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Environmental Impact Statement

July 2025

Take 5 - Amaranth North Brunswick – Phase 4

Block 148.11, Lot 1.01
Township of North Brunswick, Middlesex County, New Jersey

Prepared for:

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CED Project No. 17001949D

Colliers Engineering & Design

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Introduction

This Environmental Impact Statement is being submitted as part of the Preliminary and Final Major Site Plans application for the proposed Take 5 Oil Change for Amaranth at North Brunswick, Phase 4 located on Lot 1.01, Block 148.11 as shown on Sheet 58 of the Township of North Brunswick Tax Map **(Figure 1).** This report was prepared in accordance with Chapter 205 of the Township of North Brunswick Ordinance.

The Environmental Impact Statement shall give due consideration to an inventory of the following on-site environmental conditions and assessment of the probable impact of the development upon them:

(1) Water supply
(2) Water Quality
(3) Flood Plain Protection
(4) Wetlands and Wetland Transition Areas
(5) Sewage Disposal
(6) Topography
(7) Slopes in excess of fifteen percent (15%)
(8) Soil Erosion
(9) Noise Characteristics and Levels
(10) Air Quality
(11) Existing wooded areas
(12) Significant areas of wildlife habitat
(13) Historic Sites

The proposed project involves an expansion to the existing Renaissance Town Center. More specifically, this expansion phase involves the construction of a 1,730 SF Take 5 Oil Change building with twenty (20) parking spaces along with appurtenant site improvements typical of commercial development.

Site Description and Inventory

The subject property is currently known as Block 148.11, Lot 1.01 and consists of approximately 6.93 acres in its entirety **(Figure 1).** The Take 5 lease area is proposed within a subdivided portion of Lot 1.01, which consists of 1.37 acres. The site is located on the New Brunswick, NJ Quadrangle of the USGS Map and is bounded on the east by US Route 130, Renaissance Boulevard to the north, Morris Drive to the west, and the recently constructed Amaranth at North Brunswick development to the south **(Figures 2 & 3).** Lot 1.01 is currently developed with a Walgreens pharmacy and a daycare

facility. The remainder of the property being undeveloped and wooded with the exception of an unoccupied pad site originally approved for a bank **(Figure 4).** The property is currently contained within the State's Metropolitan Planning Area (PA 1), and the PUD II Planned Unit Development zone, in which the proposed development is a permitted use **(Figures 5 & 6).**

Soil & Geology

The existing soil classifications for the site are based on the USDA NRCS Web Soil Survey. The survey is useful at the planning level to draw general conclusions about the suitability of a site for certain land uses. Based on the web site data, the proposed project site consists of the following two (2) soils **(Figure 7):**

Nixon loam, 0 to 2 percent slopes (NknA): This soil is considered well drained with depth to the water table at more than 80 inches. Nixon loam is classified as hydrologic soil group B.

Nixon moderately well drained variant loam, 2 to 5 percent slopes (NkrB): This soil is considered moderately well drained with depth to the water table at about 12 to 48 inches. This soil is classified as hydrologic soil group C.

Per the NJ-GeoWeb, the proposed project site is underlain by the Passaic Formation (JTrp) and the Brunswick Aquifer **(Figures 8 & 9).**

Topography

The proposed project area is generally flat but gently slopes down west toward Morris Drive. The site ranges from 107 to 111 feet in elevation with the portion of the site along Route 130 being the highest elevation on the property.

Hydrologic Features

There are stormwater management facilities on the property related to the developed portions of the site. The undeveloped area has no stormwater management facilities in the vicinity of the proposed development. Morris Drive contains a storm sewer system that captures much of the site's runoff.

Vegetation & Wildlife

Lot 1.01 is partially developed with a pharmacy and child-care facility along with maintained lawn area and wooded areas in the northern portion of the site. The portion of the site to be developed with the Take 5 building is currently undeveloped, consisting of maintained lawn, wooded land, and a paved area. Per the NJ-GeoWeb mapping, there is no priority, threatened or endangered species identified on the subject site **(Figure 10).**

Distinctive Scenic and/or Historic Features

There are no known scenic and/or historic features associated with this property. As shown on **Figure 11** in Appendix A, there are no archaeological site grids, historic districts, or historic properties located on site.

Predicted Impacts of Development

This section assesses the probably impacts of the development to the on-site environmental conditions.

Water quality

There are no predicted adverse impacts associated with a degradation of surface water quality. While the quantity of impervious coverage is proposed to be increased, stormwater detention and water quality measures will be designed to comply with water quality regulations. The site has been designed to comply with Township and NJDEP stormwater management standards.

Flood Plain Protection

The site is mapped within Zone X (other flood areas), areas determined to be within the 0.2% annual chance floodplain, as shown on the National Flood Insurance Program Flood Insurance Rate Map No. 34023C0136F with effective date July 6, 2010 **(Figure 12).** There are no regulated waters within the 300 feet of the site boundary; therefore, there are no riparian zones affecting the site.

Wetlands and Wetland Transition Areas

For background history, Block 148.11, Lot 1.01 was formerly part of a larger parcel known as Block 148.11, Lot 1. Freshwater wetlands were previously delineated for the property in 2011 and verified as part of the Freshwater Wetland General Permit No. 6 application process. The wetlands were determined to be isolated and approximately 0.899 acres in size. The Department issued a Freshwater Wetland Statewide General Permit No. 6 for Block 148.11, Lot 1 on October 17, 2011 (NJDEP File No. 1215-10-002.1 FWW 100001) to fill the isolated wetland (0.899 acres; 39,172 SF). The wetlands were partially filled.

