehill St
Arbor St
E Olney Ave
4x5307
E Gale St
E Clarkson Ave
Westford Rd
E Clarkson Ave
N Water St
Lima St
St. James
Church
Cemetery
E Somerville Ave
Rising Sun Ave
Marwood Rd
Geneva Ave
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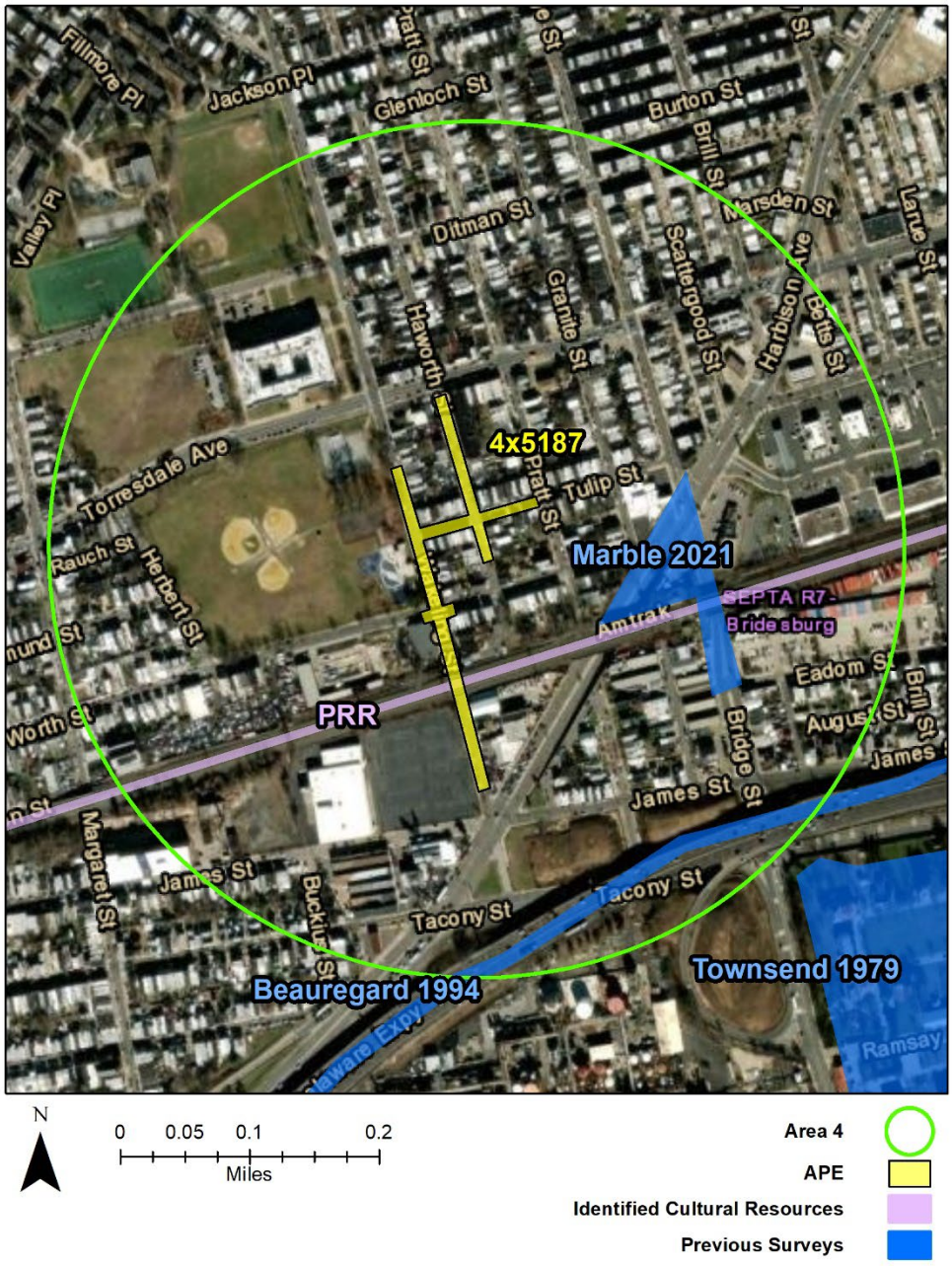
Miles
Area 3
APE
Identified Cultural Resources

APE Area 4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Jackson Pl
Glenloch St
Burton St
Brill St
Marsden St
Larue St
Valley Pl
Ditman St
Granite St
Scattergood St
Harbison Ave
Betts St
Haworth St
4x5187
Pratt St
Tulip St
Torresdale Ave
Rauch St
Herbert St
Marble 2021
SEPTA R7 - Bridesburg
Amtrak
PRR
Eadom St
August St
Bridge St
James St
Margaret St
Tacony St
Beauregard 1994
Townsend 1979
Ramsay
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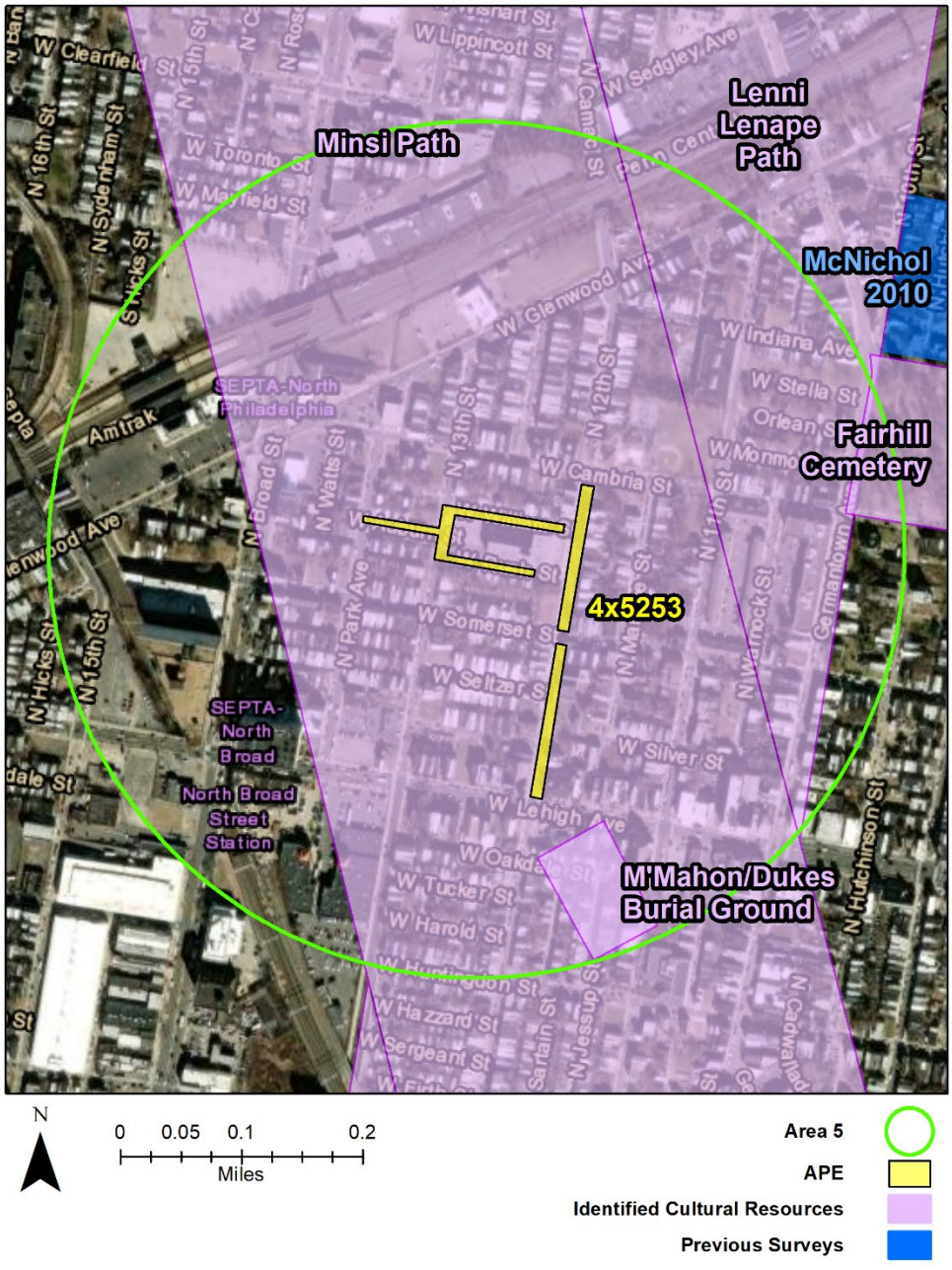
Miles
Area 4
APE
Identified Cultural Resources
Previous Surveys

APE Area 5


Minsi Path
Lenni Lenape Path
McNichol 2010
Fairhill Cemetery
4x5253
M'Mahon/Dukes Burial Ground
SEPTA-North Philadelphia
Amtrak
SEPTA-North Broad
North Broad Street Station
W Clearfield St
W Lippincott St
W Sedgley Ave
W Toronto St
W Mayfield St
W Glenwood Ave
W Indiana Ave
W Stella St
W Cambria St
W Somerset St
W Seltzer St
W Silver St
W Lehigh Ave
W Tucker St
W Harold St
W Hazzard St
W Sergeant St
N 16th St
N Sydenham St
N Hicks St
N 15th St
N Broad St
N Watts St
N 13th St
N 12th St
N Park Ave
N Jessup St
N Hutchinson St
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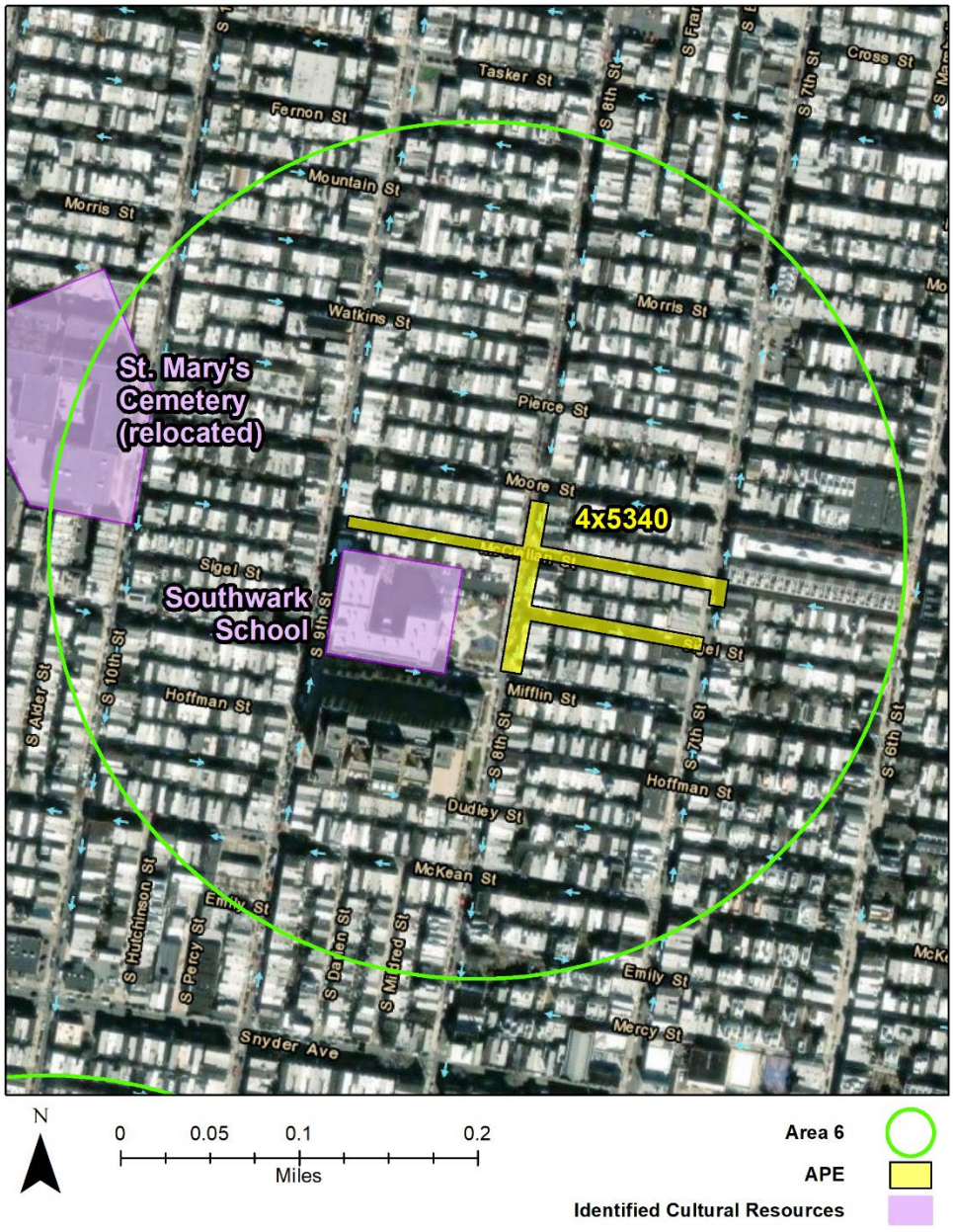
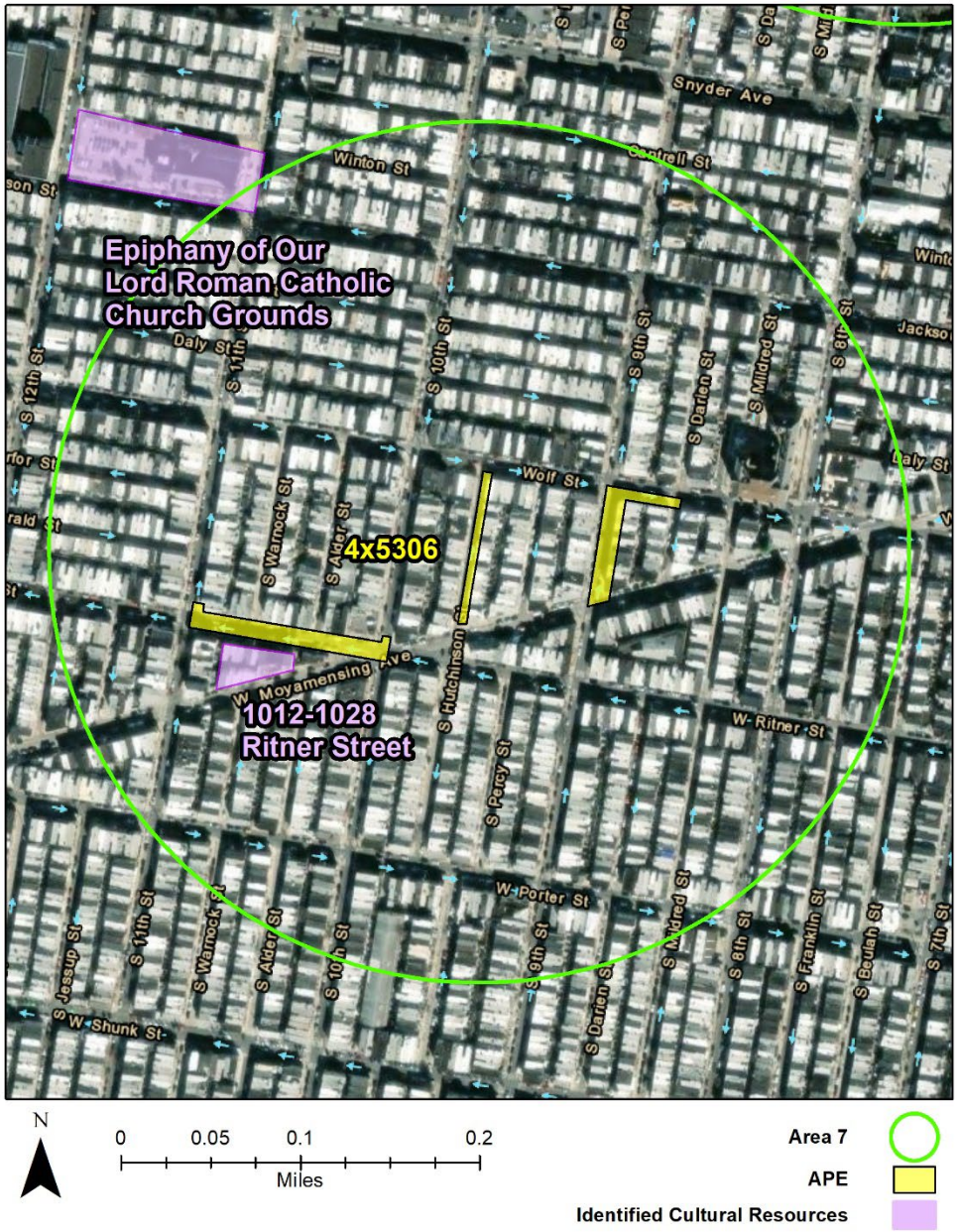
Miles
Area 5
APE
Identified Cultural Resources
Previous Surveys

APE Area 6


St. Mary's Cemetery (relocated)
Southwark School
4x5340
Tasker St
Fernon St
Mountain St
Morris St
Watkins St
Pierce St
Moore St
Sigel St
Mifflin St
Hoffman St
Dudley St
McKean St
Emily St
Mercy St
Snyder Ave
S 8th St
S 7th St
S 6th St
S 9th St
S 10th St
S Alder St
S Hutchinson St
S Percy St
S Darien St
S Mildred St
Cross St
N
0 0.05 0.1 0.2
Miles
Area 6
APE
Identified Cultural Resources

APE Area 7


Epiphany of Our
Lord Roman Catholic
Church Grounds
4x5306
1012-1028
Ritner Street
Snyder Ave
Winton St
Daly St
Wolf St
W Moyamensing Ave
W Ritner St
W Porter St
W Shunk St
S 12th St
S 11th St
S 10th St
S 9th St
S Darien St
S Mildred St
S 8th St
S Warnock St
S Alder St
S Hutchinson St
S Percy St
S Jessup St
S Franklin St
S Beulah St
S 7th St
N
0
0.05
0.1
0.2
Miles
Area 7
APE
Identified Cultural Resources

ATTACHMENT B

Project Area Photographs

Work Segment 4x5168


SPEED
LIMIT
25

Work Segment 4x5182


6th St

Work Segment 4x5187


FTS

Work Segment 4x5195

Work Segment 4x5253


ONE WAY
WATCH
SCHOOL
CROSSING

Work Segment 4x5258

Work Segment 4x5258

Work Segment 4x5306


N Bond St
2400 S 2300
10th St
ONE WAY
ONE WAY


N Bond St
2400 S 2300
10th St
ONE WAY
ONE WAY

Work Segment 4x5307


tswaste.com
215-288-8797

Work Segment 4x5316

Work Segment 4x5340

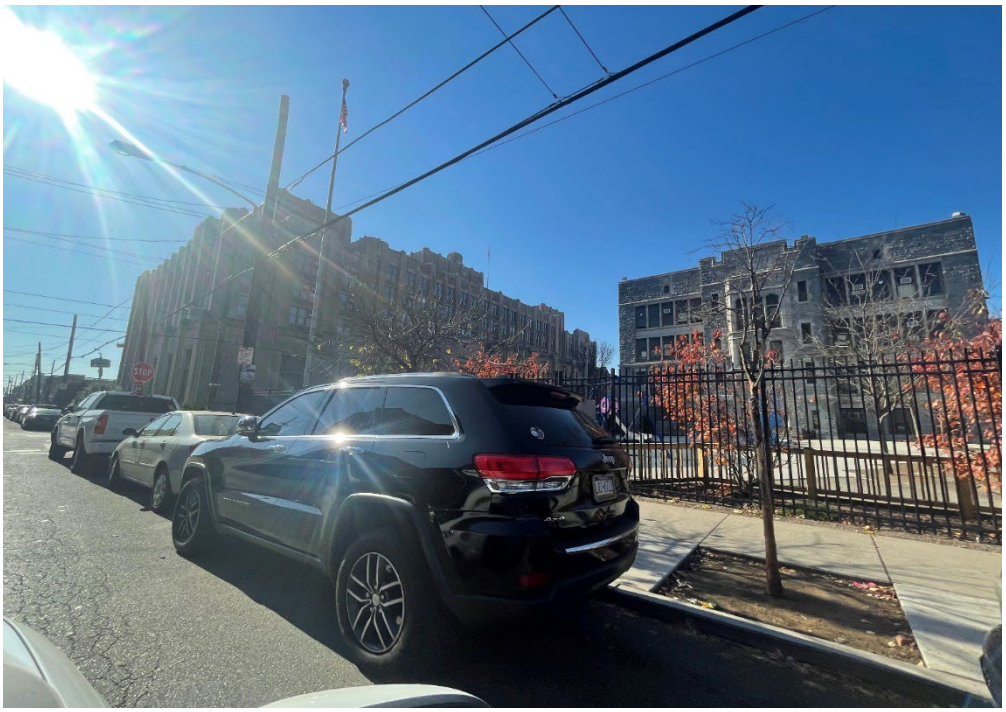

WAY
DO NOT
ENTER

Work Segment 4x5341

Work Segment 4x5342

Pennsylvania Railroad: Main Line (Philadelphia to New York) (PRR)

Southwark School



John L. Kinsey School

1012-1028 Ritner Street

Philip L. Sheerr School of Nursing Auditorium

ATTACHMENT C

Consulting Party Response Form

Section 106 Consulting Party Response Form

Pipeline and Hazardous Materials Safety Administration (PHMSA)

Natural Gas Distribution Infrastructure Safety and Modernization Grant Program

Project Name/Location:

Date: _____

Organization: _____

Name: _____

Affiliation: _____

Address: _____

_____

_____

Phone Number: _____

E-mail: _____

Please check one of the following:

○ **Yes,** I, or my organization, would like to participate in consultation on the project's potential effects to historic properties. I, or my organization, has a legal or economic relation to the project or affected properties or have a concern with the project's effects on historic properties.