The Freshwater Wetland General Permit (GP) 6 was due to expire on October 17, 2016, but was extended for another 5-year period on October 10, 2017. The GP6 finally expired on October 17, 2022. Prior to the expiration of the permit, several improvements occurred on the property. In the southern portion of the property a residential development known as Amaranth at North Brunswick was constructed and Block 148.11, Lot 1 was subdivided into Block 148.11, Lot 1.02 (Amaranth at North Brunswick) and Block 148.11, Lot 1.01 (the subject of this application). In addition, the Walgreens building was constructed in the southeast corner of new Lot 1.01 and the Lightbridge Academy Day Care Facility was constructed in the northeast corner of new Lot 1.01. The Lightbridge Academy parking lot resulted in the filling of a portion of the transition area of the isolated wetlands.

During this same period when these development activities were occurring and when the General Permit No. 6 was still valid, the property owner began to fill the isolated wetland in preparation for construction of Amaranth at North Brunswick – Phase II. Fill material was spread through this area but no tree clearing occurred since the applicant had not yet received a tree clearing permit from the Township. Approximately 8-12 inches of fill material was placed over the wetlands. Subsequently, the General Permit No. 6 permit expired before the applicant could complete the tree clearing and filling of the isolated wetlands.

Therefore, a new application for a Freshwater Wetlands General Permit 6 was recently submitted to the NJDEP to complete the filling of the isolated wetlands on site. There are no wetlands occurring in the portion of the site in which the Take 5 is proposed. The NJ-GeoWeb wetlands mapping has been included in Appendix A **(Figure 13).**

Topography

There are no predicted adverse impacts associated with the topography of this project. The developed portion of the site generally slopes in the same direction as the existing conditions. The grade of the property is generally between 1.5 – 5%.

Slopes in Excess of Fifteen Percent (15%)

There are no predicted adverse impacts associated with areas with slopes in excess of fifteen percent (15). Proposed slopes will not exceed a maximum 3H:1V rate and any such areas will be stabilized in accordance with Soil Erosion and Sediment Control Standards.

Soil Erosion

There are no predicted adverse impacts associated with soil erosion for the subject site. During construction, temporary soil erosion measures will be maintained to prevent erosion on-site. Upon completion of the development, the proposed landscaping and grass areas will help prevent erosion of the on-site soil.

Noise Characteristics and Levels

The project site itself is not a significant source of noise. In general, the existing conditions on the site produce low level noise. Background noise levels at the existing site are generated from surrounding land uses, including traffic on the existing surrounding roads. There will be a minor impact on the noise characteristics and level during construction on-site. The major receptors for the increased noise at the construction site will be the construction equipment operators, laborers, and project management personnel, which will be required to take necessary health and safety precautions such as hearing protection.

The majority of noise experienced on the subject site will come from traffic from adjoining roads, most notably Route 130, which is a 6-lane state highway along the site's frontage. Following construction, it is anticipated that the main source of noise on the project site will be car traffic. The noises during operational phases are expected to be consistent with the noises that already

occur within adjacent and nearby residential areas. Noise levels during the construction and operational phases are not anticipated to result in significant impacts to the surrounding area.

Air Quality

Minor, localized, short-term effects on air quality will occur during the construction phase of the proposed project due to the exhaust of vehicles, construction equipment and particulates from dust generated during construction activities, which are expected to diminish upon completion of earthwork. There are no predicted adverse impacts associated with air quality with this project as the minor impacts to air quality during the construction phase are not anticipated to be significant.

Once the project is complete, and during the operational phase, the anticipated outdoor air pollution will primarily be that of vehicle exhaust from commuting workers and car traffic which is consistent with existing impacts associated with the surrounding land uses. The proposed development will not require any air permits from the New Jersey Department of Environmental Protection.

Existing Wooded Areas to be Protected

The existing site is partially wooded. A portion of the existing woods will be cleared for parking areas associated with the proposed development. Low maintenance landscaping will be proposed to offset to the maximum extent practicable, the forested areas being razed.

Significant areas of wildlife habitat

There will be minimal impacts associated with the disruption of wildlife with this project. Since there are wooded areas on-site, squirrels and birds might nest here. It is anticipated that any displaced wildlife would relocate to heavily wooded areas toward the west. There are no predicted adverse impacts associated with this project on endangered and threatened species. There is no priority, threatened or endangered species identified on the subject site.

Historic Sites

As there are no known historical features associated with this property, there are no predicted adverse impacts on historical sites associated with this project.

Acidic Soils

The subject site is underlain by the Passaic Formation, which is not a bedrock that is known to be associated with acidic soils. It is not anticipated that acidic soils will impact the subject development.

Solid Waste Disposal

Solid waste management will occur both during construction and actual operations of the individual uses. During construction, wastes generated will be typical with that of construction

waste and can include, but not be limited to, wooden pallets associated with deliveries, demolition debris associated with the razing of existing structures and/or improvements, and debris generated by the workers on-site which could include food related waste. All waste discussed above will be stored on-site within a dumpster until it is picked up and disposed of by a private hauler in accordance with all local, state and federal regulations. No burning or trash or on-site landfilling will occur during construction.

The solid trash is picked up by a private contractor approximately two (2) times per week, or, as necessary to dispose of the waste generated. Solid waste will be disposed of at a licensed facility in accordance with all applicable New Jersey laws and regulations. The recyclable material generated at the proposed development will also be typical of the uses listed above. Some of these materials include, but are not limited to, mainly corrugated cardboard and aluminum cans, plastic bottles/containers, glass and mixed paper which may be deposited by residents or employees on staff.

Again, all waste removed from the subject site will be done so by a licensed hauler in accordance with all local, State and federal regulations.

Proposed Resource Consumption

Sanitary Sewer

Sanitary sewer service is provided by the Township of North Brunswick. The development will connect to an on-site gravity 8-inch gravity sewer main. Wastewater generated by the development is anticipated to be in accordance with N.J.A.C. 7:14-23.3 flow rates.

Water

In accordance with the NJDEP's NJ-GeoWeb Service, the subject sites reside within the region of the Township of North Brunswick Water Department water purveyor which has a Water Supply Firm Capacity of 45.000 Million Gallons per Day. In accordance with the NJDEP's Division of Water Supply and Geoscience, the daily demand on this system is 38.961 Million Gallons per day, which indicates a surplus of 6.309 Million Gallons per Day. Adequate capacity exists within the existing water purveyor's facility. The development will connect to an existing on-site water main.

Environmental Performance Controls

This section is intended provide a description of the measures that will be employed to minimize adverse impacts during construction and operation associated with the following.

Drainage Plans

Stormwater management will be implemented on the project site. With respect to soil erosion and sediment control, silt fence and inlet sediment barriers will be installed prior to land disturbance on the property. These erosion control measures will be maintained throughout the

course of construction. Subsequent to construction, disturbed surfaces will be stabilized through the use of impervious surfaces (i.e., pavement) and vegetation (i.e., grass and plants).

Sewage Disposal Techniques

Wastewater will be directly discharged to the existing public sewer main via 6" PVC SDR-35 laterals in compliance with local plumbing codes and standards.

Water Supply and Water Conservation Proposals

Water will be supplied by the Township of North Brunswick. The proposed site will connect to an existing water main located on site. There are no specific water conservation proposals associated with this project.

Energy Conservation Measures

Measures will be implemented to conserve energy where possible and therefore cause the minimal adverse impact possible on local energy resources given the increase of development on the subject property. With regard to energy conservation, the proposed Take 5 building shall be designed to meet or exceed the building energy efficiency and performance as required by the local energy code. Likewise, site design shall utilize techniques to promote sustainability.

Noise Reduction Techniques

Several noise reduction measures are to be implemented for this project. Contractors will take all practical steps to eliminate avoidable noise emanating from construction operations. To minimize inconvenience to and irritations of neighboring inhabitants, construction operations will be limited to normal working hours.

Review Agencies

The following is a list of agencies from which approvals, permits and licenses must be obtained:

- Township of North Brunswick Planning Board
- Middlesex County Planning Board
- Freehold Soil Conservation District
- North Brunswick Water & Sewer Departments
- NJDEP – Treatment Works
- NJDEP – Bureau of Water Safety

Conclusion

The proposed project will consist of site improvements designed in accordance with nationally recognized standards which are consistent with the ordinance for the Township of North Brunswick.

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Appendix A

Site Location Maps

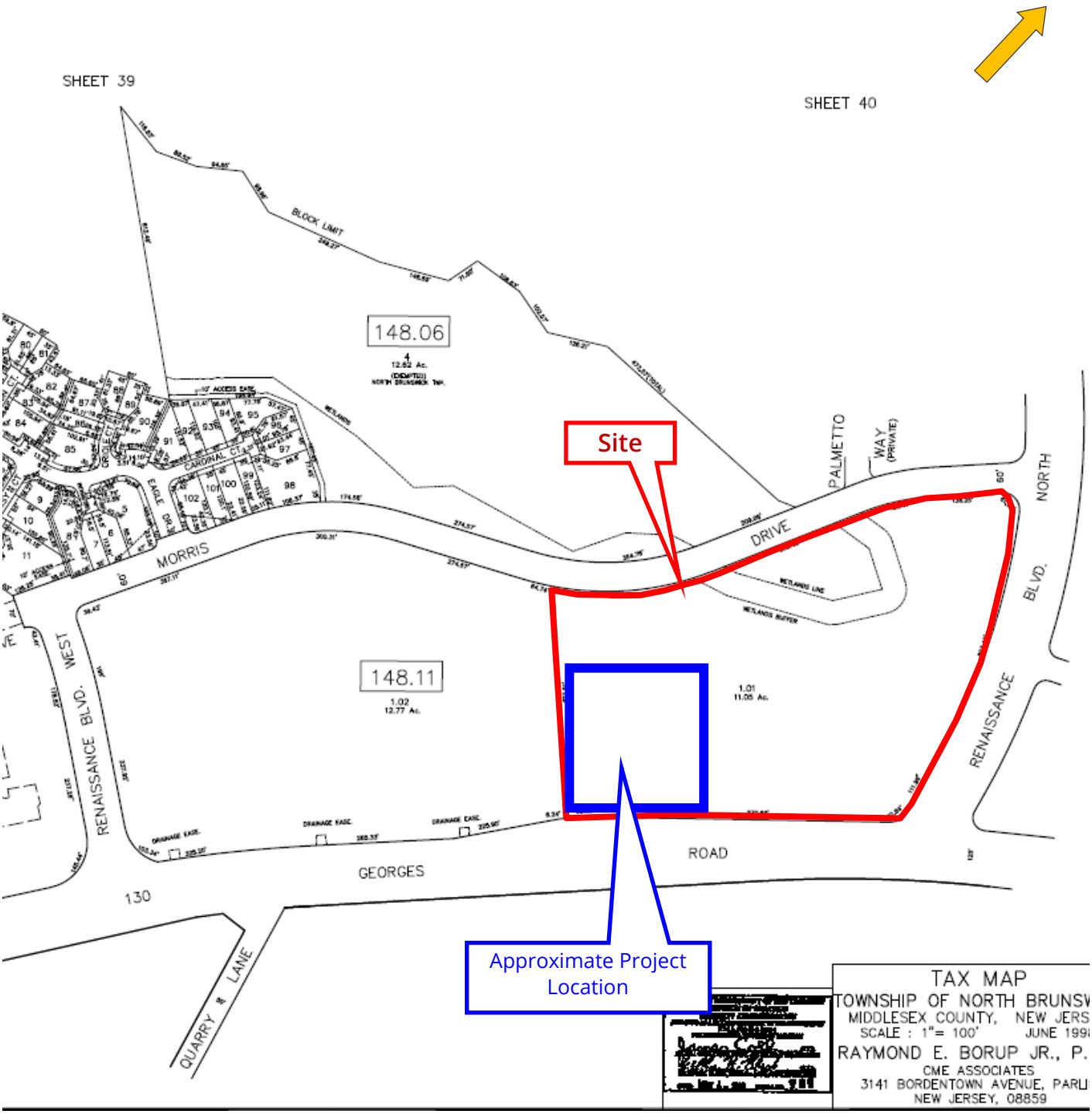

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Figure 1: Tax Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: North Brunswick Township Tax Map Sheet 58