○ **No,** I, or my organization, do(es) not wish to participate as a consulting party for the project.

Do you know of any other potential consulting parties that should be contacted? If so, please list the name, email, or other contact information below.

_____

_____

_____

Comments: _____

_____

_____

_____

Please return by:

Please return to: Brian M. Albright
USDOT Volpe Center
220 Binney Street, Cambridge, MA
E-mail: PHMSASection106@dot.gov

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March 22, 2024

Glenna Wallace
Chief
Eastern Shawnee Tribe of Oklahoma
127 West Oneida
Seneca, MO 64865

Section 106 Consultation: City of Philadelphia, Philadelphia Gas Works Natural Gas Pipeline Replacement Project
Grant Recipient: Philadelphia Gas Works
Project Location: City of Philadelphia, Philadelphia County, Pennsylvania

Dear Chief Wallace:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides funds authorized under the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program. PHMSA proposes to provide funds to the Philadelphia Gas Works (PGW) for the replacement of pipeline (Undertaking). PHMSA is initiating consultation for the above referenced Undertaking in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated implementing regulations, 36 CFR Part 800 (Section 106). The purpose of this letter is to initiate Section 106 consultation for the Undertaking to determine if there are historic properties of cultural or religious significance to your Tribe/Nation that may be affected by the Undertaking, to determine if you want to be a consulting party, and to notify your Tribe/Nation of PHMSA's intention to make a finding of No Adverse Effect to Historic Properties. PHMSA is also available for Government-to-Government consultation on this Program.

Project Description/Background

The Undertaking consists of the replacement of 6.1 miles (mi) of cast iron pipe and 0.5 mi of steel and plastic pipes with high density polyethylene (PE) pipe to reduce leaks, enhance safety, and improve operations. All work would be conducted in densely developed urban residential neighborhoods in the City of Philadelphia that feature a mix of paved public streets, alleyways, and sidewalks, compact residential, commercial, and light industrial properties, public parks, and schools. Project location maps are enclosed in **Attachment A** and photographs presenting the overall character of the project area are included in **Attachment B**.

The Undertaking has been organized into thirteen (13) work segments described in **Table 1** below. The existing mains measure 12 inches (in) or smaller in diameter. The replacement pipe will be installed within 3 ft to the right or left of the existing pipe as necessary. In most cases the depth of cover for the new PE pipe will be 3 feet (ft). The existing pipe will be capped, purged, and abandoned in place. The anticipated depth of ground disturbance across all of the work segments ranges between 4 and 8 ft, and the anticipated width of ground disturbance ranges between 2 and 8 ft. All pipeline replacement activities will occur within the existing right of way (ROW) in the roadway and/or adjacent footways using open trenching methods. All

project staging activities will take place within the existing ROW in existing paved roadways, parking lanes, and footways. No new easements will be required for installation.

Two exceptions to the above-described conditions will occur. At the Philip L. Sheerr School of Nursing Auditorium located on the grounds of Jefferson Einstein Hospital (formerly Einstein Hospital) southwest of the intersection of N 11th Street and W Tabor Road, PGW proposes to install a new 1.25-in high pressure service pipe to the auditorium by open trenching across the lawn and to build a new meter-regulator set outside of the building. The existing service will be capped, purged, and abandoned in place, and the new meter-regulator set will replace the existing set.

At the Gratz Building at 1000 W Tabor Road PGW will replace the existing 3-in steel low pressure gas service with a new 3-in low pressure PE pipe. The existing service will be capped, purged, and abandoned in place. All service line work at the Gratz Building will take place within the existing ROW in existing parking lanes and adjacent footways.

Table 1. Work Segments

Work Segment	Segment Location by Block	Installation Location	Maximum Depth of Disturbance	Maximum Width of Disturbance	Location of Service Work if Required
4x5342	300 W Clarkson Avenue, 5500 N 4th Street, 5500 N 3rd Street, 5400 N 3rd Street	Roadway	4′ 4″	2′	Parking Lane and Footway
4x5187	2100-2200 Wakeling Street, 5000 Tulip Street, 2100 Haworth Street	Roadway	4′ 2″	4′	Parking Lane and Footway
4x5306	2300 S Hutchinson Street, 800 Wolf Street, 2300 S 9th Street, 1000 Ritner Street	Roadway	4′ 6″	4′	Parking Lane and Footway
4x5340	700 Sigel Street, 700-800 McClellan Street, 1800 S 8th Street, 1800 S 7th Street	Roadway	4′ 6″	4′	Parking Lane and Footway
4x5168	5600-5700 N 7th Street, 5600 N 6th Street, 5600 N Fairhill Street, 5700 N Marshall Street, 600 W Chew Avenue, 500-600 W Elkins Avenue	Roadway and Footway	5′ 6″	2′ 6″	Parking Lane and Footway
4x5182	500-700 W Tabor Road, 5500 N 7th Street, 5500 N Marshall Street, 5500 N 6th Street, 5500 N Fairhill Street, 600 W Olney Street	Roadway	7′ 6″	2′	Roadway, Parking Lane, and Footway
4x5195	5400 N Fairhill Street, 5400 N 6th Street, 500 W Somerville Avenue	Roadway	4′	2′	Parking Lane and Footway
4x5258	5700-5800 N 6th Street, 5700-5800 N Fairhill Street, 600 Chew Avenue	Roadway and Footway	4′	2′ 6″	Parking Lane and Footway
4x5268	900-1000 W Olney Avenue, 5400 N 11th Street, 900-1000 W Tabor Road, 5500 N 10th Street	Roadway and Footway	8′	2′ 6″	Parking Lane and Footway
4x5341	200,300,400 W Tabor Road, 5400, 5500 N Lawrence Street, 5500 N 5th Street	Roadway	7′	2′	Parking Lane and Footway

Work Segment	Segment Location by Block	Installation Location	Maximum Depth of Disturbance	Maximum Width of Disturbance	Location of Service Work if Required
4x5253	1200 W Rush Street, 1200 W Williams Street, 1300 West Auburn Street, 2700-2800 N 12th Street	Roadway	4′	4′	Parking Lane and Footway
4x5316	1900-2000 Stenton Avenue, 1900 Colonial Street, 1900-2000 W 65th Avenue, 6400-6500 N 20th Street, 2000 Ridley Street, 6500 N Uber Street	Roadway	4′	8′	Parking Lane and Footway
4x5307	300 E Gale Street, 200-300 E Clarkson Avenue, 5500 B Street	Roadway	4′ 6″	3′	Parking Lane and Footway

Area of Potential Effects (APE)

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the undertaking may directly or indirectly affect historic resources. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW, which includes the limits of disturbance. The maximum vertical extent of the APE varies by work segment (**Table 1**). The Undertaking does not have the potential to cause visual or audible effects after the completion of construction, with the exception of the new meter-regulator set at the Sheerr Auditorium.

Based on the proposed scope of work, the APE includes:

- The existing roadways, parking lanes, and footways within the existing ROW associated with the thirteen work segments described in **Table 1** and
- The northeastern quarter of parcel 133N110002 on which the Philip L. Sheerr School of Nursing Auditorium is located.

For the purposes of the discussion that follows, the project work segments have been assigned to seven areas based on their location and have been designated APE Areas 1 through 7 (**Table 2**).

Table 2. Work Segments by Area

APE Area	Work Segments
1	4x5316
2	4x5168, 4x5182, 4x5195, 4x5258, 4x5268, 4x5341, 4x5342
3	4x5307
4	4x5187
5	4x5253
6	4x5340
7	4x5306

The APE encompasses paved roadways, parking lanes, sidewalks, and an open grassy area outside Sheerr Auditorium. The APE is depicted on maps included in **Attachment A**.

Identification and Evaluation

To identify historic properties in the APE, individuals who meet the Secretary of the Interior's (SOI) Professional Qualification Standards reviewed information included in the Pennsylvania State Historic Preservation Office's (SHPO) online data management and cultural resources GIS tool (PA-SHARE) and the City of Philadelphia's online Philadelphia Register of Historic Places inventory. SOI-qualified

individuals likewise conducted research to determine if there may be previously unidentified resources within the APE that are 45 years of age or older and potentially eligible for the National Register of Historic Places (NRHP) and assessed the archaeological sensitivity of the APE.

Historic Architecture

According to PA-SHARE nine (9) previously recorded architectural resources are located in or intersect the APE for historic architecture (**Table 3**). See **Attachment B** for available photographs of identified historic properties.

Table 3. Previously Documented Above-Ground Resources in the APE for Historic Architecture

Name	NRHP Eligibility	ID	Associated Work Segment
Philadelphia & Reading Railroad (P&R)	NRHP Eligible District under Criteria A and C	2010RE02630	Adjacent to 4x5268 and 4x5182
Pennsylvania Railroad: Main Line (Philadelphia to New York) (PRR)	NRHP Eligible District under Criterion A and C	1994RE01403	Intersects 4x5187
North Pennsylvania Railroad (Philadelphia to Bethlehem) (NPRR)	NRHP Eligible District	1995RE42969	Adjacent to 4x5268 and 4x5182
Lenni Lenape Path	Undetermined	2019RE06519	Mapped route of the Lenni Lenape Path—running north-south between N 10th Street and N 13th Street—intersects 4x5268 and 4x5253
Minsi Path	Undetermined	2019RE17250	Mapped route of the Minsi Path intersects 4x5253
Southwark School (1835 S 9th Street)	NRHP Listed Building under Criteria A and C	1985RE00106	Adjacent to 4x5340
John L. Kinsey School (6501 Limekiln Pike)	NRHP Listed Building under Criteria A and C	1985RE00658	Adjacent to 4x5316
Ashburner Street Bridge	Not Eligible	2004RE05829	Located in 4x5168
1012-1028 Ritner Street	Undetermined	1995RE51462	Adjacent to 4x5306

According to the Philadelphia Register of Historic Places a single property that has been designated as historic by the Philadelphia Historical Commission intersects the APE (**Table 4**).

Table 4. Above-Ground Resources Listed in the Philadelphia Register of Historic Places

Name	Significance	Notes	Associated Work Segment
Einstein Hospital Grounds (5401-65 Old York Road)	Listed on the Philadelphia Register of Historic Places	The Einstein Hospital Grounds historic resource listing is limited to the original columns from the Second U.S. Mint (i.e., the Strickland Columns) arrayed along Old York Road on the campus' west side and the individually listed Henry S. Frank Memorial Synagogue likewise located on the west side of the campus.	A new 1.25-in high pressure service pipe will be installed via open trenching between work segment 4x5268 and Philip L. Sheerr School of Nursing Auditorium on the east side of the campus and a new meter-regulator set will be built outside the auditorium.

The Philadelphia & Reading Railroad (P&R) historic district is NRHP eligible under Criteria A and C. One of the first railroads in operation in the United States, the P&R was chartered in 1833 to carry anthracite coal from central Pennsylvania. Where the district passes between work segments 4x5268 and 4x5182, it features a north-south oriented overgrown railroad embankment located just west of N 7th Street and a northeast-southwest oriented fill-elevated active railroad line passing just east of Wagner Avenue that serves SEPTA Regional Rail commuter trains. Elevated grade-separated crossings carry the active line across W Olney Avenue and W Tabor Road.

The Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district (PRR) also known as the Amtrak Northeast Corridor is NRHP eligible under Criteria A and C. Chartered in 1846, PRR service reached Jersey City and New York in 1871 and electrified its Philadelphia-New York line between 1928 and 1938. Where the PRR intersects 4x4187, it is carried over Wakeling Street by an elevated grade-separated crossing.

Formed in 1852 to serve Philadelphia and surrounding counties, the North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district (NPRR) is NRHP eligible—likely under Criteria A and C as above. Where it passes between work segments 4x5268 and 4x5182, its boundaries are identical to those of the P&R.

According to PA-SHARE, the NRHP eligibility of the Lenni Lenape Path and the Minsi Path—both Native American footpaths—has not been determined. Passing through Philadelphia's highly urbanized cityscape, no visible remnants of the paths remain in the vicinity of the Undertaking. Accordingly, both the Lenni Lenape Path and the Minsi Path appear to lack sufficient integrity to be NRHP eligible.

The Southwark School built in 1909 and the John L. Kinsey School built in 1915 are both good examples of late gothic revival architecture and were listed in the NRHP under Criteria A for Education and C for Architecture as part of the Philadelphia Public Schools Thematic Resources Nomination.

According to PA-SHARE, the Ashburner Street Bridge is not eligible for inclusion in the NRHP. Additionally, there is no visible evidence for its continued existence in segment 4x5168.

According to PA-SHARE, the NRHP eligibility of the brick rowhomes at 1012-1028 Ritner Street, built c.1934, has not been determined. While well maintained examples of early-twentieth century Philadelphia rowhomes, the residences at 1012-1028 Ritner Street do not appear architecturally significant, nor do they possess any obvious association with important historical figures or events. Accordingly, they do not appear to be eligible for the NRHP.

Located on the Einstein Hospital Grounds, the Philip L. Sheerr School of Nursing Auditorium building is a plain two-story, brick institutional building surrounded by a manicured lawn and high metal fence. The

Philip L. Sheerr School of Nursing Auditorium building was built in the mid-1950s as part of the newly established Albert Einstein Medical Center—itself the result of the merger of the Jewish Hospital and Mt. Sinai Hospital in 1953. At the time of their merger the two hospitals likewise merged their nursing schools. While architecturally unassuming, the building, as a surviving element of the mid-1950s campus, may be individually eligible for the NRHP under Criterion A for its association with the history of medicine and education in Philadelphia. The Philadelphia Historical Commission does not consider the auditorium to be a contributing element of the Philadelphia Register of Historic Places listed Einstein Hospital Grounds.

With the exception of the proposed service line and meter-regulator installation at the Philip L. Sheerr School of Nursing Auditorium building the scale and nature of the Undertaking is limited to the replacement of pipelines and the connection of existing service lines within existing roadways, parking lanes, and footways. Consequently, the identification effort for additional above-ground historic properties focused on identifying properties that are susceptible to any limited effects of the Undertaking and could experience diminished integrity. A review of the APE found no potentially significant above-ground resources that have the potential to be affected by the Undertaking, which will not include any physical changes to buildings or lasting visual or audible impacts to their surroundings.

Archaeology

The APE encompasses the thirteen (13) work segments described in **Table 1** and the northeastern quarter of parcel 133N110002 on which the Philip L. Sheerr School of Nursing Auditorium is located. For the purpose of the following discussion, the previously discussed work segments were grouped into seven areas based on location and have been designated APE Areas 1 through 7 (**Table 2**).

Area 1 is the northernmost APE area and is located in East Germantown near the intersection of Ogontz Avenue and Stenton Avenue. Area 2 is one mile southeast of Area 1 and is situated east of North Broad Street along West Tabor Avenue. Area 3 is less than a half-mile east of Area 2 and situated just west of Rising Sun Avenue. Area 4 is the easternmost APE segment and is located in the Frankford neighborhood near the intersection of Torresdale Avenue and Aramingo Avenue. Area 5 is located in the Fairhill neighborhood east of North Broad Street and north of West Lehigh Avenue. Area 6 is located in the East Passyunk neighborhood along McClelland Street, Sigel Street, South 8th Street and South 7th Street. Area 7 is the southernmost APE segment situated between the East Passyunk and Whitman neighborhoods along West Moyamensing Avenue.

Pennsylvania's cultural resource database, PA-SHARE, was examined to identify the presence of previously recorded archaeological sites and previously conducted archaeological surveys within the APE. No previously recorded archaeological sites and one previously conducted archaeological survey were identified within the APE. In 2017, a Phase I archaeological survey was performed for a proposed wireless telecommunications facility along West Tabor Avenue (Gall and Gall 2017). The 2017 survey boundary intersects with Area 2 along West Tabor Avenue. No sites were identified.

A quarter-mile search radius around each APE was also examined for archaeological sites and surveys. This search revealed no archaeological sites. In addition to the single archaeological survey within the APE, four surveys were identified within a quarter mile (**Table 5**). In 1979, a cultural resources survey was conducted at the Frankford Arsenal approximately 1,000 feet from Area 4. One archaeological site, 36PH13, was identified during the survey. Though the PA-SHARE database shows the site as a point outside of the quarter-mile search radius of Area 4, it likely includes the entirety of the Frankford Arsenal property. The arsenal boundary is located at least 900 feet southeast of Area 4. A 1994 Federal Highway Administration project of Interstate 95 was conducted approximately 450 feet south of Area 4. The 1994 survey area spans several miles of Interstate 95, and no sites identified during the survey are located within a quarter mile of Area 4. In 2010, archaeological testing was performed ahead of construction of the Evelyn Sanders Townhouses approximately 1,000 feet northeast of Area 5. No archaeological sites were identified.

In 2021, an archaeological survey was conducted for the Interstate 95 Delaware Avenue Extension. A portion of the survey area lies approximately 350 feet east of Area 4, and no sites were identified.

Table 5. Previously Conducted Archaeological Surveys within a Quarter Mile of the APE for Archaeology

Survey Report Title	Citation	Report Number
Historical & Archaeological Survey, Frankford Arsenal, PH Co, PA	Townsend 1979	1979SR00004
Phase I Report, I-95 Intermobility Project, City Of Philadelphia & Bensalem Twp., BU CO., PA	Beauregard 1994	1994SR00277
Archaeological and Historical Assessment for the HUD/Evelyn Sanders Townhouse Project, Philadelphia, Philadelphia County	McNichol 2010	2010SR00152
Phase I Archaeological Survey Wireless Telecommunications Facility Collocation PHI Fisher Park 2 5400-5450 North 6th Street Philadelphia, Philadelphia County	*Gall and Gall 2017*	*2017SR00257*
Phase IA Archaeological Sensitivity Study, I-95 BS5: Delaware Avenue Extension, Philadelphia County, Pennsylvania	Marble 2021	2021SR00125

**Italicized entry is located within Area 2*

The Historic Philadelphia Burial Places Map (via Philadelphia Archaeological Forum) and the Find a Grave online database were examined for cemeteries within the APE. As a result of the search, no known cemeteries are located within the APEs. However, six known historic cemeteries were identified within a quarter mile (**Table 6**). Two cemeteries, the St. Benedict's Roman Catholic Church Grounds and the Epiphany of Our Lord Roman Catholic Church Grounds, each contain one burial which is that of their respective former priests. However, the exact location of the burials within the church parcel boundaries are not known. The St. Mary's Cemetery was formerly located at the present-day Saint Maria Goretti High School property but was relocated in 1959. Today, the parcel contains dozens of buildings. Two cemeteries, the St. James Church Cemetery and Fairhill Cemetery, show clear headstones in modern aerial imagery. According to Find a Grave, the M'Mahon/Dukes Burial Ground was established around 1811 and the final interment occurred in 1846. Modern aerial imagery shows the boundary as being developed with townhouses and it is unclear whether the cemetery was relocated or lies beneath the modern buildings. The Fairhill Cemetery is a Quaker cemetery containing several notable historical figures. No cemeteries are known to exist within the APE.