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C

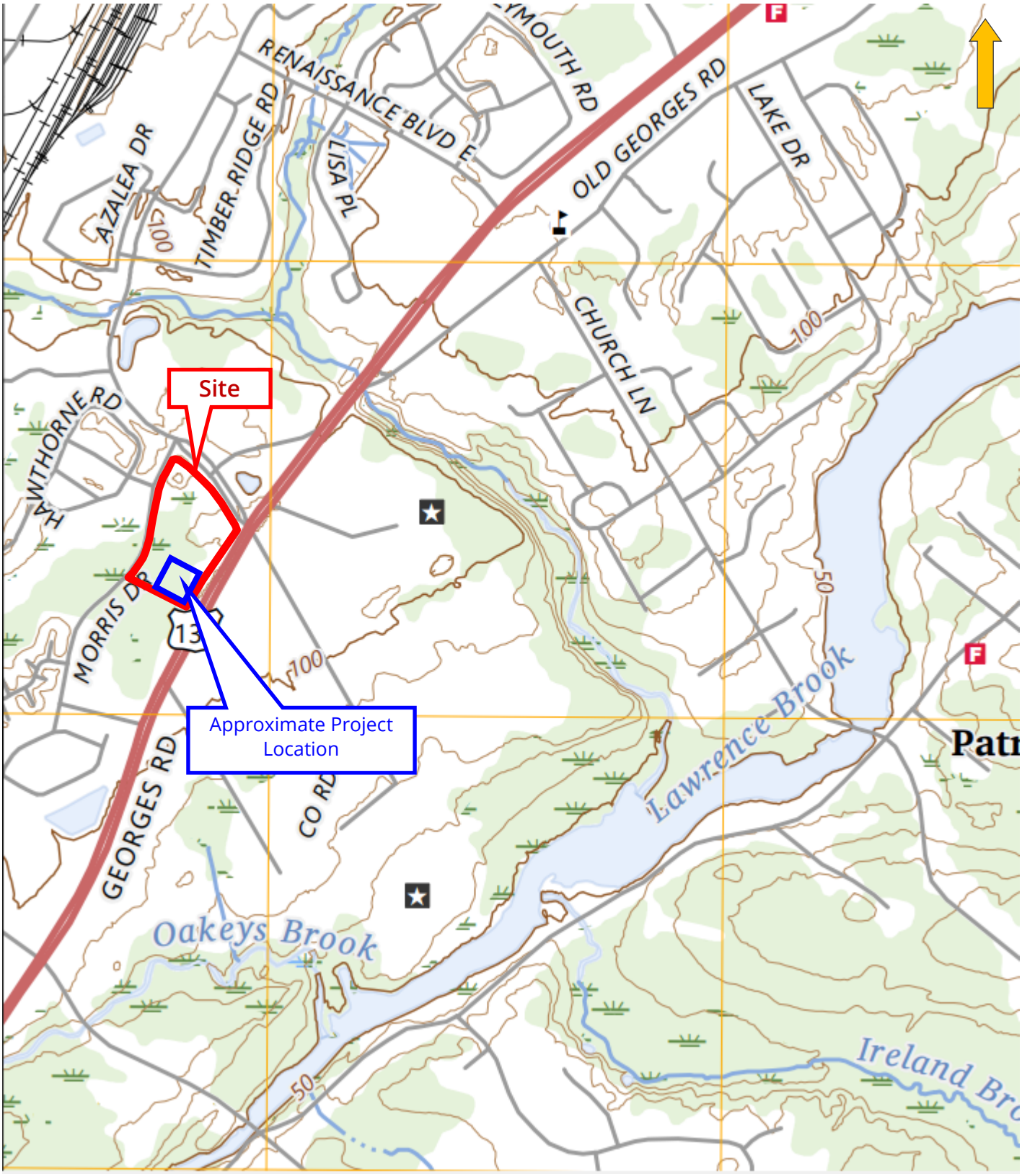

Figure 2: USGS Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: USGS New Brunswick, NJ Quadrangle 2023

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C

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Figure 3: Road Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C

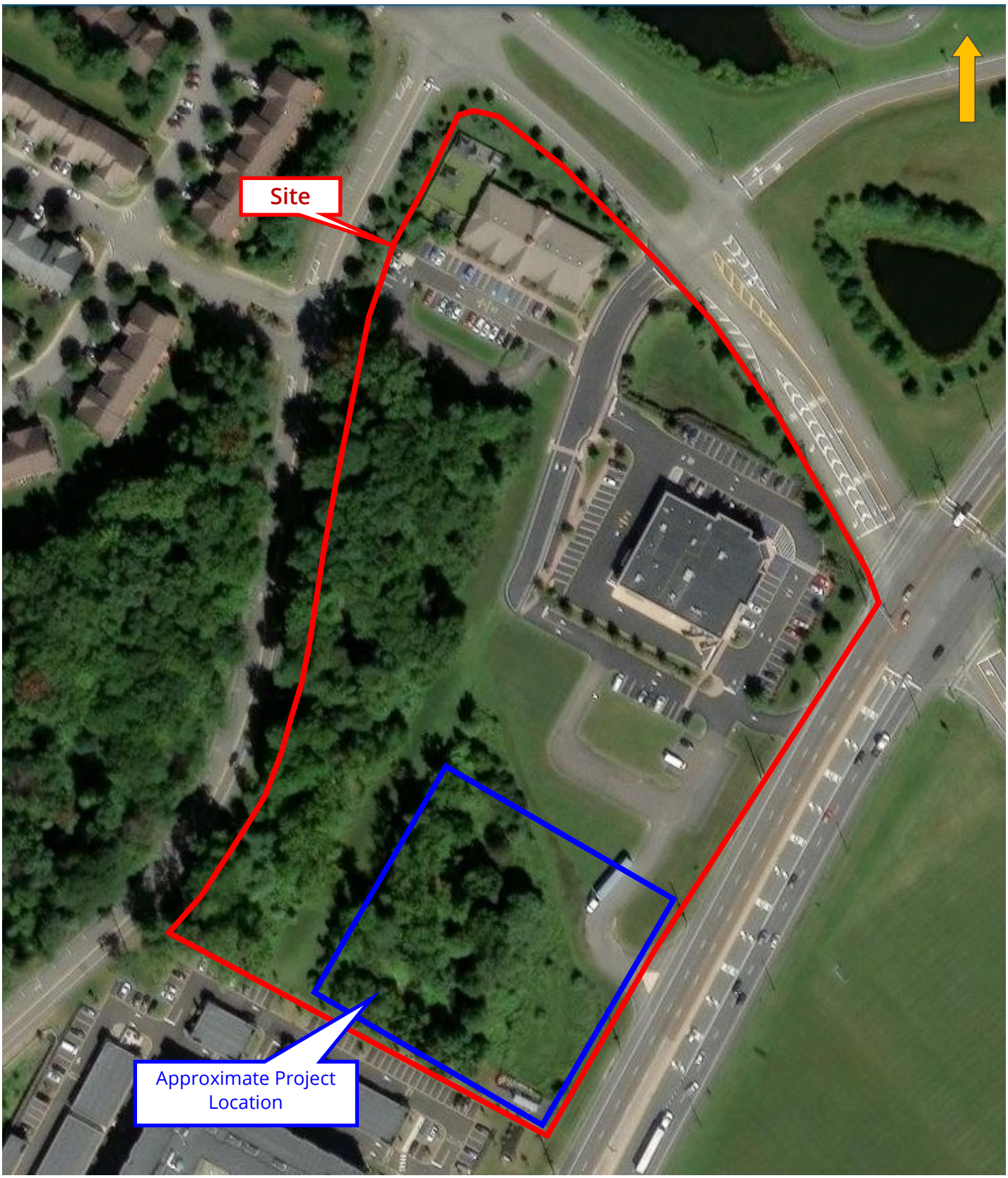

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Figure 4: Aerial Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C