Table 6. Known Historic Cemeteries within a Quarter Mile of the APE for Archaeology

Cemetery Name	Within Search Radius of Area
St. Benedict's Roman Catholic Church Grounds	1
St. James Church Cemetery	3
M'Mahon/Dukes Burial Ground	5
Fairhill Cemetery	5
St. Mary's Cemetery (relocated)	6
Epiphany of Our Lord Roman Catholic Church Grounds	7

An examination of Web Soil Survey data within the APE reveals two soil classes including Urban land and Urban land-Chester complex soils. Urban land-Chester complex soils make up 65 percent of the APE and

Urban land makes up 35 percent. Typically slopes greater than 15 percent are not suitable for human occupation, and both soil types within the APE vary from 0 to 8 percent slope. Major waterways surrounding modern-day Philadelphia, including the Schuylkill River to the west and the Delaware River to the east provided a suitable location for precontact inhabitants and historic inhabitants alike. Massive development during the historic period shows the soils and available water supply continued to provide generous conditions for the population.

Historic topographic maps from 1891, 1893, 1949, and 1950 and historic aerial photographs from 1940, 1948, and 1951 were examined for archaeological resource potential within the APE. The presence of structures on historic maps and aerial photography may indicate the likelihood of historic period archaeological deposits associated with the occupation of these structures. The APE is comprised of several segments of highly developed urban area in Philadelphia. The earliest available historic topographic map for Areas 1 through 4 is from 1893 and depicts Areas 1, 2 and 3 to be less developed than Area 4. In Areas 1 and 2, there appear to be no roads following the APE. Area 4 is near the Frankford Arsenal, which was established in the early 19th century. The 1893 topographic map is the earliest available for Areas 5, 6 and 7. Area 5 is less developed than the immediate surroundings except for one road that appears to bisect the M'Mahon/Dukes Burial Ground. The 1893 map also shows that Area 6 follows roads that existed in 1893, and Area 7 lies just outside the limits of road development. Mid-20th century topographic mapping shows that all areas to be aligned to roadways. By this time, the areas surrounding the APE show heavy development of schools, hospitals, municipal buildings, residences, city parks, and train stations. Aerial imagery from 1940, 1948, and 1951 was examined to better understand the historical development of the APE. In all areas, imagery revealed the presence of high density urban residential development and roads by the mid-20th century.

Background research revealed that one archaeological survey has been conducted within the APE. No archaeological sites were identified. Examination of soils data revealed urban soils throughout the APE, indicating widespread historical land disturbance. Six historic cemeteries are present within a quarter mile of the APE, though none are located within or adjacent to it. Historic topographic maps and aerial imagery show that the neighborhoods surrounding the APE experienced rapid and intensive residential and commercial development over the last 130 years.

Project ground disturbance will take place in densely populated and highly developed urban neighborhoods and will be contained to the existing ROW. No new easements will be required for installation. New pipelines will be installed adjacent to the existing pipeline, which will then be abandoned. While there is potential for archaeological deposits to exist in some portions of the right-of-way, the previous construction of roads and sidewalks and the installation of underground utilities including water, sewer, communication lines, and the existing gas pipeline has likely highly disturbed the right-of-way. Due to the limited scope of work for the proposed project and the likelihood of a disturbed context within the APE, an archaeological survey is not recommended at this time.

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are five (5) historic properties as defined in 36 CFR 800.16(l) within or adjacent to the APE:

- The NRHP-eligible Philadelphia & Reading Railroad historic district
- The NRHP-eligible Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district
- The NRHP-eligible North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district
- The NRHP-listed Southwark School
- The NRHP-listed John L. Kinsey School, and
- The Philip L. Sheerr School of Nursing Auditorium.

The Undertaking will not alter any of the character-defining features of the Philadelphia & Reading Railroad historic district, the Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district, the North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district, the Southwark School, or the John L. Kinsey School that qualify them for inclusion in the NRHP under Criteria A and/or C or diminish their integrity. The work associated with the Undertaking consists of the installation and replacement of pipelines and service lines within existing roadways, parking lanes, and footways. No alterations to existing buildings are anticipated and the work will have no lasting physical, visual, or audible effects to these resources or their contributing features. The Undertaking also does not include land acquisition, nor would it limit access to or change the use of the resources.

The Philip L. Sheerr School of Nursing Auditorium building may be individually NRHP eligible under Criteria A for its association with the history of medicine and education in Philadelphia. However, it appears to be architecturally unexceptional and therefore does not appear to be NRHP eligible under Criterion C. Accordingly, the construction of a new meter-regulator outside of the Philip L. Sheerr School of Nursing Auditorium building would not alter any of the character-defining features that might qualify it for inclusion in the NRHP under Criteria A or diminish its integrity.

Furthermore, the work associated with the Undertaking is restricted to areas that demonstrate a low probability for intact significant archaeological resources. Therefore, in accordance with 36 CFR Part 800.5, the Undertaking will have No Adverse Effect on historic properties identified within the APE.

Request for Information and Comments

PHMSA requests that you provide any information you have regarding historic properties of religious or cultural significance to your Tribe/Nation that may be present in the APE and affected by the Undertaking. If your Tribe/Nation is unaware of any historic properties beyond what we have identified to date, PHMSA is notifying your Tribe/Nation of our intention to make a No Adverse Effect to Historic Properties finding. Please notify us within 30 days from the date of receipt of this letter if you have any concerns about the project's effects to historic properties. Should you need additional information please contact Brian M. Albright, Section 106 specialist, at PHMSASection106@dot.gov or 856-381-6233.

Sincerely,

Matt Fuller
Senior Environmental Protection Specialist

MF /ba

cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center
Renee Taylor, PHMSA Grant Specialist
Lora Nuckolls, Tribal Historic Preservation Officer, Eastern Shawnee Tribe of Oklahoma

Enclosures:
Attachment A: Project Location and APE Maps
Attachment B: Project Area Photographs

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March 22, 2024

Brad Killscrow
Chief
Delaware Tribe of Indians
5100 Tuxedo Blvd.
Bartlesville, OK 74006-2838

Section 106 Consultation: City of Philadelphia, Philadelphia Gas Works Natural Gas Pipeline Replacement Project
Grant Recipient: Philadelphia Gas Works
Project Location: City of Philadelphia, Philadelphia County, Pennsylvania

Dear Chief Killscrow:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides funds authorized under the Natural Gas Distribution Infrastructure Safety and Modernization Grant Program. PHMSA proposes to provide funds to the Philadelphia Gas Works (PGW) for the replacement of pipeline (Undertaking). PHMSA is initiating consultation for the above referenced Undertaking in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated implementing regulations, 36 CFR Part 800 (Section 106). The purpose of this letter is to initiate Section 106 consultation for the Undertaking to determine if there are historic properties of cultural or religious significance to your Tribe/Nation that may be affected by the Undertaking, to determine if you want to be a consulting party, and to notify your Tribe/Nation of PHMSA's intention to make a finding of No Adverse Effect to Historic Properties. PHMSA is also available for Government-to-Government consultation on this Program.

Project Description/Background

The Undertaking consists of the replacement of 6.1 miles (mi) of cast iron pipe and 0.5 mi of steel and plastic pipes with high density polyethylene (PE) pipe to reduce leaks, enhance safety, and improve operations. All work would be conducted in densely developed urban residential neighborhoods in the City of Philadelphia that feature a mix of paved public streets, alleyways, and sidewalks, compact residential, commercial, and light industrial properties, public parks, and schools. Project location maps are enclosed in **Attachment A** and photographs presenting the overall character of the project area are included in **Attachment B**.

The Undertaking has been organized into thirteen (13) work segments described in **Table 1** below. The existing mains measure 12 inches (in) or smaller in diameter. The replacement pipe will be installed within 3 ft to the right or left of the existing pipe as necessary. In most cases the depth of cover for the new PE pipe will be 3 feet (ft). The existing pipe will be capped, purged, and abandoned in place. The anticipated depth of ground disturbance across all of the work segments ranges between 4 and 8 ft, and the anticipated width of ground disturbance ranges between 2 and 8 ft. All pipeline replacement activities will occur within the existing right of way (ROW) in the roadway and/or adjacent footways using open trenching methods. All

project staging activities will take place within the existing ROW in existing paved roadways, parking lanes, and footways. No new easements will be required for installation.

Two exceptions to the above-described conditions will occur. At the Philip L. Sheerr School of Nursing Auditorium located on the grounds of Jefferson Einstein Hospital (formerly Einstein Hospital) southwest of the intersection of N 11th Street and W Tabor Road, PGW proposes to install a new 1.25-in high pressure service pipe to the auditorium by open trenching across the lawn and to build a new meter-regulator set outside of the building. The existing service will be capped, purged, and abandoned in place, and the new meter-regulator set will replace the existing set.

At the Gratz Building at 1000 W Tabor Road PGW will replace the existing 3-in steel low pressure gas service with a new 3-in low pressure PE pipe. The existing service will be capped, purged, and abandoned in place. All service line work at the Gratz Building will take place within the existing ROW in existing parking lanes and adjacent footways.

Table 1. Work Segments

Work Segment	Segment Location by Block	Installation Location	Maximum Depth of Disturbance	Maximum Width of Disturbance	Location of Service Work if Required
4x5342	300 W Clarkson Avenue, 5500 N 4th Street, 5500 N 3rd Street, 5400 N 3rd Street	Roadway	4′ 4″	2′	Parking Lane and Footway
4x5187	2100-2200 Wakeling Street, 5000 Tulip Street, 2100 Haworth Street	Roadway	4′ 2″	4′	Parking Lane and Footway
4x5306	2300 S Hutchinson Street, 800 Wolf Street, 2300 S 9th Street, 1000 Ritner Street	Roadway	4′ 6″	4′	Parking Lane and Footway
4x5340	700 Sigel Street, 700-800 McClellan Street, 1800 S 8th Street, 1800 S 7th Street	Roadway	4′ 6″	4′	Parking Lane and Footway
4x5168	5600-5700 N 7th Street, 5600 N 6th Street, 5600 N Fairhill Street, 5700 N Marshall Street, 600 W Chew Avenue, 500-600 W Elkins Avenue	Roadway and Footway	5′ 6″	2′ 6″	Parking Lane and Footway
4x5182	500-700 W Tabor Road, 5500 N 7th Street, 5500 N Marshall Street, 5500 N 6th Street, 5500 N Fairhill Street, 600 W Olney Street	Roadway	7′ 6″	2′	Roadway, Parking Lane, and Footway
4x5195	5400 N Fairhill Street, 5400 N 6th Street, 500 W Somerville Avenue	Roadway	4′	2′	Parking Lane and Footway
4x5258	5700-5800 N 6th Street, 5700-5800 N Fairhill Street, 600 Chew Avenue	Roadway and Footway	4′	2′ 6″	Parking Lane and Footway
4x5268	900-1000 W Olney Avenue, 5400 N 11th Street, 900-1000 W Tabor Road, 5500 N 10th Street	Roadway and Footway	8′	2′ 6″	Parking Lane and Footway
4x5341	200,300,400 W Tabor Road, 5400, 5500 N Lawrence Street, 5500 N 5th Street	Roadway	7′	2′	Parking Lane and Footway

Work Segment	Segment Location by Block	Installation Location	Maximum Depth of Disturbance	Maximum Width of Disturbance	Location of Service Work if Required
4x5253	1200 W Rush Street, 1200 W Williams Street, 1300 West Auburn Street, 2700-2800 N 12th Street	Roadway	4′	4′	Parking Lane and Footway
4x5316	1900-2000 Stenton Avenue, 1900 Colonial Street, 1900-2000 W 65th Avenue, 6400-6500 N 20th Street, 2000 Ridley Street, 6500 N Uber Street	Roadway	4′	8′	Parking Lane and Footway
4x5307	300 E Gale Street, 200-300 E Clarkson Avenue, 5500 B Street	Roadway	4′ 6″	3′	Parking Lane and Footway

Area of Potential Effects (APE)

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the undertaking may directly or indirectly affect historic resources. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW, which includes the limits of disturbance. The maximum vertical extent of the APE varies by work segment (**Table 1**). The Undertaking does not have the potential to cause visual or audible effects after the completion of construction, with the exception of the new meter-regulator set at the Sheerr Auditorium.

Based on the proposed scope of work, the APE includes:

- The existing roadways, parking lanes, and footways within the existing ROW associated with the thirteen work segments described in **Table 1** and
- The northeastern quarter of parcel 133N110002 on which the Philip L. Sheerr School of Nursing Auditorium is located.

For the purposes of the discussion that follows, the project work segments have been assigned to seven areas based on their location and have been designated APE Areas 1 through 7 (**Table 2**).

Table 2. Work Segments by Area

APE Area	Work Segments
1	4x5316
2	4x5168, 4x5182, 4x5195, 4x5258, 4x5268, 4x5341, 4x5342
3	4x5307
4	4x5187
5	4x5253
6	4x5340
7	4x5306

The APE encompasses paved roadways, parking lanes, sidewalks, and an open grassy area outside Sheerr Auditorium. The APE is depicted on maps included in **Attachment A**.

Identification and Evaluation

To identify historic properties in the APE, individuals who meet the Secretary of the Interior's (SOI) Professional Qualification Standards reviewed information included in the Pennsylvania State Historic Preservation Office's (SHPO) online data management and cultural resources GIS tool (PA-SHARE) and the City of Philadelphia's online Philadelphia Register of Historic Places inventory. SOI-qualified

individuals likewise conducted research to determine if there may be previously unidentified resources within the APE that are 45 years of age or older and potentially eligible for the National Register of Historic Places (NRHP) and assessed the archaeological sensitivity of the APE.

Historic Architecture

According to PA-SHARE nine (9) previously recorded architectural resources are located in or intersect the APE for historic architecture (**Table 3**). See **Attachment B** for available photographs of identified historic properties.

Table 3. Previously Documented Above-Ground Resources in the APE for Historic Architecture

Name	NRHP Eligibility	ID	Associated Work Segment
Philadelphia & Reading Railroad (P&R)	NRHP Eligible District under Criteria A and C	2010RE02630	Adjacent to 4x5268 and 4x5182
Pennsylvania Railroad: Main Line (Philadelphia to New York) (PRR)	NRHP Eligible District under Criterion A and C	1994RE01403	Intersects 4x5187
North Pennsylvania Railroad (Philadelphia to Bethlehem) (NPRR)	NRHP Eligible District	1995RE42969	Adjacent to 4x5268 and 4x5182
Lenni Lenape Path	Undetermined	2019RE06519	Mapped route of the Lenni Lenape Path—running north-south between N 10th Street and N 13th Street—intersects 4x5268 and 4x5253
Minsi Path	Undetermined	2019RE17250	Mapped route of the Minsi Path intersects 4x5253
Southwark School (1835 S 9th Street)	NRHP Listed Building under Criteria A and C	1985RE00106	Adjacent to 4x5340
John L. Kinsey School (6501 Limekiln Pike)	NRHP Listed Building under Criteria A and C	1985RE00658	Adjacent to 4x5316
Ashburner Street Bridge	Not Eligible	2004RE05829	Located in 4x5168
1012-1028 Ritner Street	Undetermined	1995RE51462	Adjacent to 4x5306

According to the Philadelphia Register of Historic Places a single property that has been designated as historic by the Philadelphia Historical Commission intersects the APE (**Table 4**).

Table 4. Above-Ground Resources Listed in the Philadelphia Register of Historic Places

Name	Significance	Notes	Associated Work Segment
Einstein Hospital Grounds (5401-65 Old York Road)	Listed on the Philadelphia Register of Historic Places	The Einstein Hospital Grounds historic resource listing is limited to the original columns from the Second U.S. Mint (i.e., the Strickland Columns) arrayed along Old York Road on the campus' west side and the individually listed Henry S. Frank Memorial Synagogue likewise located on the west side of the campus.	A new 1.25-in high pressure service pipe will be installed via open trenching between work segment 4x5268 and Philip L. Sheerr School of Nursing Auditorium on the east side of the campus and a new meter-regulator set will be built outside the auditorium.

The Philadelphia & Reading Railroad (P&R) historic district is NRHP eligible under Criteria A and C. One of the first railroads in operation in the United States, the P&R was chartered in 1833 to carry anthracite coal from central Pennsylvania. Where the district passes between work segments 4x5268 and 4x5182, it features a north-south oriented overgrown railroad embankment located just west of N 7th Street and a northeast-southwest oriented fill-elevated active railroad line passing just east of Wagner Avenue that serves SEPTA Regional Rail commuter trains. Elevated grade-separated crossings carry the active line across W Olney Avenue and W Tabor Road.

The Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district (PRR) also known as the Amtrak Northeast Corridor is NRHP eligible under Criteria A and C. Chartered in 1846, PRR service reached Jersey City and New York in 1871 and electrified its Philadelphia-New York line between 1928 and 1938. Where the PRR intersects 4x4187, it is carried over Wakeling Street by an elevated grade-separated crossing.

Formed in 1852 to serve Philadelphia and surrounding counties, the North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district (NPRR) is NRHP eligible—likely under Criteria A and C as above. Where it passes between work segments 4x5268 and 4x5182, its boundaries are identical to those of the P&R.

According to PA-SHARE, the NRHP eligibility of the Lenni Lenape Path and the Minsi Path—both Native American footpaths—has not been determined. Passing through Philadelphia's highly urbanized cityscape, no visible remnants of the paths remain in the vicinity of the Undertaking. Accordingly, both the Lenni Lenape Path and the Minsi Path appear to lack sufficient integrity to be NRHP eligible.

The Southwark School built in 1909 and the John L. Kinsey School built in 1915 are both good examples of late gothic revival architecture and were listed in the NRHP under Criteria A for Education and C for Architecture as part of the Philadelphia Public Schools Thematic Resources Nomination.

According to PA-SHARE, the Ashburner Street Bridge is not eligible for inclusion in the NRHP. Additionally, there is no visible evidence for its continued existence in segment 4x5168.

According to PA-SHARE, the NRHP eligibility of the brick rowhomes at 1012-1028 Ritner Street, built c.1934, has not been determined. While well maintained examples of early-twentieth century Philadelphia rowhomes, the residences at 1012-1028 Ritner Street do not appear architecturally significant, nor do they possess any obvious association with important historical figures or events. Accordingly, they do not appear to be eligible for the NRHP.

Located on the Einstein Hospital Grounds, the Philip L. Sheerr School of Nursing Auditorium building is a plain two-story, brick institutional building surrounded by a manicured lawn and high metal fence. The

Philip L. Sheerr School of Nursing Auditorium building was built in the mid-1950s as part of the newly established Albert Einstein Medical Center—itself the result of the merger of the Jewish Hospital and Mt. Sinai Hospital in 1953. At the time of their merger the two hospitals likewise merged their nursing schools. While architecturally unassuming, the building, as a surviving element of the mid-1950s campus, may be individually eligible for the NRHP under Criterion A for its association with the history of medicine and education in Philadelphia. The Philadelphia Historical Commission does not consider the auditorium to be a contributing element of the Philadelphia Register of Historic Places listed Einstein Hospital Grounds.

With the exception of the proposed service line and meter-regulator installation at the Philip L. Sheerr School of Nursing Auditorium building the scale and nature of the Undertaking is limited to the replacement of pipelines and the connection of existing service lines within existing roadways, parking lanes, and footways. Consequently, the identification effort for additional above-ground historic properties focused on identifying properties that are susceptible to any limited effects of the Undertaking and could experience diminished integrity. A review of the APE found no potentially significant above-ground resources that have the potential to be affected by the Undertaking, which will not include any physical changes to buildings or lasting visual or audible impacts to their surroundings.