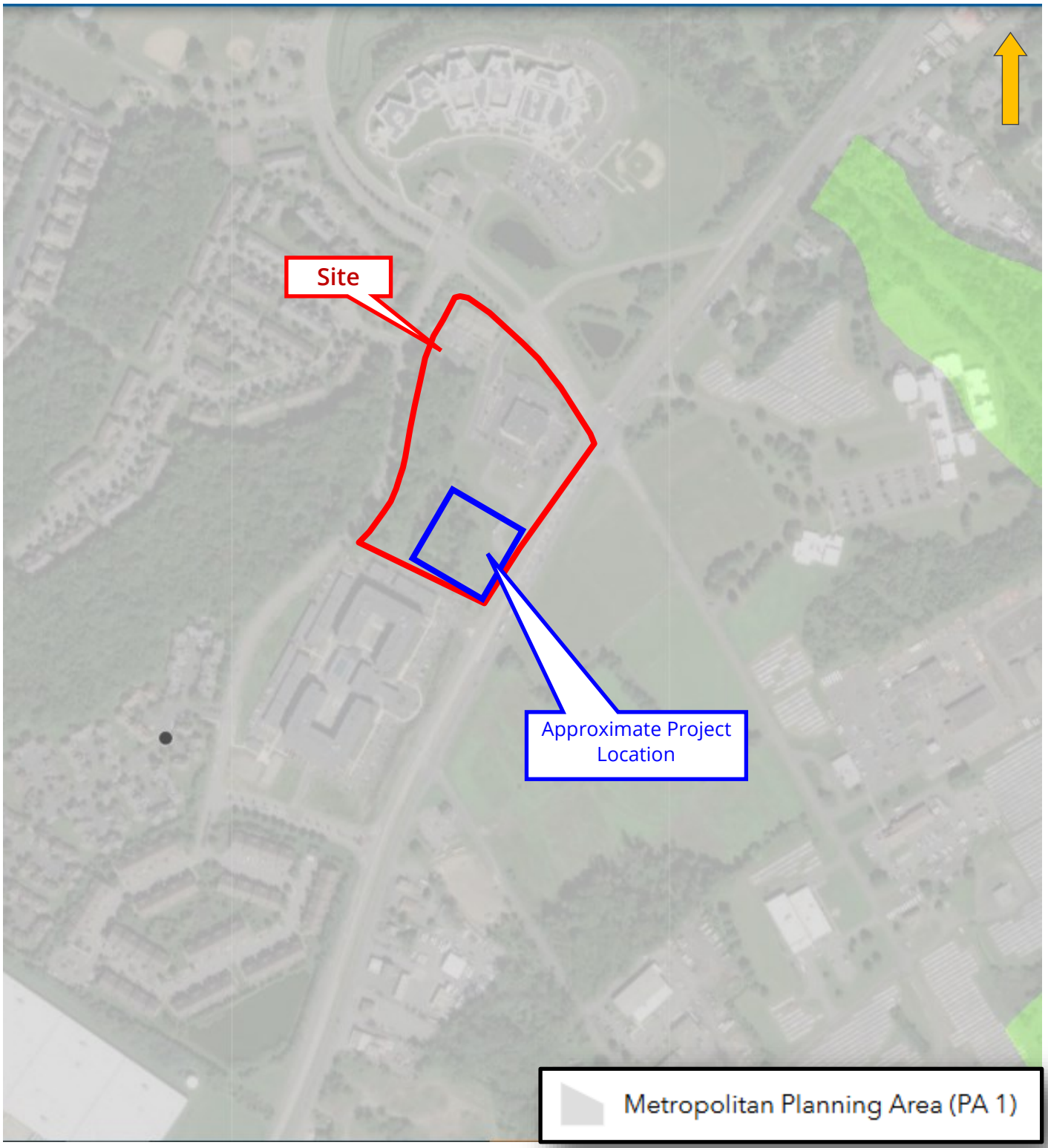

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Figure 5: State Planning Area Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C

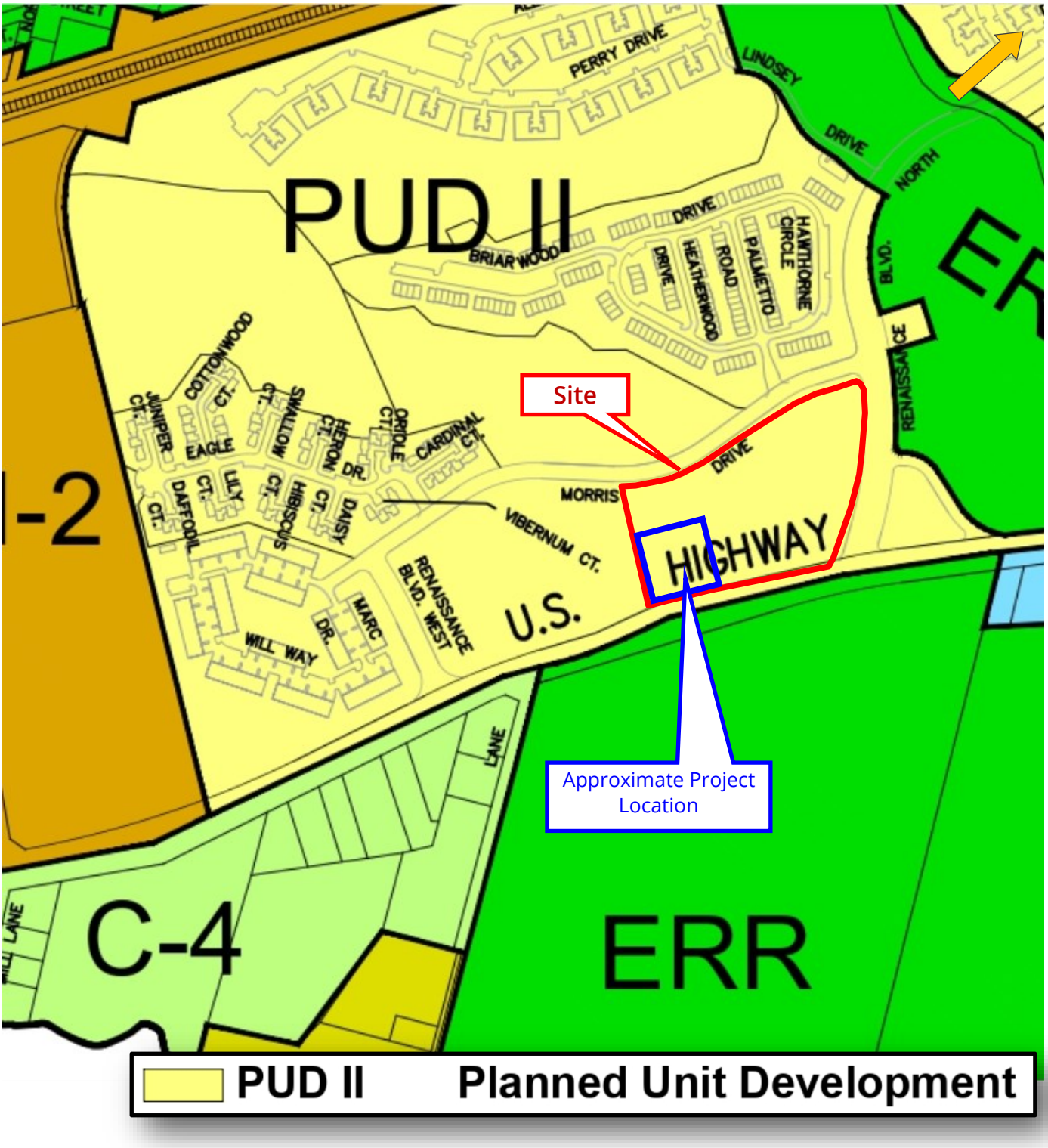

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Figure 6: Zoning Map

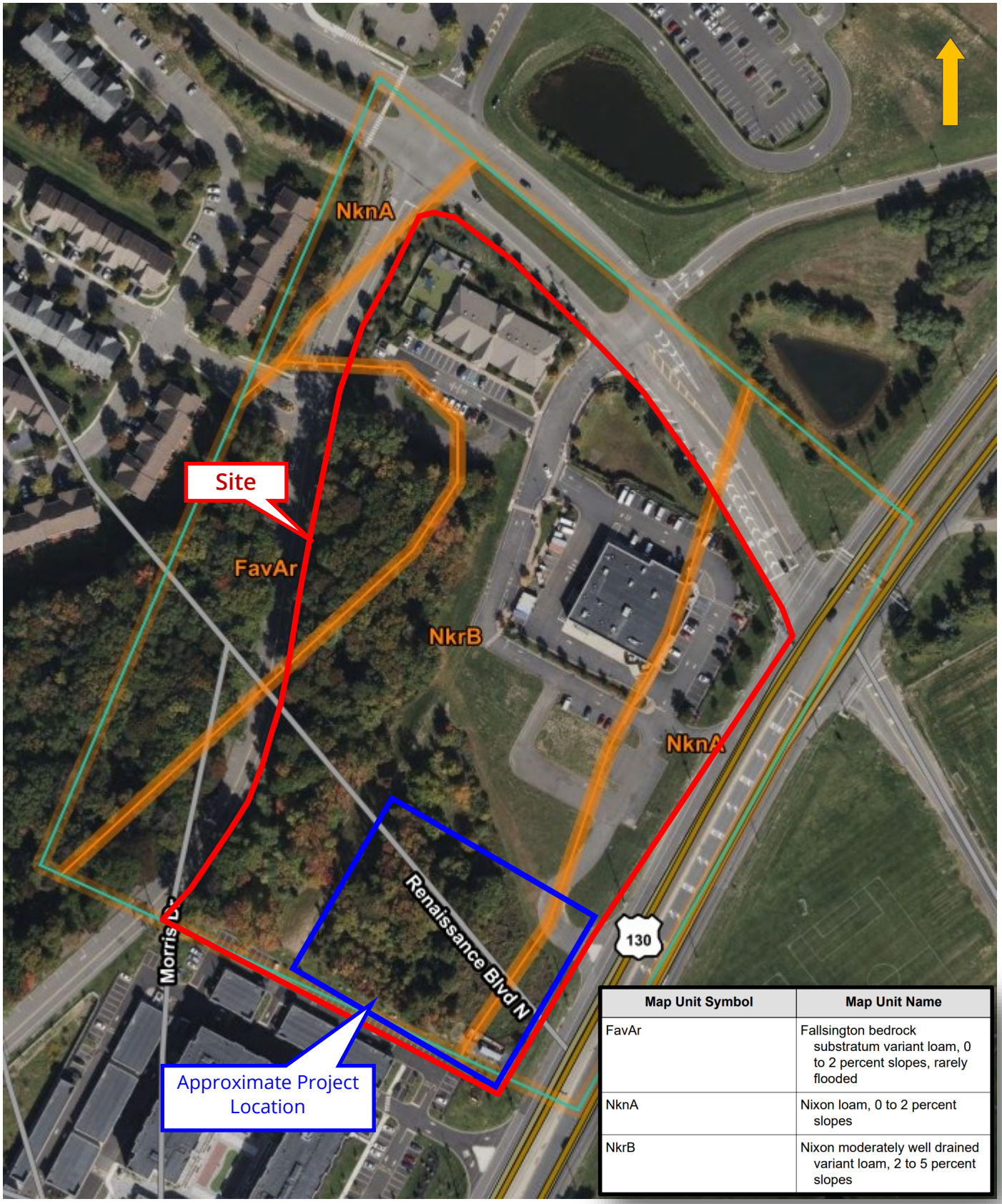
Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: Township of North Brunswick Zoning Map

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C



Map Unit Symbol	Map Unit Name
FavAr	Fallsington bedrock substratum variant loam, 0 to 2 percent slopes, rarely flooded
NknA	Nixon loam, 0 to 2 percent slopes
NkrB	Nixon moderately well drained variant loam, 2 to 5 percent slopes

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Figure 7: Soil Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: USDA NRCS Web Soil Survey