Archaeology

The APE encompasses the thirteen (13) work segments described in **Table 1** and the northeastern quarter of parcel 133N110002 on which the Philip L. Sheerr School of Nursing Auditorium is located. For the purpose of the following discussion, the previously discussed work segments were grouped into seven areas based on location and have been designated APE Areas 1 through 7 (**Table 2**).

Area 1 is the northernmost APE area and is located in East Germantown near the intersection of Ogontz Avenue and Stenton Avenue. Area 2 is one mile southeast of Area 1 and is situated east of North Broad Street along West Tabor Avenue. Area 3 is less than a half-mile east of Area 2 and situated just west of Rising Sun Avenue. Area 4 is the easternmost APE segment and is located in the Frankford neighborhood near the intersection of Torresdale Avenue and Aramingo Avenue. Area 5 is located in the Fairhill neighborhood east of North Broad Street and north of West Lehigh Avenue. Area 6 is located in the East Passyunk neighborhood along McClelland Street, Sigel Street, South 8th Street and South 7th Street. Area 7 is the southernmost APE segment situated between the East Passyunk and Whitman neighborhoods along West Moyamensing Avenue.

Pennsylvania's cultural resource database, PA-SHARE, was examined to identify the presence of previously recorded archaeological sites and previously conducted archaeological surveys within the APE. No previously recorded archaeological sites and one previously conducted archaeological survey were identified within the APE. In 2017, a Phase I archaeological survey was performed for a proposed wireless telecommunications facility along West Tabor Avenue (Gall and Gall 2017). The 2017 survey boundary intersects with Area 2 along West Tabor Avenue. No sites were identified.

A quarter-mile search radius around each APE was also examined for archaeological sites and surveys. This search revealed no archaeological sites. In addition to the single archaeological survey within the APE, four surveys were identified within a quarter mile (**Table 5**). In 1979, a cultural resources survey was conducted at the Frankford Arsenal approximately 1,000 feet from Area 4. One archaeological site, 36PH13, was identified during the survey. Though the PA-SHARE database shows the site as a point outside of the quarter-mile search radius of Area 4, it likely includes the entirety of the Frankford Arsenal property. The arsenal boundary is located at least 900 feet southeast of Area 4. A 1994 Federal Highway Administration project of Interstate 95 was conducted approximately 450 feet south of Area 4. The 1994 survey area spans several miles of Interstate 95, and no sites identified during the survey are located within a quarter mile of Area 4. In 2010, archaeological testing was performed ahead of construction of the Evelyn Sanders Townhouses approximately 1,000 feet northeast of Area 5. No archaeological sites were identified.

In 2021, an archaeological survey was conducted for the Interstate 95 Delaware Avenue Extension. A portion of the survey area lies approximately 350 feet east of Area 4, and no sites were identified.

Table 5. Previously Conducted Archaeological Surveys within a Quarter Mile of the APE for Archaeology

Survey Report Title	Citation	Report Number
Historical & Archaeological Survey, Frankford Arsenal, PH Co, PA	Townsend 1979	1979SR00004
Phase I Report, I-95 Intermobility Project, City Of Philadelphia & Bensalem Twp., BU CO., PA	Beauregard 1994	1994SR00277
Archaeological and Historical Assessment for the HUD/Evelyn Sanders Townhouse Project, Philadelphia, Philadelphia County	McNichol 2010	2010SR00152
Phase I Archaeological Survey Wireless Telecommunications Facility Collocation PHI Fisher Park 2 5400-5450 North 6th Street Philadelphia, Philadelphia County	*Gall and Gall 2017*	*2017SR00257*
Phase IA Archaeological Sensitivity Study, I-95 BS5: Delaware Avenue Extension, Philadelphia County, Pennsylvania	Marble 2021	2021SR00125

**Italicized entry is located within Area 2*

The Historic Philadelphia Burial Places Map (via Philadelphia Archaeological Forum) and the Find a Grave online database were examined for cemeteries within the APE. As a result of the search, no known cemeteries are located within the APEs. However, six known historic cemeteries were identified within a quarter mile (**Table 6**). Two cemeteries, the St. Benedict's Roman Catholic Church Grounds and the Epiphany of Our Lord Roman Catholic Church Grounds, each contain one burial which is that of their respective former priests. However, the exact location of the burials within the church parcel boundaries are not known. The St. Mary's Cemetery was formerly located at the present-day Saint Maria Goretti High School property but was relocated in 1959. Today, the parcel contains dozens of buildings. Two cemeteries, the St. James Church Cemetery and Fairhill Cemetery, show clear headstones in modern aerial imagery. According to Find a Grave, the M'Mahon/Dukes Burial Ground was established around 1811 and the final interment occurred in 1846. Modern aerial imagery shows the boundary as being developed with townhouses and it is unclear whether the cemetery was relocated or lies beneath the modern buildings. The Fairhill Cemetery is a Quaker cemetery containing several notable historical figures. No cemeteries are known to exist within the APE.

Table 6. Known Historic Cemeteries within a Quarter Mile of the APE for Archaeology

Cemetery Name	Within Search Radius of Area
St. Benedict's Roman Catholic Church Grounds	1
St. James Church Cemetery	3
M'Mahon/Dukes Burial Ground	5
Fairhill Cemetery	5
St. Mary's Cemetery (relocated)	6
Epiphany of Our Lord Roman Catholic Church Grounds	7

An examination of Web Soil Survey data within the APE reveals two soil classes including Urban land and Urban land-Chester complex soils. Urban land-Chester complex soils make up 65 percent of the APE and

Urban land makes up 35 percent. Typically slopes greater than 15 percent are not suitable for human occupation, and both soil types within the APE vary from 0 to 8 percent slope. Major waterways surrounding modern-day Philadelphia, including the Schuylkill River to the west and the Delaware River to the east provided a suitable location for precontact inhabitants and historic inhabitants alike. Massive development during the historic period shows the soils and available water supply continued to provide generous conditions for the population.

Historic topographic maps from 1891, 1893, 1949, and 1950 and historic aerial photographs from 1940, 1948, and 1951 were examined for archaeological resource potential within the APE. The presence of structures on historic maps and aerial photography may indicate the likelihood of historic period archaeological deposits associated with the occupation of these structures. The APE is comprised of several segments of highly developed urban area in Philadelphia. The earliest available historic topographic map for Areas 1 through 4 is from 1893 and depicts Areas 1, 2 and 3 to be less developed than Area 4. In Areas 1 and 2, there appear to be no roads following the APE. Area 4 is near the Frankford Arsenal, which was established in the early 19th century. The 1893 topographic map is the earliest available for Areas 5, 6 and 7. Area 5 is less developed than the immediate surroundings except for one road that appears to bisect the M'Mahon/Dukes Burial Ground. The 1893 map also shows that Area 6 follows roads that existed in 1893, and Area 7 lies just outside the limits of road development. Mid-20th century topographic mapping shows that all areas to be aligned to roadways. By this time, the areas surrounding the APE show heavy development of schools, hospitals, municipal buildings, residences, city parks, and train stations. Aerial imagery from 1940, 1948, and 1951 was examined to better understand the historical development of the APE. In all areas, imagery revealed the presence of high density urban residential development and roads by the mid-20th century.

Background research revealed that one archaeological survey has been conducted within the APE. No archaeological sites were identified. Examination of soils data revealed urban soils throughout the APE, indicating widespread historical land disturbance. Six historic cemeteries are present within a quarter mile of the APE, though none are located within or adjacent to it. Historic topographic maps and aerial imagery show that the neighborhoods surrounding the APE experienced rapid and intensive residential and commercial development over the last 130 years.

Project ground disturbance will take place in densely populated and highly developed urban neighborhoods and will be contained to the existing ROW. No new easements will be required for installation. New pipelines will be installed adjacent to the existing pipeline, which will then be abandoned. While there is potential for archaeological deposits to exist in some portions of the right-of-way, the previous construction of roads and sidewalks and the installation of underground utilities including water, sewer, communication lines, and the existing gas pipeline has likely highly disturbed the right-of-way. Due to the limited scope of work for the proposed project and the likelihood of a disturbed context within the APE, an archaeological survey is not recommended at this time.

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are five (5) historic properties as defined in 36 CFR 800.16(l) within or adjacent to the APE:

- The NRHP-eligible Philadelphia & Reading Railroad historic district
- The NRHP-eligible Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district
- The NRHP-eligible North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district
- The NRHP-listed Southwark School
- The NRHP-listed John L. Kinsey School, and
- The Philip L. Sheerr School of Nursing Auditorium.

The Undertaking will not alter any of the character-defining features of the Philadelphia & Reading Railroad historic district, the Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district, the North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district, the Southwark School, or the John L. Kinsey School that qualify them for inclusion in the NRHP under Criteria A and/or C or diminish their integrity. The work associated with the Undertaking consists of the installation and replacement of pipelines and service lines within existing roadways, parking lanes, and footways. No alterations to existing buildings are anticipated and the work will have no lasting physical, visual, or audible effects to these resources or their contributing features. The Undertaking also does not include land acquisition, nor would it limit access to or change the use of the resources.

The Philip L. Sheerr School of Nursing Auditorium building may be individually NRHP eligible under Criteria A for its association with the history of medicine and education in Philadelphia. However, it appears to be architecturally unexceptional and therefore does not appear to be NRHP eligible under Criterion C. Accordingly, the construction of a new meter-regulator outside of the Philip L. Sheerr School of Nursing Auditorium building would not alter any of the character-defining features that might qualify it for inclusion in the NRHP under Criteria A or diminish its integrity.

Furthermore, the work associated with the Undertaking is restricted to areas that demonstrate a low probability for intact significant archaeological resources. Therefore, in accordance with 36 CFR Part 800.5, the Undertaking will have No Adverse Effect on historic properties identified within the APE.

Request for Information and Comments

PHMSA requests that you provide any information you have regarding historic properties of religious or cultural significance to your Tribe/Nation that may be present in the APE and affected by the Undertaking. If your Tribe/Nation is unaware of any historic properties beyond what we have identified to date, PHMSA is notifying your Tribe/Nation of our intention to make a No Adverse Effect to Historic Properties finding. Please notify us within 30 days from the date of receipt of this letter if you have any concerns about the project's effects to historic properties. Should you need additional information please contact Brian M. Albright, Section 106 specialist, at PHMSASection106@dot.gov or 856-381-6233.

Sincerely,

Matt Fuller
Senior Environmental Protection Specialist

MF /ba

cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center
Renee Taylor, PHMSA Grant Specialist
Larry Heady, Tribal Historic Preservation Officer, Delaware Tribe of Indians

Enclosures:
Attachment A: Project Location and APE Maps
Attachment B: Project Area Photographs

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March 22, 2024

Deborah Dotson
President
Delaware Nation, Oklahoma
3 Miles North of Anadarko on Highway 281
Main Office Building 100
Anadarko, OK 73005

Section 106 Consultation: City of Philadelphia, Philadelphia Gas Works Natural Gas Pipeline Replacement Project
Grant Recipient: Philadelphia Gas Works
Project Location: City of Philadelphia, Philadelphia County, Pennsylvania

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4x5307	300 E Gale Street, 200-300 E Clarkson Avenue, 5500 B Street	Roadway	4′ 6″	3′	Parking Lane and Footway

Area of Potential Effects (APE)

Pursuant to 36 CFR 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the undertaking may directly or indirectly affect historic resources. Due to the scale and nature of the Undertaking, which is limited to the replacement of pipelines within existing ROW, PHMSA has delineated the APE for this Undertaking to encompass the existing ROW, which includes the limits of disturbance. The maximum vertical extent of the APE varies by work segment (**Table 1**). The Undertaking does not have the potential to cause visual or audible effects after the completion of construction, with the exception of the new meter-regulator set at the Sheerr Auditorium.

Based on the proposed scope of work, the APE includes:

- The existing roadways, parking lanes, and footways within the existing ROW associated with the thirteen work segments described in **Table 1** and
- The northeastern quarter of parcel 133N110002 on which the Philip L. Sheerr School of Nursing Auditorium is located.

For the purposes of the discussion that follows, the project work segments have been assigned to seven areas based on their location and have been designated APE Areas 1 through 7 (**Table 2**).

Table 2. Work Segments by Area

APE Area	Work Segments
1	4x5316
2	4x5168, 4x5182, 4x5195, 4x5258, 4x5268, 4x5341, 4x5342
3	4x5307
4	4x5187
5	4x5253
6	4x5340
7	4x5306

The APE encompasses paved roadways, parking lanes, sidewalks, and an open grassy area outside Sheerr Auditorium. The APE is depicted on maps included in **Attachment A**.

Identification and Evaluation

To identify historic properties in the APE, individuals who meet the Secretary of the Interior's (SOI) Professional Qualification Standards reviewed information included in the Pennsylvania State Historic Preservation Office's (SHPO) online data management and cultural resources GIS tool (PA-SHARE) and the City of Philadelphia's online Philadelphia Register of Historic Places inventory. SOI-qualified

individuals likewise conducted research to determine if there may be previously unidentified resources within the APE that are 45 years of age or older and potentially eligible for the National Register of Historic Places (NRHP) and assessed the archaeological sensitivity of the APE.

Historic Architecture

According to PA-SHARE nine (9) previously recorded architectural resources are located in or intersect the APE for historic architecture (**Table 3**). See **Attachment B** for available photographs of identified historic properties.

Table 3. Previously Documented Above-Ground Resources in the APE for Historic Architecture

Name	NRHP Eligibility	ID	Associated Work Segment
Philadelphia & Reading Railroad (P&R)	NRHP Eligible District under Criteria A and C	2010RE02630	Adjacent to 4x5268 and 4x5182
Pennsylvania Railroad: Main Line (Philadelphia to New York) (PRR)	NRHP Eligible District under Criterion A and C	1994RE01403	Intersects 4x5187
North Pennsylvania Railroad (Philadelphia to Bethlehem) (NPRR)	NRHP Eligible District	1995RE42969	Adjacent to 4x5268 and 4x5182
Lenni Lenape Path	Undetermined	2019RE06519	Mapped route of the Lenni Lenape Path—running north-south between N 10th Street and N 13th Street—intersects 4x5268 and 4x5253
Minsi Path	Undetermined	2019RE17250	Mapped route of the Minsi Path intersects 4x5253
Southwark School (1835 S 9th Street)	NRHP Listed Building under Criteria A and C	1985RE00106	Adjacent to 4x5340
John L. Kinsey School (6501 Limekiln Pike)	NRHP Listed Building under Criteria A and C	1985RE00658	Adjacent to 4x5316
Ashburner Street Bridge	Not Eligible	2004RE05829	Located in 4x5168
1012-1028 Ritner Street	Undetermined	1995RE51462	Adjacent to 4x5306

According to the Philadelphia Register of Historic Places a single property that has been designated as historic by the Philadelphia Historical Commission intersects the APE (**Table 4**).

Table 4. Above-Ground Resources Listed in the Philadelphia Register of Historic Places

Name	Significance	Notes	Associated Work Segment
Einstein Hospital Grounds (5401-65 Old York Road)	Listed on the Philadelphia Register of Historic Places	The Einstein Hospital Grounds historic resource listing is limited to the original columns from the Second U.S. Mint (i.e., the Strickland Columns) arrayed along Old York Road on the campus' west side and the individually listed Henry S. Frank Memorial Synagogue likewise located on the west side of the campus.	A new 1.25-in high pressure service pipe will be installed via open trenching between work segment 4x5268 and Philip L. Sheerr School of Nursing Auditorium on the east side of the campus and a new meter-regulator set will be built outside the auditorium.

The Philadelphia & Reading Railroad (P&R) historic district is NRHP eligible under Criteria A and C. One of the first railroads in operation in the United States, the P&R was chartered in 1833 to carry anthracite coal from central Pennsylvania. Where the district passes between work segments 4x5268 and 4x5182, it features a north-south oriented overgrown railroad embankment located just west of N 7th Street and a northeast-southwest oriented fill-elevated active railroad line passing just east of Wagner Avenue that serves SEPTA Regional Rail commuter trains. Elevated grade-separated crossings carry the active line across W Olney Avenue and W Tabor Road.

The Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district (PRR) also known as the Amtrak Northeast Corridor is NRHP eligible under Criteria A and C. Chartered in 1846, PRR service reached Jersey City and New York in 1871 and electrified its Philadelphia-New York line between 1928 and 1938. Where the PRR intersects 4x4187, it is carried over Wakeling Street by an elevated grade-separated crossing.

Formed in 1852 to serve Philadelphia and surrounding counties, the North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district (NPRR) is NRHP eligible—likely under Criteria A and C as above. Where it passes between work segments 4x5268 and 4x5182, its boundaries are identical to those of the P&R.

According to PA-SHARE, the NRHP eligibility of the Lenni Lenape Path and the Minsi Path—both Native American footpaths—has not been determined. Passing through Philadelphia's highly urbanized cityscape, no visible remnants of the paths remain in the vicinity of the Undertaking. Accordingly, both the Lenni Lenape Path and the Minsi Path appear to lack sufficient integrity to be NRHP eligible.

The Southwark School built in 1909 and the John L. Kinsey School built in 1915 are both good examples of late gothic revival architecture and were listed in the NRHP under Criteria A for Education and C for Architecture as part of the Philadelphia Public Schools Thematic Resources Nomination.

According to PA-SHARE, the Ashburner Street Bridge is not eligible for inclusion in the NRHP. Additionally, there is no visible evidence for its continued existence in segment 4x5168.

According to PA-SHARE, the NRHP eligibility of the brick rowhomes at 1012-1028 Ritner Street, built c.1934, has not been determined. While well maintained examples of early-twentieth century Philadelphia rowhomes, the residences at 1012-1028 Ritner Street do not appear architecturally significant, nor do they possess any obvious association with important historical figures or events. Accordingly, they do not appear to be eligible for the NRHP.

Located on the Einstein Hospital Grounds, the Philip L. Sheerr School of Nursing Auditorium building is a plain two-story, brick institutional building surrounded by a manicured lawn and high metal fence. The

Philip L. Sheerr School of Nursing Auditorium building was built in the mid-1950s as part of the newly established Albert Einstein Medical Center—itself the result of the merger of the Jewish Hospital and Mt. Sinai Hospital in 1953. At the time of their merger the two hospitals likewise merged their nursing schools. While architecturally unassuming, the building, as a surviving element of the mid-1950s campus, may be individually eligible for the NRHP under Criterion A for its association with the history of medicine and education in Philadelphia. The Philadelphia Historical Commission does not consider the auditorium to be a contributing element of the Philadelphia Register of Historic Places listed Einstein Hospital Grounds.

With the exception of the proposed service line and meter-regulator installation at the Philip L. Sheerr School of Nursing Auditorium building the scale and nature of the Undertaking is limited to the replacement of pipelines and the connection of existing service lines within existing roadways, parking lanes, and footways. Consequently, the identification effort for additional above-ground historic properties focused on identifying properties that are susceptible to any limited effects of the Undertaking and could experience diminished integrity. A review of the APE found no potentially significant above-ground resources that have the potential to be affected by the Undertaking, which will not include any physical changes to buildings or lasting visual or audible impacts to their surroundings.

Archaeology

The APE encompasses the thirteen (13) work segments described in **Table 1** and the northeastern quarter of parcel 133N110002 on which the Philip L. Sheerr School of Nursing Auditorium is located. For the purpose of the following discussion, the previously discussed work segments were grouped into seven areas based on location and have been designated APE Areas 1 through 7 (**Table 2**).

Area 1 is the northernmost APE area and is located in East Germantown near the intersection of Ogontz Avenue and Stenton Avenue. Area 2 is one mile southeast of Area 1 and is situated east of North Broad Street along West Tabor Avenue. Area 3 is less than a half-mile east of Area 2 and situated just west of Rising Sun Avenue. Area 4 is the easternmost APE segment and is located in the Frankford neighborhood near the intersection of Torresdale Avenue and Aramingo Avenue. Area 5 is located in the Fairhill neighborhood east of North Broad Street and north of West Lehigh Avenue. Area 6 is located in the East Passyunk neighborhood along McClelland Street, Sigel Street, South 8th Street and South 7th Street. Area 7 is the southernmost APE segment situated between the East Passyunk and Whitman neighborhoods along West Moyamensing Avenue.

Pennsylvania's cultural resource database, PA-SHARE, was examined to identify the presence of previously recorded archaeological sites and previously conducted archaeological surveys within the APE. No previously recorded archaeological sites and one previously conducted archaeological survey were identified within the APE. In 2017, a Phase I archaeological survey was performed for a proposed wireless telecommunications facility along West Tabor Avenue (Gall and Gall 2017). The 2017 survey boundary intersects with Area 2 along West Tabor Avenue. No sites were identified.

A quarter-mile search radius around each APE was also examined for archaeological sites and surveys. This search revealed no archaeological sites. In addition to the single archaeological survey within the APE, four surveys were identified within a quarter mile (**Table 5**). In 1979, a cultural resources survey was conducted at the Frankford Arsenal approximately 1,000 feet from Area 4. One archaeological site, 36PH13, was identified during the survey. Though the PA-SHARE database shows the site as a point outside of the quarter-mile search radius of Area 4, it likely includes the entirety of the Frankford Arsenal property. The arsenal boundary is located at least 900 feet southeast of Area 4. A 1994 Federal Highway Administration project of Interstate 95 was conducted approximately 450 feet south of Area 4. The 1994 survey area spans several miles of Interstate 95, and no sites identified during the survey are located within a quarter mile of Area 4. In 2010, archaeological testing was performed ahead of construction of the Evelyn Sanders Townhouses approximately 1,000 feet northeast of Area 5. No archaeological sites were identified.

In 2021, an archaeological survey was conducted for the Interstate 95 Delaware Avenue Extension. A portion of the survey area lies approximately 350 feet east of Area 4, and no sites were identified.

Table 5. Previously Conducted Archaeological Surveys within a Quarter Mile of the APE for Archaeology

Survey Report Title	Citation	Report Number
Historical & Archaeological Survey, Frankford Arsenal, PH Co, PA	Townsend 1979	1979SR00004
Phase I Report, I-95 Intermobility Project, City Of Philadelphia & Bensalem Twp., BU CO., PA	Beauregard 1994	1994SR00277
Archaeological and Historical Assessment for the HUD/Evelyn Sanders Townhouse Project, Philadelphia, Philadelphia County	McNichol 2010	2010SR00152
Phase I Archaeological Survey Wireless Telecommunications Facility Collocation PHI Fisher Park 2 5400-5450 North 6th Street Philadelphia, Philadelphia County	*Gall and Gall 2017*	*2017SR00257*
Phase IA Archaeological Sensitivity Study, I-95 BS5: Delaware Avenue Extension, Philadelphia County, Pennsylvania	Marble 2021	2021SR00125

**Italicized entry is located within Area 2*

The Historic Philadelphia Burial Places Map (via Philadelphia Archaeological Forum) and the Find a Grave online database were examined for cemeteries within the APE. As a result of the search, no known cemeteries are located within the APEs. However, six known historic cemeteries were identified within a quarter mile (**Table 6**). Two cemeteries, the St. Benedict's Roman Catholic Church Grounds and the Epiphany of Our Lord Roman Catholic Church Grounds, each contain one burial which is that of their respective former priests. However, the exact location of the burials within the church parcel boundaries are not known. The St. Mary's Cemetery was formerly located at the present-day Saint Maria Goretti High School property but was relocated in 1959. Today, the parcel contains dozens of buildings. Two cemeteries, the St. James Church Cemetery and Fairhill Cemetery, show clear headstones in modern aerial imagery. According to Find a Grave, the M'Mahon/Dukes Burial Ground was established around 1811 and the final interment occurred in 1846. Modern aerial imagery shows the boundary as being developed with townhouses and it is unclear whether the cemetery was relocated or lies beneath the modern buildings. The Fairhill Cemetery is a Quaker cemetery containing several notable historical figures. No cemeteries are known to exist within the APE.

Table 6. Known Historic Cemeteries within a Quarter Mile of the APE for Archaeology

Cemetery Name	Within Search Radius of Area
St. Benedict's Roman Catholic Church Grounds	1
St. James Church Cemetery	3
M'Mahon/Dukes Burial Ground	5
Fairhill Cemetery	5
St. Mary's Cemetery (relocated)	6
Epiphany of Our Lord Roman Catholic Church Grounds	7

An examination of Web Soil Survey data within the APE reveals two soil classes including Urban land and Urban land-Chester complex soils. Urban land-Chester complex soils make up 65 percent of the APE and

Urban land makes up 35 percent. Typically slopes greater than 15 percent are not suitable for human occupation, and both soil types within the APE vary from 0 to 8 percent slope. Major waterways surrounding modern-day Philadelphia, including the Schuylkill River to the west and the Delaware River to the east provided a suitable location for precontact inhabitants and historic inhabitants alike. Massive development during the historic period shows the soils and available water supply continued to provide generous conditions for the population.

Historic topographic maps from 1891, 1893, 1949, and 1950 and historic aerial photographs from 1940, 1948, and 1951 were examined for archaeological resource potential within the APE. The presence of structures on historic maps and aerial photography may indicate the likelihood of historic period archaeological deposits associated with the occupation of these structures. The APE is comprised of several segments of highly developed urban area in Philadelphia. The earliest available historic topographic map for Areas 1 through 4 is from 1893 and depicts Areas 1, 2 and 3 to be less developed than Area 4. In Areas 1 and 2, there appear to be no roads following the APE. Area 4 is near the Frankford Arsenal, which was established in the early 19th century. The 1893 topographic map is the earliest available for Areas 5, 6 and 7. Area 5 is less developed than the immediate surroundings except for one road that appears to bisect the M'Mahon/Dukes Burial Ground. The 1893 map also shows that Area 6 follows roads that existed in 1893, and Area 7 lies just outside the limits of road development. Mid-20th century topographic mapping shows that all areas to be aligned to roadways. By this time, the areas surrounding the APE show heavy development of schools, hospitals, municipal buildings, residences, city parks, and train stations. Aerial imagery from 1940, 1948, and 1951 was examined to better understand the historical development of the APE. In all areas, imagery revealed the presence of high density urban residential development and roads by the mid-20th century.

Background research revealed that one archaeological survey has been conducted within the APE. No archaeological sites were identified. Examination of soils data revealed urban soils throughout the APE, indicating widespread historical land disturbance. Six historic cemeteries are present within a quarter mile of the APE, though none are located within or adjacent to it. Historic topographic maps and aerial imagery show that the neighborhoods surrounding the APE experienced rapid and intensive residential and commercial development over the last 130 years.

Project ground disturbance will take place in densely populated and highly developed urban neighborhoods and will be contained to the existing ROW. No new easements will be required for installation. New pipelines will be installed adjacent to the existing pipeline, which will then be abandoned. While there is potential for archaeological deposits to exist in some portions of the right-of-way, the previous construction of roads and sidewalks and the installation of underground utilities including water, sewer, communication lines, and the existing gas pipeline has likely highly disturbed the right-of-way. Due to the limited scope of work for the proposed project and the likelihood of a disturbed context within the APE, an archaeological survey is not recommended at this time.

Determination of Effect

Based on the aforementioned identification and evaluation, PHMSA has determined that there are five (5) historic properties as defined in 36 CFR 800.16(l) within or adjacent to the APE:

- The NRHP-eligible Philadelphia & Reading Railroad historic district
- The NRHP-eligible Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district
- The NRHP-eligible North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district
- The NRHP-listed Southwark School
- The NRHP-listed John L. Kinsey School, and
- The Philip L. Sheerr School of Nursing Auditorium.

The Undertaking will not alter any of the character-defining features of the Philadelphia & Reading Railroad historic district, the Pennsylvania Railroad: Main Line (Philadelphia to New York) historic district, the North Pennsylvania Railroad (Philadelphia to Bethlehem) historic district, the Southwark School, or the John L. Kinsey School that qualify them for inclusion in the NRHP under Criteria A and/or C or diminish their integrity. The work associated with the Undertaking consists of the installation and replacement of pipelines and service lines within existing roadways, parking lanes, and footways. No alterations to existing buildings are anticipated and the work will have no lasting physical, visual, or audible effects to these resources or their contributing features. The Undertaking also does not include land acquisition, nor would it limit access to or change the use of the resources.

The Philip L. Sheerr School of Nursing Auditorium building may be individually NRHP eligible under Criteria A for its association with the history of medicine and education in Philadelphia. However, it appears to be architecturally unexceptional and therefore does not appear to be NRHP eligible under Criterion C. Accordingly, the construction of a new meter-regulator outside of the Philip L. Sheerr School of Nursing Auditorium building would not alter any of the character-defining features that might qualify it for inclusion in the NRHP under Criteria A or diminish its integrity.

Furthermore, the work associated with the Undertaking is restricted to areas that demonstrate a low probability for intact significant archaeological resources. Therefore, in accordance with 36 CFR Part 800.5, the Undertaking will have No Adverse Effect on historic properties identified within the APE.

Request for Information and Comments

PHMSA requests that you provide any information you have regarding historic properties of religious or cultural significance to your Tribe/Nation that may be present in the APE and affected by the Undertaking. If your Tribe/Nation is unaware of any historic properties beyond what we have identified to date, PHMSA is notifying your Tribe/Nation of our intention to make a No Adverse Effect to Historic Properties finding. Please notify us within 30 days from the date of receipt of this letter if you have any concerns about the project's effects to historic properties. Should you need additional information please contact Brian M. Albright, Section 106 specialist, at PHMSASection106@dot.gov or 856-381-6233.

Sincerely,

Matt Fuller
Senior Environmental Protection Specialist

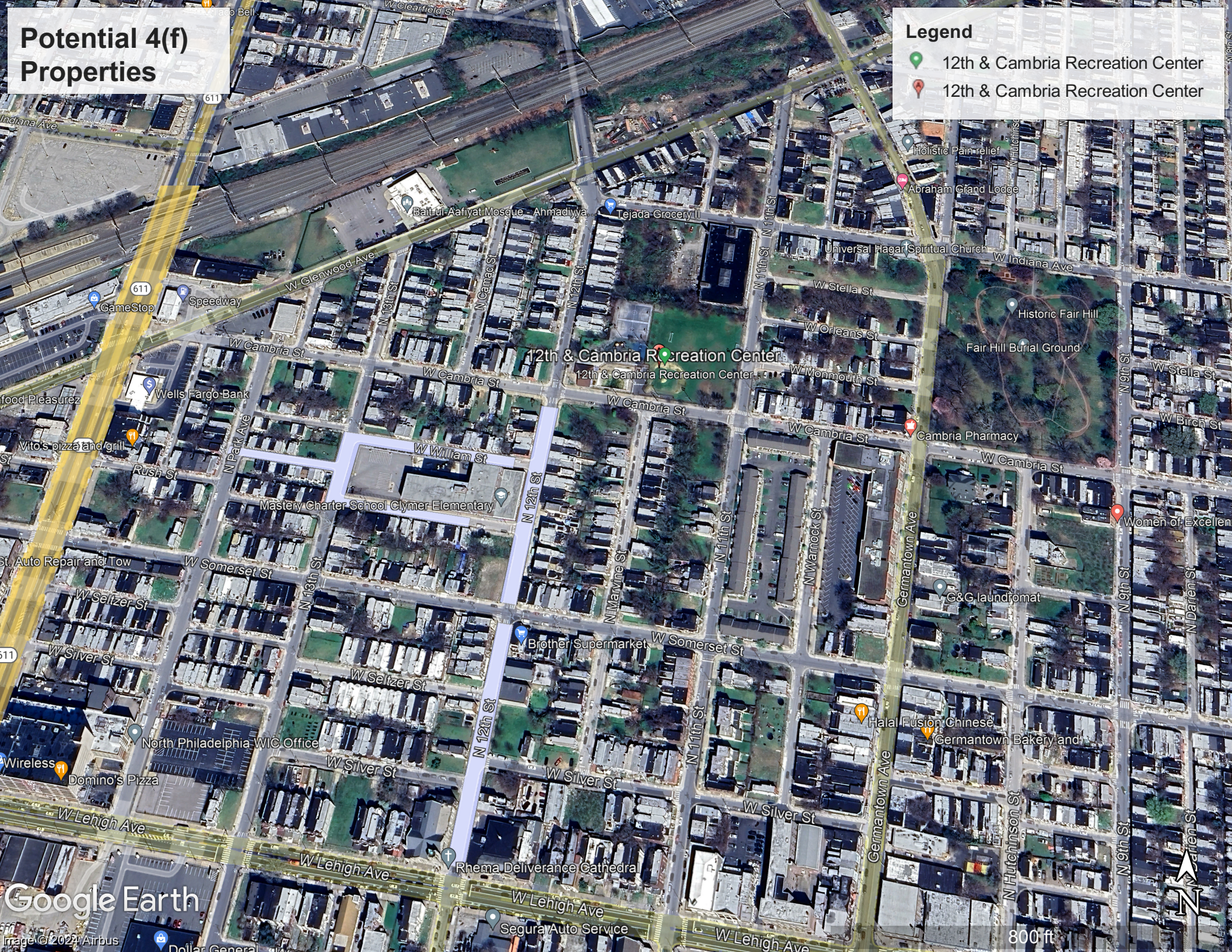
MF /ba

cc: Elizabeth Williams, Environmental Protection Specialist, USDOT Volpe Center
Renee Taylor, PHMSA Grant Specialist
Katelyn Lucas, Tribal Historic Preservation Officer, Delaware Nation, Oklahoma

Enclosures:
Attachment A: Project Location and APE Maps
Attachment B: Project Area Photographs

Appendix H

4(f) Properties


Potential 4(f) Properties
Legend
12th & Cambria Recreation Center
12th & Cambria Recreation Center
12th & Cambria Recreation Center
12th & Cambria Recreation Center
Bait ul Aafiyat Mosque - Ahmadiyya...
Tejada Grocery II
Holistic Pain relief
Abraham Grand Lodge
Universal Hagar Spiritual Church
Historic Fair Hill
Fair Hill Burial Ground
GameStop
Speedway
Wells Fargo Bank
Vito's pizza and grill
Mastery Charter School Clymer Elementary
Cambria Pharmacy
Women of Excellen
G&G laundromat
Brother Supermarket
Halal Fusion Chinese
Germantown Bakery and
North Philadelphia WIC Office
Domino's Pizza
Rhema Deliverance Cathedral
Segura Auto Service
Dollar General
W Glenwood Ave
W Indiana Ave
W Stella St
W Orleans St
W Monmouth St
W Cambria St
W William St
Rush St
W Somerset St
W Seltzer St
W Silver St
W Lehigh Ave
N 13th St
N Camac St
N 12th St
N 11th St
N Park Ave
N Marvine St
N Warnock St
Germantown Ave
N 9th St
N Hutchinson St
N Darien St
611
Google Earth
Image © 2024 Airbus
800 ft
N


Potential
4(f) Properties
Legend
Carmella Playground
The Frankford Chargers Sports and...
Harding Middle School
Trinidad Tire Center
Choice Seafood
Whitehall Skatepark
Carmella Playground
Carmella Playground
Stackz Car Rentals
Alb Granite
Torresdale Cold Beer
Gladys' daycare
BILLIONAIRE Cocktail Lounge
Greg Stefan Studios LLC Stained Glass
American Legion Post 396
Rider's Lumber & Home Center, Inc
PBP Fasteners
Arrow Motors
The Baptist Worship Center
Torresdale Ave
Worth St
Tulip St
Edmund St
Rauch St
Margaret St
Herbert St
Haworth St
Wakeling St
Pratt St
Granite St
Bridge St
Aramingo Ave
Harbison Ave
Scattergood St
Eadom St
James St
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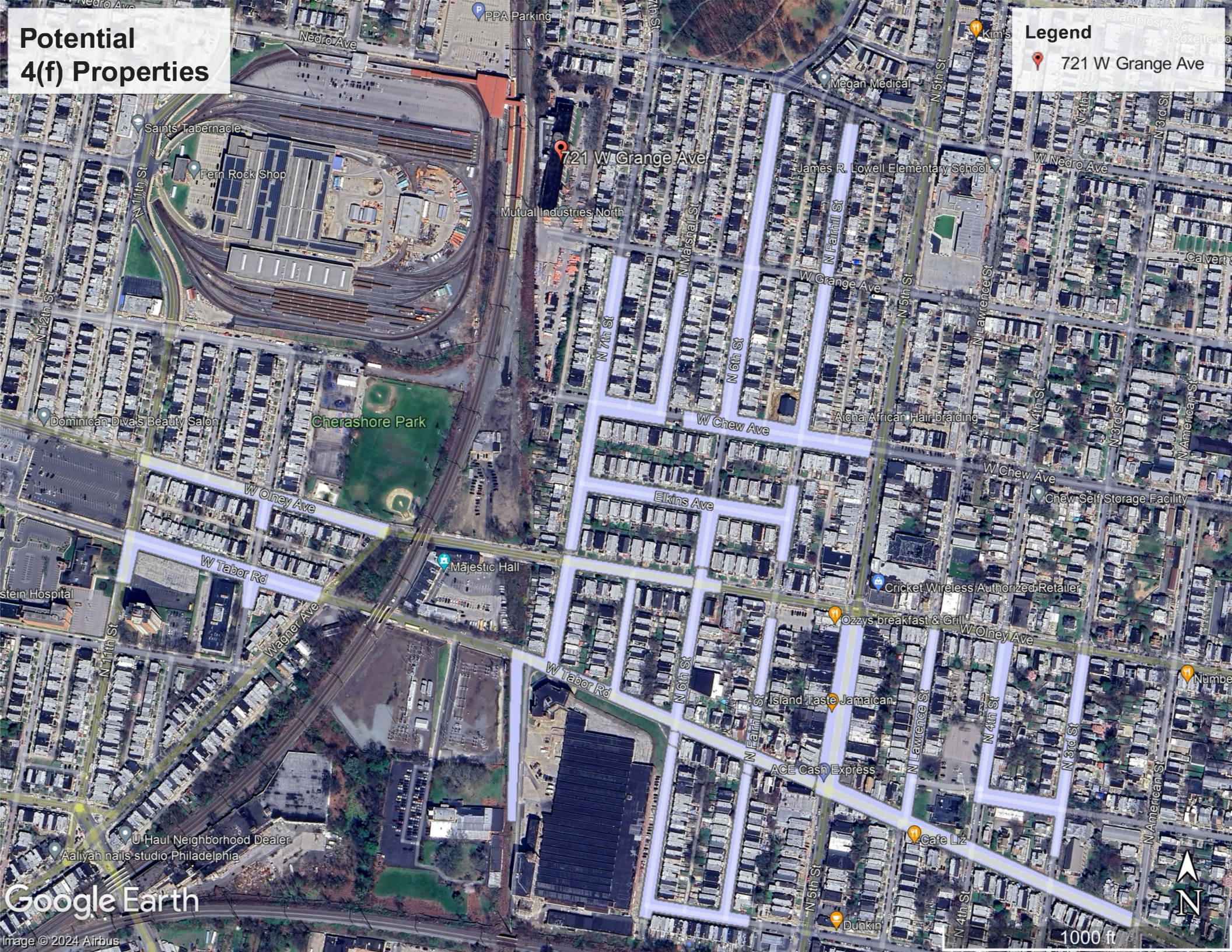
Potential
4(f) Properties
Legend
721 W Grange Ave
721 W Grange Ave
PPA Parking
Nedro Ave
Saints Tabernacle
Fern Rock Shop
Mutual Industries North
Megan Medical
Kim's
James R. Lowell Elementary School
W Nedro Ave
W Grange Ave
N 11th St
N 12th St
N 7th St
N 6th St
N Marshall St
N Fairhill St
N 5th St
N Lawrence St
N 4th St
N 3rd St
N American St
Calvert
Dominican Diva's Beauty Salon
Cherashore Park
Aicha African Hair braiding
W Chew Ave
Chew Self Storage Facility
W Olney Ave
Elkins Ave
W Tabor Rd
Majestic Hall
Cricket Wireless Authorized Retailer
Ozzys breakfast & Grill
Island Taste Jamaican
ACE Cash Express
Cafe Liz
Dunkin'
Wagner Ave
U Haul Neighborhood Dealer
Aaliyah nails studio Philadelphia
Google Earth
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Potential
4(f) Properties
Legend
Jefferson Einstein Hospital
Dollar Tree
W Chew Ave
N Camac St
N 12th St
N 11th St
W Olney Ave
Dominican Diva's Beauty Salon
Cherashore Park
W Tabor Rd
N Broad St
emorial School
Old York Rd
Jefferson Einstein Hospital
5401 Old York Rd
Majestic Hall
Wagner Ave
W Somerville Ave
York North (YONO) Apartments
U-Haul Neighborhood Dealer
Aaliyah nails studio Philadelphia
Google Earth
Image © 2024 Airbus
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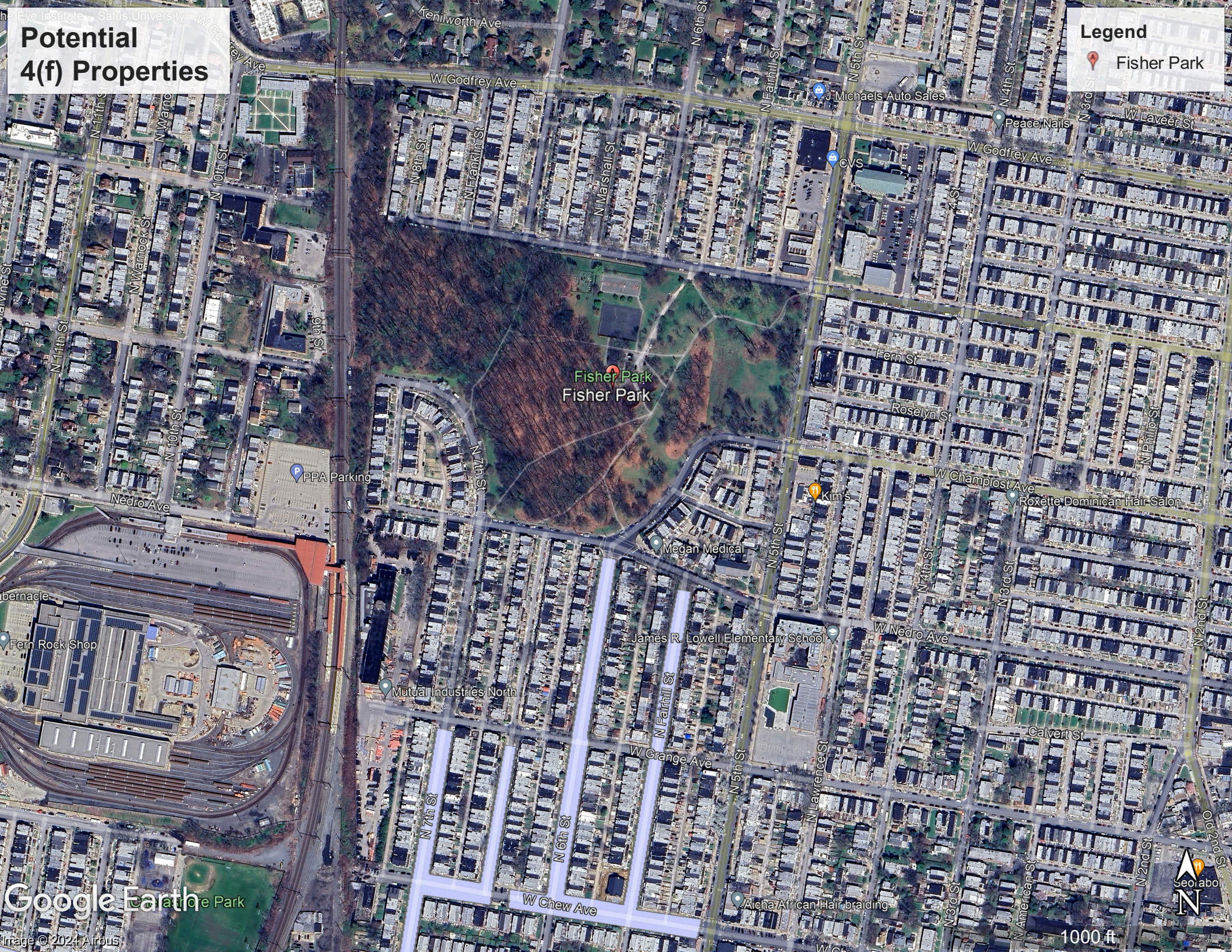
Potential
4(f) Properties
Legend
Fisher Park
Fisher Park
Fisher Park
W Godfrey Ave
Kenilworth Ave
J Michaels Auto Sales
Peace Nails
CVS
W Laveer St
Fern St
Roselyn St
W Champlost Ave
Roxette Dominican Hair Salon
Kim's
Megan Medical
PPA Parking
Nedro Ave
James R. Lowell Elementary School
W Nedro Ave
Mutual Industries North
Fern Rock Shop
W Grange Ave
Calvert St
W Chew Ave
Aicha African Hairbraiding
N 6th St
N 7th St
N 5th St
N 4th St
N 3rd St
N 2nd St
N Fairhill St
N Marshall St
N Franklin St
N 8th St
N 10th St
N 11th St
N Warnock St
N Lawrence St
N American St
Old 2nd St
Google Earth
Image © 2024 Airbus
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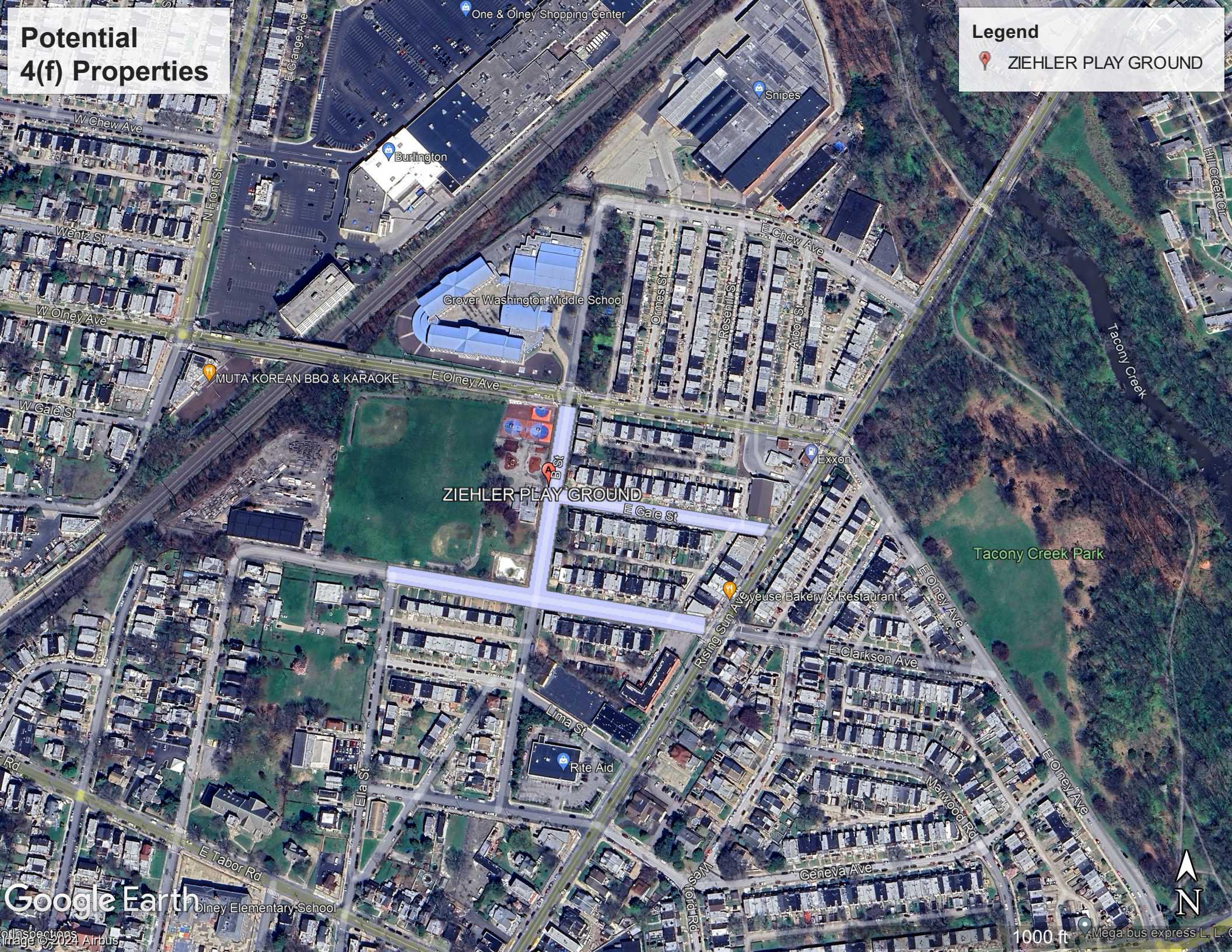
Potential
4(f) Properties
Legend
ZIEHLER PLAY GROUND
One & Olney Shopping Center
Snipes
Burlington
W Chew Ave
E Chew Ave
N Front St
Wentz St
Grover Washington Middle School
W Olney Ave
E Olney Ave
MUTA KOREAN BBQ & KARAOKE
W Gale St
B St
ZIEHLER PLAY GROUND
E Gale St
Exxon
Ormes St
Rosehill St
Arbor St
Tacony Creek
Tacony Creek Park
Oyeuse Bakery & Restaurant
Rising Sun Ave
E Clarkson Ave
Lima St
Rite Aid
Ella St
E Tabor Rd
Oney Elementary School
Marwood Rd
Geneva Ave
Wes
Ford Rd
Google Earth
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Appendix I

Environmental Justice

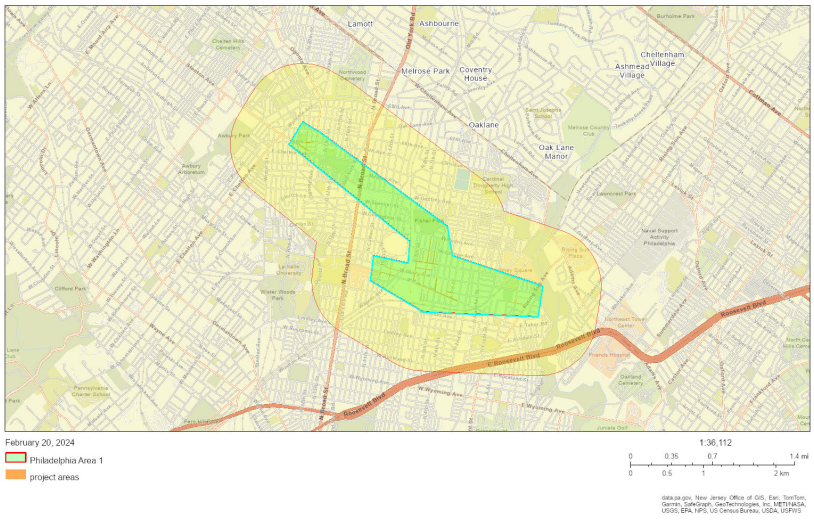
EJSCREEN Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Philadelphia, PA

0.5 miles Ring around the Area
Population: 99,585
Area in square miles: 4.9

A3 Landscape



COMMUNITY INFORMATION

Low income: 50 percent	People of color: 96 percent
Less than high school education: 20 percent	Limited English households: 7 percent
Unemployment: 13 percent	Persons with disabilities: 21 percent
Male: 46 percent	Female: 54 percent
71 years Average life expectancy	$22,087 Per capita income
Number of households: 36,843	Owner occupied: 59 percent

BREAKDOWN BY RACE

White: 4%	Black: 70%	American Indian: 0%	Asian: 7%
Hawaiian/Pacific Islander: 0%	Other race: 1%	Two or more races: 3%	Hispanic: 15%

BREAKDOWN BY AGE

From Ages 1 to 4	6%
From Ages 1 to 18	26%
From Ages 18 and up	74%
From Ages 65 and up	14%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	42%
Speak Other Indo-European Languages	7%
Speak Asian-Pacific Island Languages	47%
Speak Other Languages	5%

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	76%
Spanish	12%
French, Haitian, or Cajun	3%
Korean	1%
Chinese (including Mandarin, Cantonese)	1%
Vietnamese	2%
Other Asian and Pacific Island	3%
Arabic	1%
Other and Unspecified	2%
Total Non-English	24%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

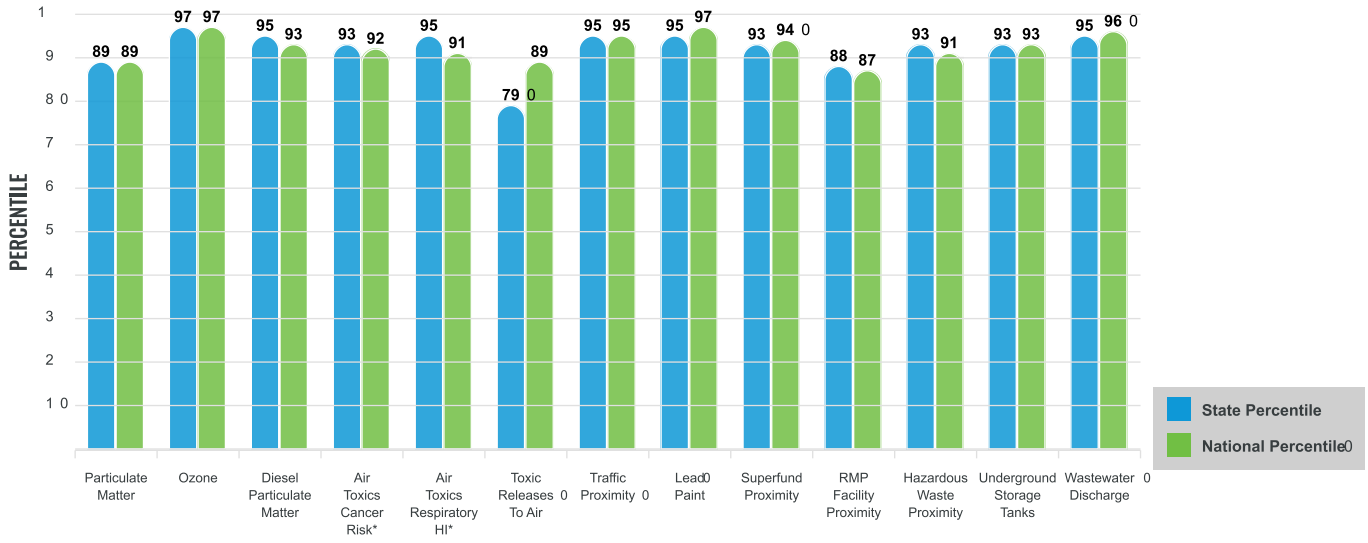
Env ronmental Just ce & Supplemental Indexes 0

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES 0

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

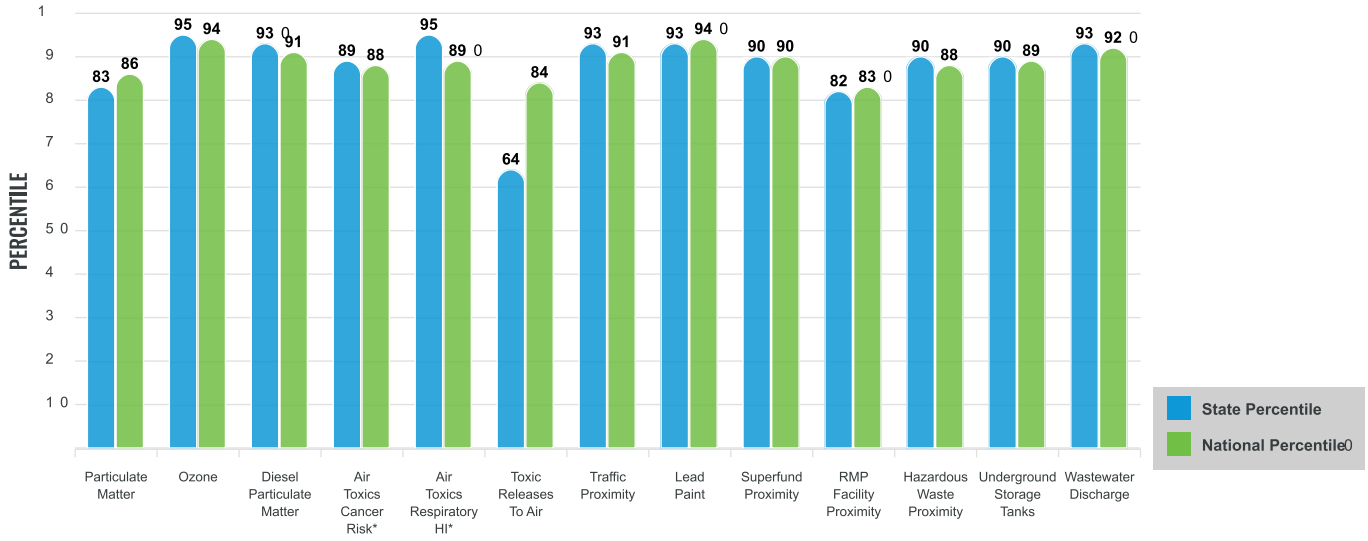
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES 0

The supp ementa ndexes offer a d fferent perspect ve on commun ty eve vu nerabi ty They combine data on percent ow income, percent lingu st ca y so ated, percent ess than high schoo educat on, percent unemp oyed, and low ife expectancy w th a s ng e env ronmenta indica or.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These perce es pr v de perspec ve h w he se ec ed b ck gr up r buffer area c mpares he e re s a e r a . 0

Report for .5 miles Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data w

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	8.64	8.65	48	8.08	63
Ozone (ppb)	67.5	61.6	93	61.6	87
Diesel Particulate Matter (µg/m^3)	0.362	0.233	88	0.261	78
Air Toxics Cancer Risk* (lifetime risk per million)	30	26	43	25	52
Air Toxics Respiratory HI*	0.37	0.28	33	0.31	31
Toxic Releases to Air	900	4,000	29	4,600	57
Traffic Proximity (daily traffic count/distance to road)	520	200	91	210	91
Lead Paint (% Pre-1960 Housing)	0.82	0.49	84	0.3	92
Superfund Proximity (site count/km distance)	0.13	0.18	64	0.13	75
RMP Facility Proximity (facility count/km distance)	0.25	0.45	55	0.43	63
Hazardous Waste Proximity (facility count/km distance)	1.8	1.4	75	1.9	72
Underground Storage Tanks (count/km^2)	9.8	3.6	89	3.9	88
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.13	1.7	83	22	83
SOCIOECONOMIC INDICATORS					
Demographic Index	73%	26%	94	35%	92
Supplemental Demographic Index	23%	13%	90	14%	85
People of Color	96%	24%	96	39%	93
Low Income	50%	28%	85	31%	81
Unemployment Rate	13%	6%	88	6%	88
Limited English Speaking Households	7%	2%	90	5%	80
Less Than High School Education	20%	9%	89	12%	80
Under Age 5	6%	5%	69	6%	64
Over Age 64	14%	19%	32	17%	41
Low Life Expectancy	22%	20%	75	20%	74

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional w significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://____.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	1
Water Dischargers	6
Air Pollution	15
Brownfields	2
Toxic Release Inventory	3

Other community features within defined area:

Schools	24
Hospitals	1
Places of Worship	1

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 0.5 miles Ring around the Area w

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	22%	20%	75	20%	74
Heart Disease	6.3	6.7	38	6.1	56
Asthma	13.3	10.3	93	10	97
Cancer	4.7	6.8	10	6.1	21
Persons with Disabilities	19.7%	14.5%	83	13.4%	85

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	8%	11%	57	12%	56
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	19%	14%	73	14%	73
Lack of Health Insurance	11%	6%	88	9%	70
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for les R ng around the Area o

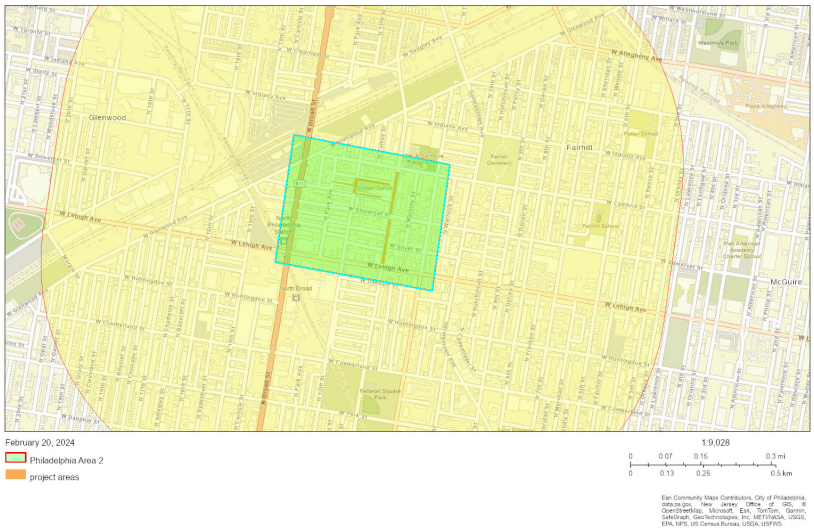
EJS reen Commun ty Rep rt

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Philadelphia, PA J

0.5 miles Ring around the Area
Population: 27,735
Area in square miles: 1.49

A3 Landscape



COMMUNITY INFORMATION

Low income: 66 percent

People of color: 97 percent

Less than high school education: 25 percent

Limited English households: 9 percent

Unemployment: 14 percent

Persons with disabilities: 35 percent

Male: 46 percent

Female: 54 percent

71 years
Average life expectancy

$15,161
Per capita income

Number of households: 10,892

Owner occupied: 39 percent

BREAKDOWN BY RACE

White: 3%

Black: 65%

American Indian: 0%

Asian: 2%

Hawaiian/Pacific Islander: 0%

Other race: 0%

Two or more races: 1%

Hispanic: 27%

BREAKDOWN BY AGE J

From Ages 1 to 4	7%
From Ages 1 to 18	23%
From Ages 18 and up	77%
From Ages 65 and up	12%

LANGUAGES SPOKEN AT H J

LANGUAGE	PERCENT
English	70%
Spanish	26%
Other Indo-European	1%
Other and Unspecified	1%
Total Non-English	30%

LIMITED ENGLISH SPEAKING BREAKDOWN J

Speak Spanish	95%
Speak Other Indo-European Languages	0%
Speak Asian-Pacific Island Languages	5%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

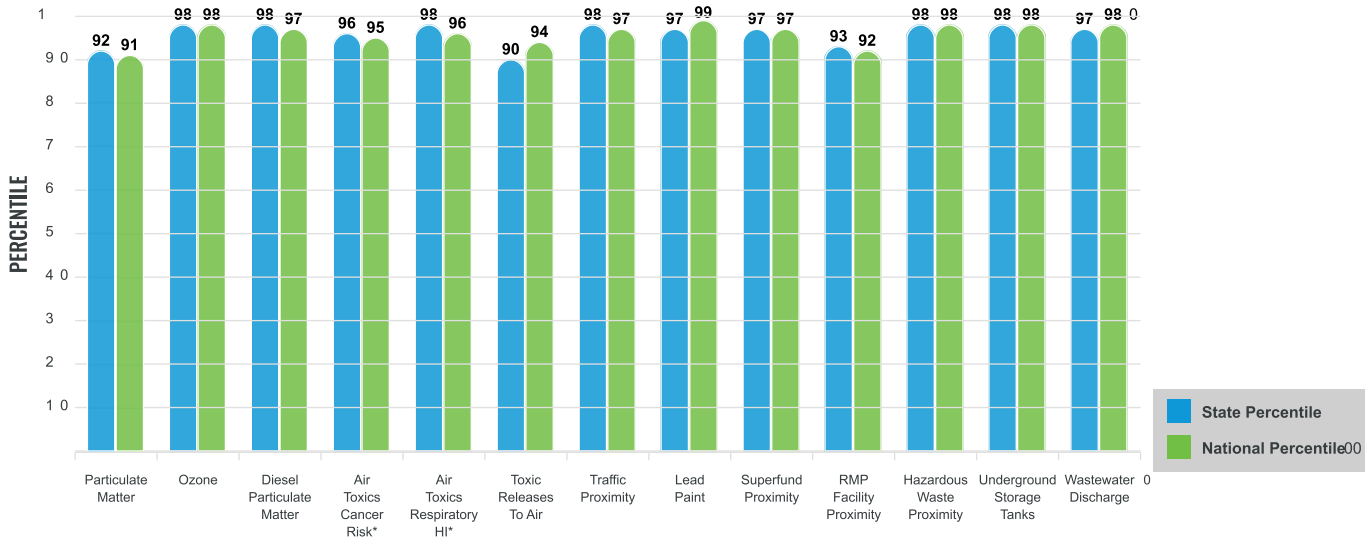
Env ronmental Just ce & Supplemental Indexes 0

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES 0

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

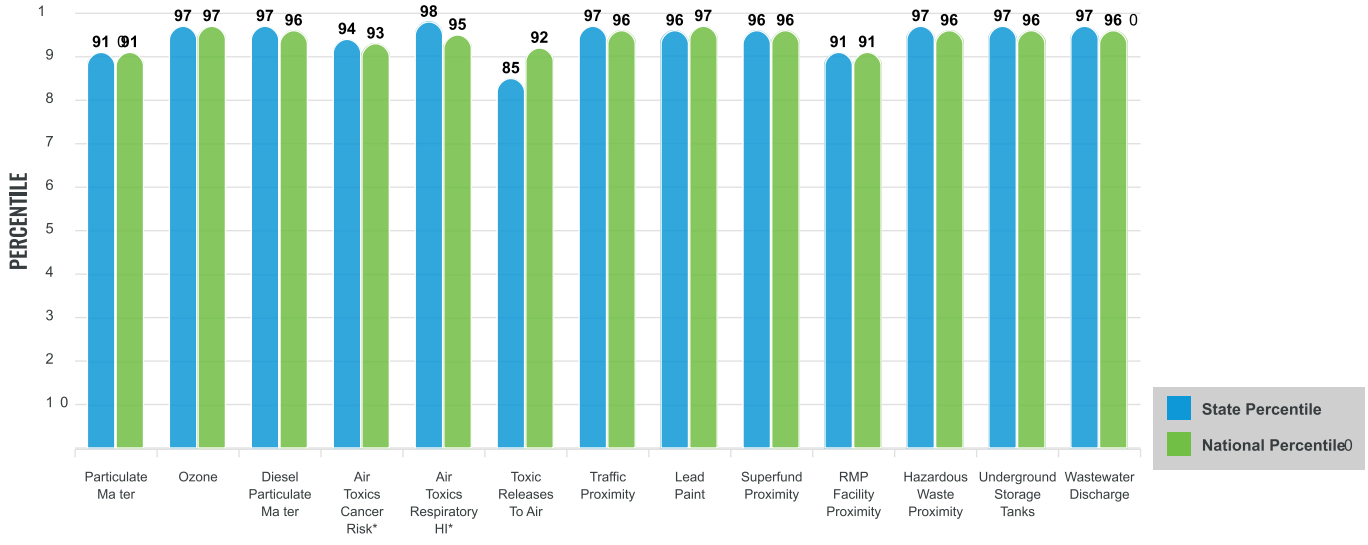
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



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Report for .5 miles Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data w

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	8.66	8.65	50	8.08	63
Ozone (ppb)	67.4	61.6	92	61.6	87
Diesel Particulate Matter (µg/m^3)	0.406	0.233	95	0.261	84
Air Toxics Cancer Risk* (lifetime risk per million)	30	26	43	25	52
Air Toxics Respiratory HI*	0.4	0.28	91	0.31	70
Toxic Releases to Air	1,400	4,000	39	4,600	66
Traffic Proximity (daily traffic count/distance to road)	510	200	91	210	90
Lead Paint (% Pre-1960 Housing)	0.81	0.49	83	0.3	92
Superfund Proximity (site count/km distance)	0.17	0.18	74	0.13	82
RMP Facility Proximity (facility count/km distance)	0.31	0.45	61	0.43	68
Hazardous Waste Proximity (facility count/km distance)	4.5	1.4	92	1.9	87
Underground Storage Tanks (count/km^2)	16	3.6	95	3.9	94
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.58	1.7	89	22	90
SOCIOECONOMIC INDICATORS					
Demographic Index	81%	26%	97	35%	96
Supplemental Demographic Index	28%	13%	95	14%	92
People of Color	97%	24%	96	39%	93
Low Income	66%	28%	94	31%	92
Unemployment Rate	14%	6%	90	6%	90
Limited English Speaking Households	9%	2%	91	5%	83
Less Than High School Education	25%	9%	94	12%	87
Under Age 5	7%	5%	73	6%	68
Over Age 64	12%	19%	26	17%	35
Low Life Expectancy	27%	20%	96	20%	96

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional w significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://____.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	1
Water Dischargers	7
Air Pollution	6
Brownfields	11
Toxic Release Inventory	3

Other community features within defined area:

Schools	8
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	No

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 0.5 miles Ring around the Area w

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	27%	20%	96	20%	96
Heart Disease	7.8	6.7	76	6.1	81
Asthma	14.9	10.3	98	10	99
Cancer	4.5	6.8	8	6.1	16
Persons with Disabilities	33.3%	14.5%	99	13.4%	99

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	10%	11%	66	12%	66
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	31%	14%	91	14%	89
Lack of Health Insurance	8%	6%	79	9%	56
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for les R ng around the Area o

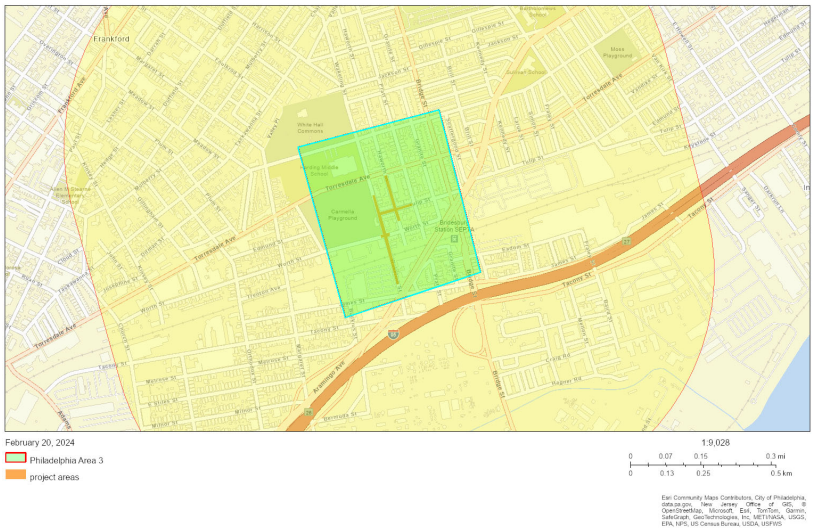
EJSCREEN Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Philadelphia, PA

0.5 miles Ring around the Area
Population: 22,835
Area in square miles: 1.57

A3 Landscape



COMMUNITY INFORMATION

Low income: 62 percent	People of color: 74 percent	Less than high school education: 21 percent	Limited English households: 6 percent
Unemployment: 13 percent	Persons with disabilities: 28 percent	Male: 49 percent	Female: 51 percent
72 years Average life expectancy	$20,313 Per capita income	Number of households: 8,195	Owner occupied: 54 percent

BREAKDOWN BY RACE

White: 26%	Black: 35%	American Indian: 0%	Asian: 2%
Hawaiian/Pacific Islander: 0%	Other race: 0%	Two or more races: 3%	Hispanic: 35%

BREAKDOWN BY AGE

From Ages 1 to 4	7%
From Ages 1 to 18	31%
From Ages 18 and up	69%
From Ages 65 and up	11%

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	73%
Spanish	24%
Chinese (including Mandarin, Cantonese)	1%
Total Non-English	27%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	76%
Speak Other Indo-European Languages	16%
Speak Asian-Pacific Island Languages	8%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

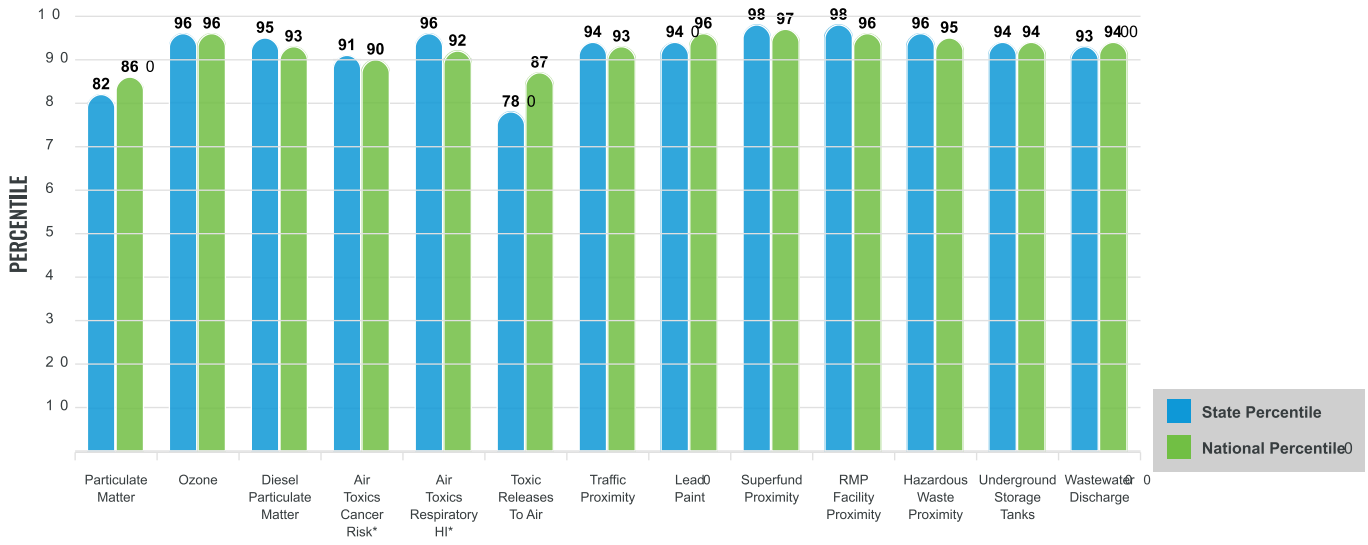
Env ronmental Just ce & Supplemental Indexes 0

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES 0

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

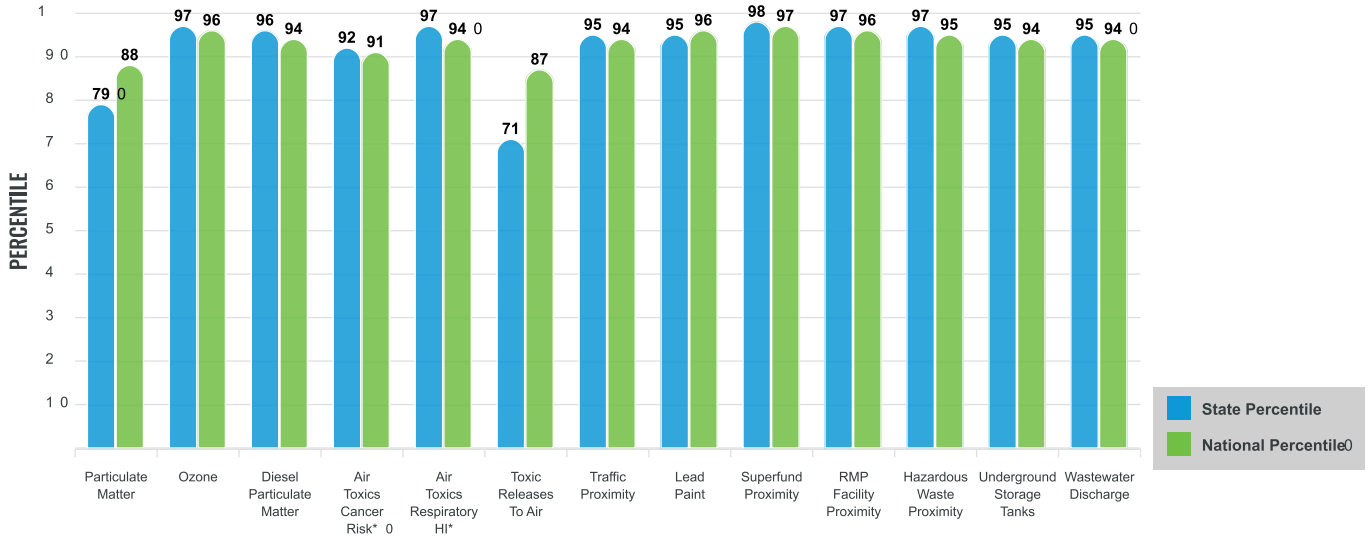
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES 0

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These perce es pr v de perspec ve h w he se ec ed b ck gr up r buffer area c mpares he e re s a e r a . 0

Report for .5 miles Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data w

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	8.57	8.65	38	8.08	60
Ozone (ppb)	68.2	61.6	98	61.6	89
Diesel Particulate Matter (µg/m^3)	0.402	0.233	94	0.261	83
Air Toxics Cancer Risk* (lifetime risk per million)	30	26	43	25	52
Air Toxics Respiratory HI*	0.4	0.28	33	0.31	31
Toxic Releases to Air	1,000	4,000	32	4,600	59
Traffic Proximity (daily traffic count/distance to road)	970	200	96	210	95
Lead Paint (% Pre-1960 Housing)	0.82	0.49	84	0.3	92
Superfund Proximity (site count/km distance)	0.92	0.18	96	0.13	97
RMP Facility Proximity (facility count/km distance)	1.9	0.45	97	0.43	95
Hazardous Waste Proximity (facility count/km distance)	5.8	1.4	95	1.9	91
Underground Storage Tanks (count/km^2)	16	3.6	96	3.9	94
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.11	1.7	82	22	82
SOCIOECONOMIC INDICATORS					
Demographic Index	68%	26%	92	35%	89
Supplemental Demographic Index	26%	13%	93	14%	90
People of Color	74%	24%	89	39%	80
Low Income	62%	28%	92	31%	90
Unemployment Rate	13%	6%	89	6%	89
Limited English Speaking Households	6%	2%	88	5%	78
Less Than High School Education	21%	9%	90	12%	82
Under Age 5	7%	5%	72	6%	68
Over Age 64	11%	19%	22	17%	30
Low Life Expectancy	26%	20%	94	20%	95

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional w significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://____.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	1
Water Dischargers	7
Air Pollution	9
Brownfields	2
Toxic Release Inventory	5

Other community features within defined area:

Schools	7
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 0.5 miles Ring around the Area w

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	26%	20%	94	20%	95
Heart Disease	6.7	6.7	45	6.1	62
Asthma	13.6	10.3	95	10	97
Cancer	4.7	6.8	10	6.1	21
Persons with Disabilities	25.2%	14.5%	95	13.4%	95

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	13%	11%	74	12%	75
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	22%	14%	80	14%	78
Lack of Health Insurance	7%	6%	77	9%	54
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for les R ng around the Area o

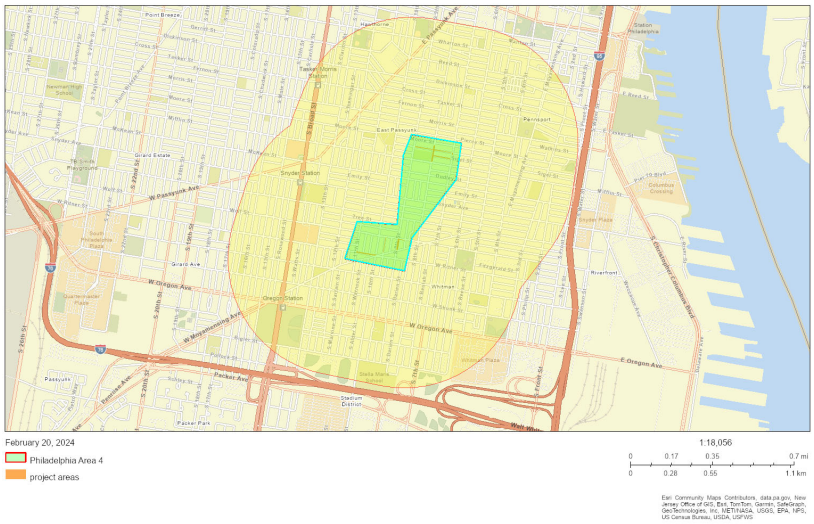
EJS reen Commun ty Rep rt

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Philadelphia, PA J

0.5 miles Ring around the Area
Population: 64,542
Area in square miles: 1.78

A3 Landscape



LANGUAGES SPOKEN AT H J

LANGUAGE	PERCENT
English	68%
Spanish	11%
Other Indo-European	5%
Chinese (including Mandarin, Cantonese)	6%
Vietnamese	2%
Tagalog (including Filipino)	1%
Other Asian and Pacific Island	5%
Other and Unspecified	1%
Total Non-English	32%

COMMUNITY INDICATORS

Low income: 35 percent

People of color: 44 percent

Less than high school education: 17 percent

Limited English households: 12 percent

Unemployment: 7 percent

Persons with disabilities: 14 percent

Male: 51 percent

Female: 49 percent

77 years
Average life expectancy

$38,804
Per capita income

Number of households: 27,186

Owner occupied: 62 percent

BREAKDOWN BY RACE

White: 56%

Black: 4%

American Indian: 0%

Asian: 21%

Hawaiian/Pacific Islander: 0%

Other race: 0%

Two or more races: 3%

Hispanic: 15%

BREAKDOWN BY AGE J

From Ages 1 to 4	7%
From Ages 1 to 18	19%
From Ages 18 and up	81%
From Ages 65 and up	14%

LIMITED ENGLISH SPEAKING BREAKDOWN J

Speak Spanish	33%
Speak Other Indo-European Languages	8%
Speak Asian-Pacific Island Languages	56%
Speak Other Languages	3%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

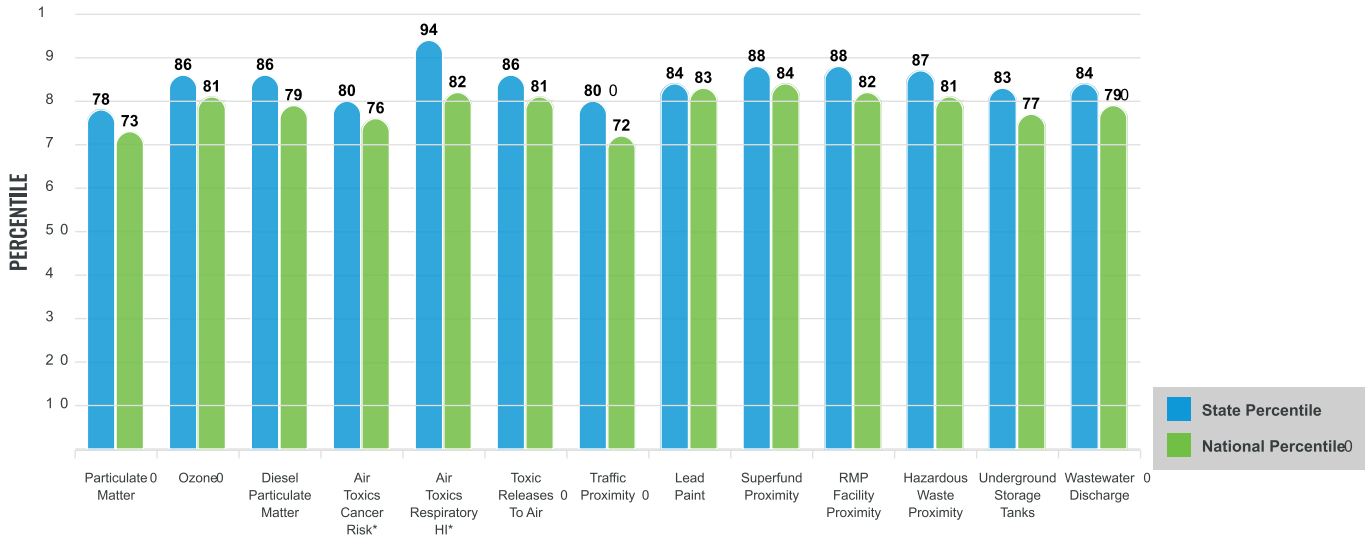
Env ronmental Just ce & Supplemental Indexes 0

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES 0

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

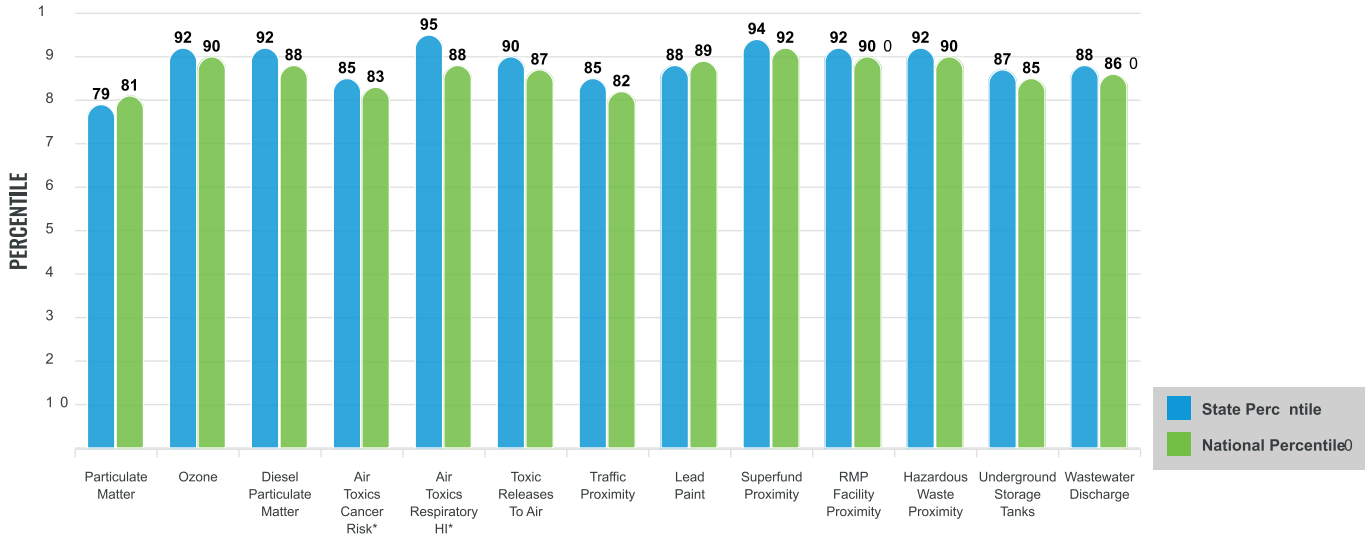
EJ INDEXES FOR THE SELECTED LOCATION 0



SUPPLEMENTAL INDEXES 0

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These perce es pr v de perspec ve h w he se ec ed b ck gr up r buffer area c mpares he e re s a e r a . 0

Report for .5 miles Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data w

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	8.67	8.65	53	8.08	64
Ozone (ppb)	67.3	61.6	90	61.6	86
Diesel Particulate Matter (µg/m^3)	0.417	0.233	96	0.261	85
Air Toxics Cancer Risk* (lifetime risk per million)	30	26	43	25	52
Air Toxics Respiratory HI*	0.4	0.28	91	0.31	70
Toxic Releases to Air	2,800	4,000	71	4,600	78
Traffic Proximity (daily traffic count/distance to road)	450	200	89	210	89
Lead Paint (% Pre-1960 Housing)	0.85	0.49	87	0.3	94
Superfund Proximity (site count/km distance)	0.58	0.18	93	0.13	95
RMP Facility Proximity (facility count/km distance)	1.6	0.45	95	0.43	94
Hazardous Waste Proximity (facility count/km distance)	7.1	1.4	97	1.9	93
Underground Storage Tanks (count/km^2)	9.6	3.6	89	3.9	88
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.25	1.7	86	22	86
SOCIOECONOMIC INDICATORS					
Demographic Index	39%	26%	79	35%	63
Supplemental Demographic Index	19%	13%	83	14%	76
People of Color	44%	24%	80	39%	61
Low Income	35%	28%	68	31%	62
Unemployment Rate	7%	6%	72	6%	71
Limited English Speaking Households	12%	2%	94	5%	87
Less Than High School Education	17%	9%	86	12%	77
Under Age 5	7%	5%	69	6%	65
Over Age 64	14%	19%	33	17%	43
Low Life Expectancy	21%	20%	69	20%	69

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional w significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://____.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	3
Air Pollution	16
Brownfields	1
Toxic Release Inventory	0

Other community features within defined area:

Schools	10
Hospitals	2
Places of Worship	0

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	No

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 0.5 miles Ring around the Area w

EJScreen En ir nmen al and S ci ec n mic Indica r Da a

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	21%	20%	69	20%	69
Heart Disease	6.2	6.7	33	6.1	52
Asthma	10.7	10.3	71	10	71
Cancer	5.7	6.8	18	6.1	37
Persons with Disabilities	13.3%	14.5%	45	13.4%	55

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	17%	11%	82	12%	82
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	11%	14%	45	14%	51
Lack of Health Insurance	11%	6%	89	9%	71
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for les R ng around the Area o

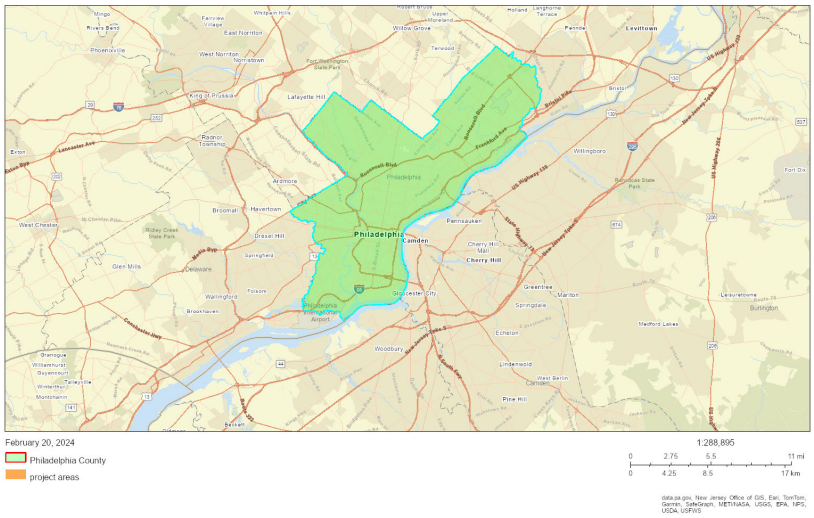
EJS ree RCommu ity Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

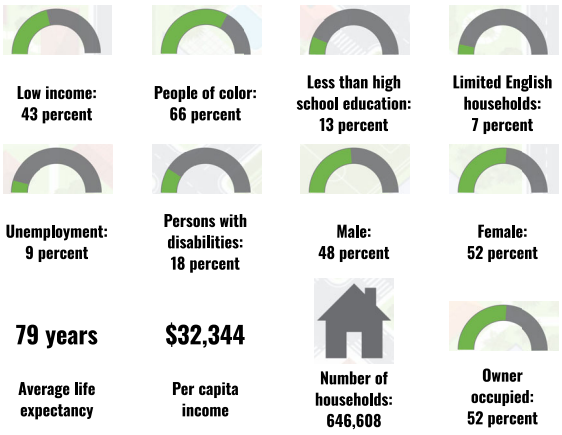
Philadelphia County, PA

County: Philadelphia
Population: 1,596,865
Area in square miles: 142.70

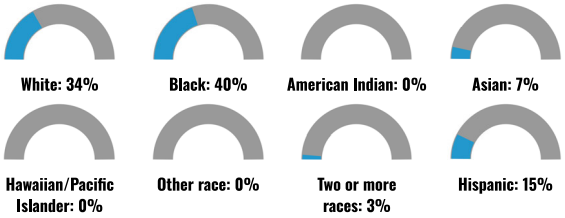
A3 Landscape



COMMUNITY IND N MATI R



B EAKD W BY RACE



B EAKD W BY AGE R

LIMITED ENGLISH SPEAKING B EAKD W R

LANGUAGES SPOKEN AT H R

LANGUAGE	PERCENT
English	76%
Spanish	11%
French, Haitian, or Cajun	1%
Russian, Polish, or Other Slavic	1%
Other Indo-European	2%
Chinese (including Mandarin, Cantonese)	2%
Vietnamese	1%
Other Asian and Pacific Island	2%
Arabic	1%
Other and Unspecified	1%
Total Non-English	24%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control. R

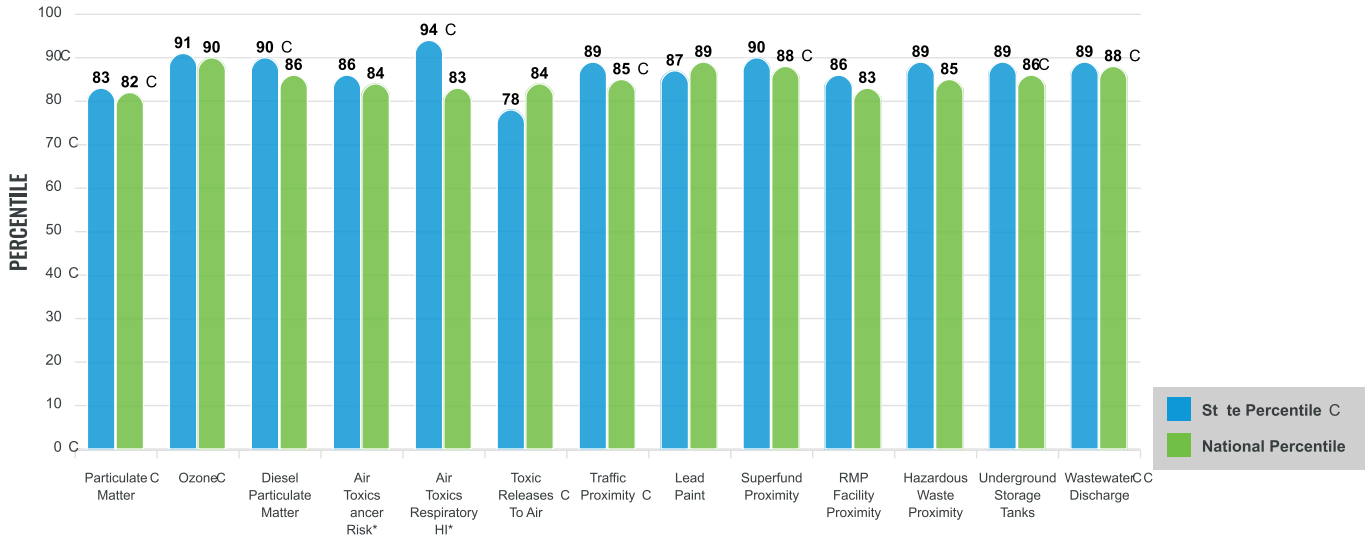
Environmental Justice & Supplemental ndexes C

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJC NDEXESCC

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

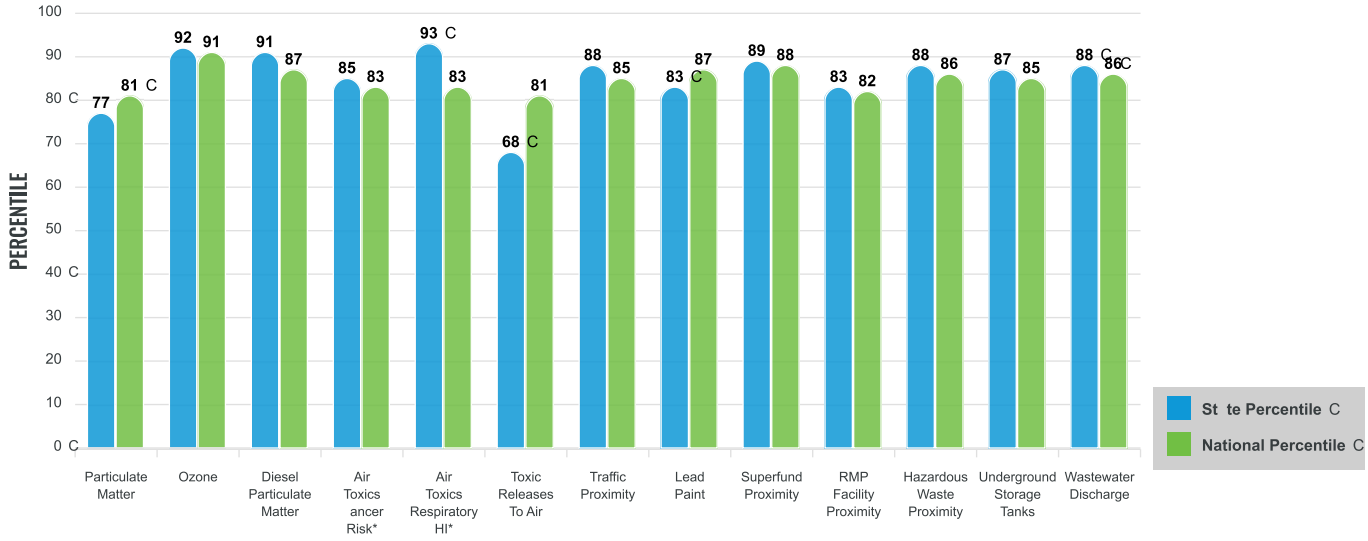
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL NDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



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EJScreen Environmental and Socioeconomic Indicators Data w

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	8.65	8.65	48	8.08	63
Ozone (ppb)	67.5	61.6	92	61.6	87
Diesel Particulate Matter (µg/m^3)	0.379	0.233	91	0.261	81
Air Toxics Cancer Risk* (lifetime risk per million)	30	26	43	25	52
Air Toxics Respiratory HI*	0.35	0.28	33	0.31	31
Toxic Releases to Air	1,300	4,000	38	4,600	65
Traffic Proximity (daily traffic count/distance to road)	560	200	92	210	91
Lead Paint (% Pre-1960 Housing)	0.68	0.49	68	0.3	84
Superfund Proximity (site count/km distance)	0.26	0.18	84	0.13	89
RMP Facility Proximity (facility count/km distance)	0.57	0.45	75	0.43	79
Hazardous Waste Proximity (facility count/km distance)	3.8	1.4	90	1.9	85
Underground Storage Tanks (count/km^2)	10	3.6	90	3.9	89
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.86	1.7	91	22	91
SOCIOECONOMIC INDICATORS					
Demographic Index	54%	26%	87	35%	78
Supplemental Demographic Index	19%	13%	84	14%	76
People of Color	66%	24%	87	39%	76
Low Income	43%	28%	78	31%	72
Unemployment Rate	9%	6%	79	6%	78
Limited English Speaking Households	7%	2%	89	5%	79
Less Than High School Education	13%	9%	79	12%	68
Under Age 5	6%	5%	68	6%	64
Over Age 64	14%	19%	33	17%	42
Low Life Expectancy	22%	20%	72	20%	73

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund	2
Hazardous Waste, Treatment, Storage, and Disposal Facilities	43
Water Dischargers	521
Air Pollution	580
Brownfields	319
Toxic Release Inventory	150

Other community features within defined area:

Schools	309
Hospitals	57
Places of Worship	57

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

EJScreen Environment l n Socioeconomic In ic tors D t a

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	22%	20%	72	20%	73
Heart Disease	6.1	6.7	33	6.1	52
Asthma	12.3	10.3	89	10	93
Cancer	5.3	6.8	14	6.1	29
Persons with Disabilities	16.9%	14.5%	69	13.4%	75

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	9%	11%	62	12%	62
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	17%	14%	64	14%	67
Lack of Health Insurance	7%	6%	77	9%	54
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Report for o t Philadelphia **a**