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C

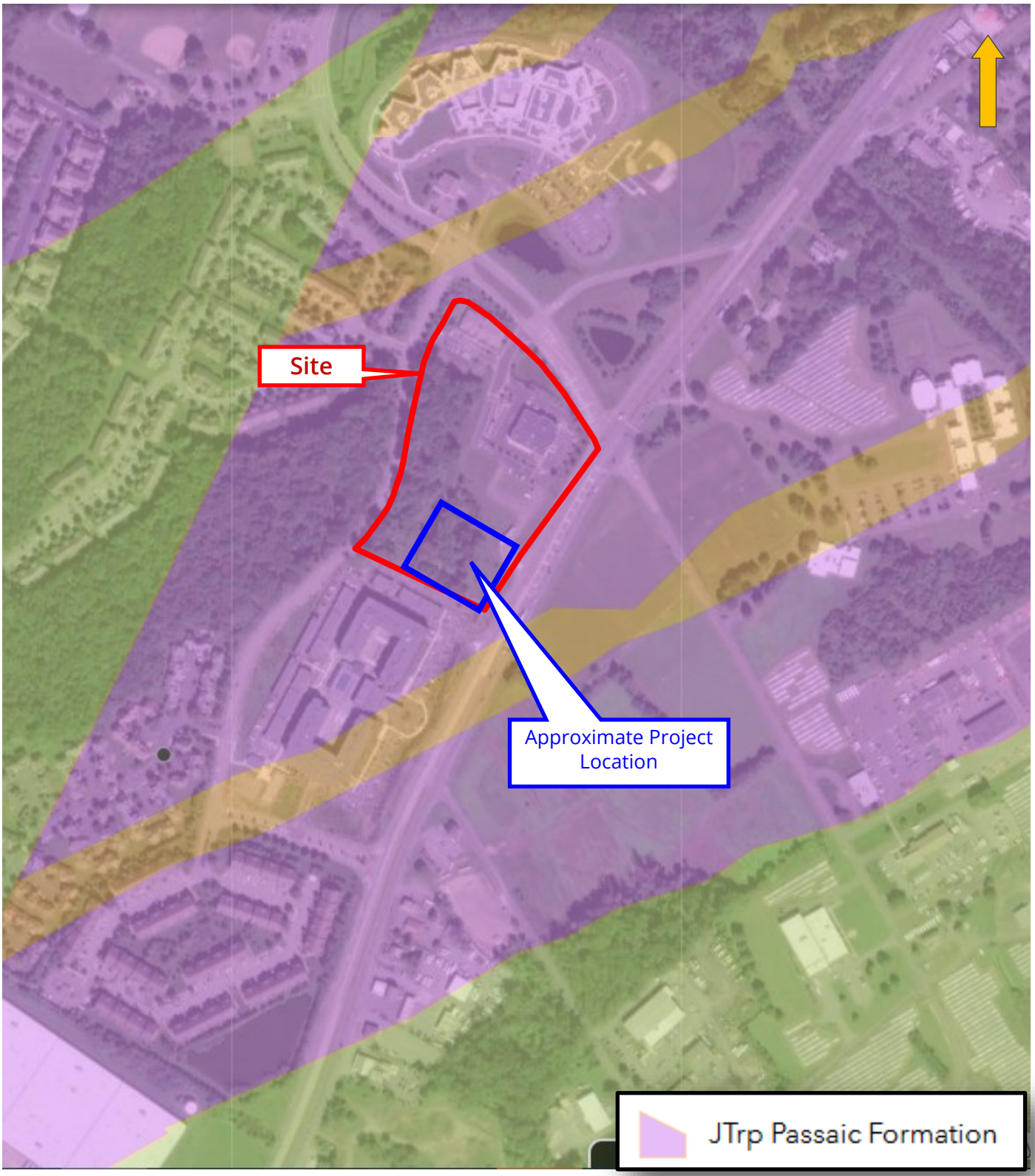

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Figure 8: Bedrock Geology Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C

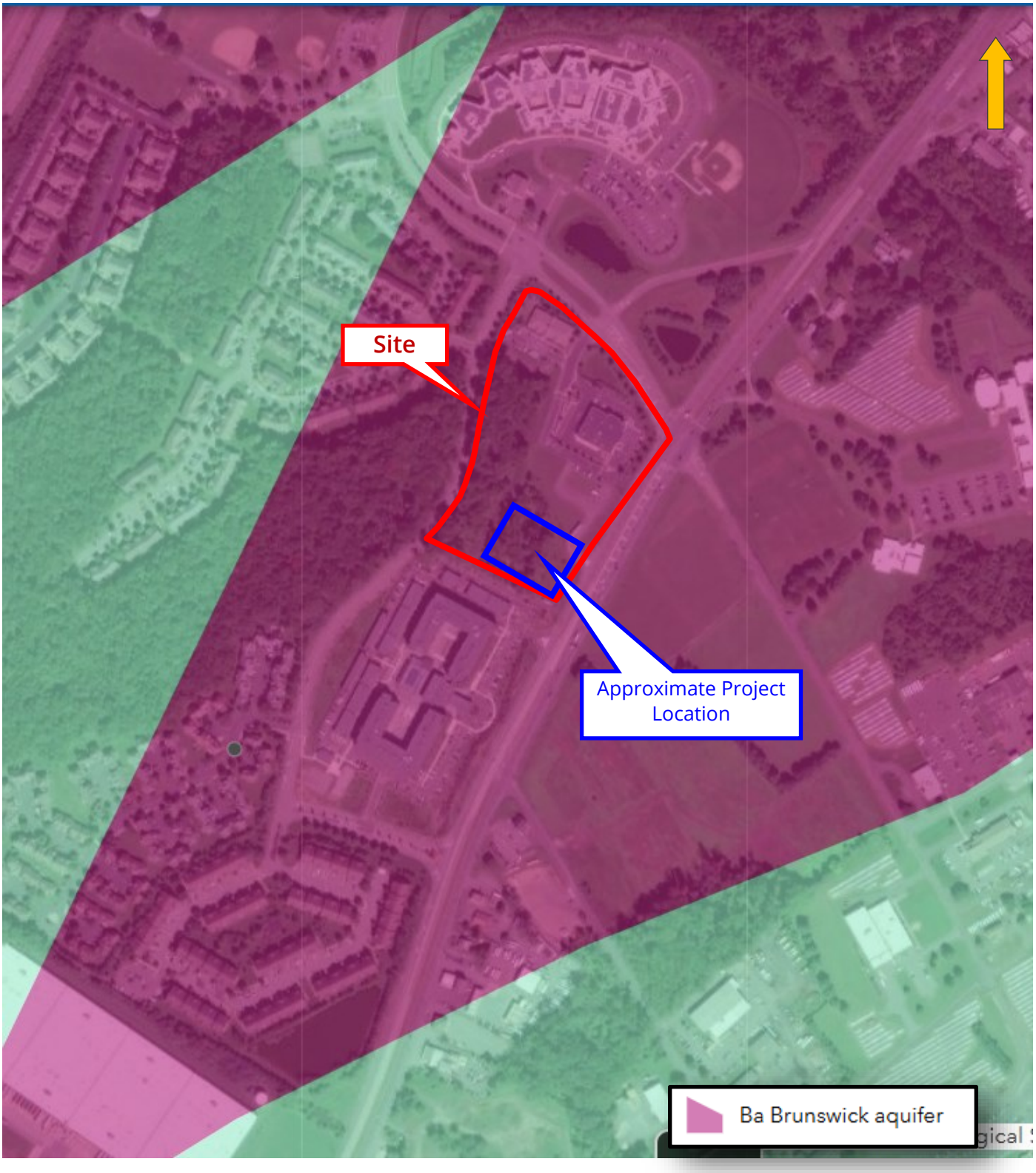

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Figure 9: Bedrock Aquifer Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C

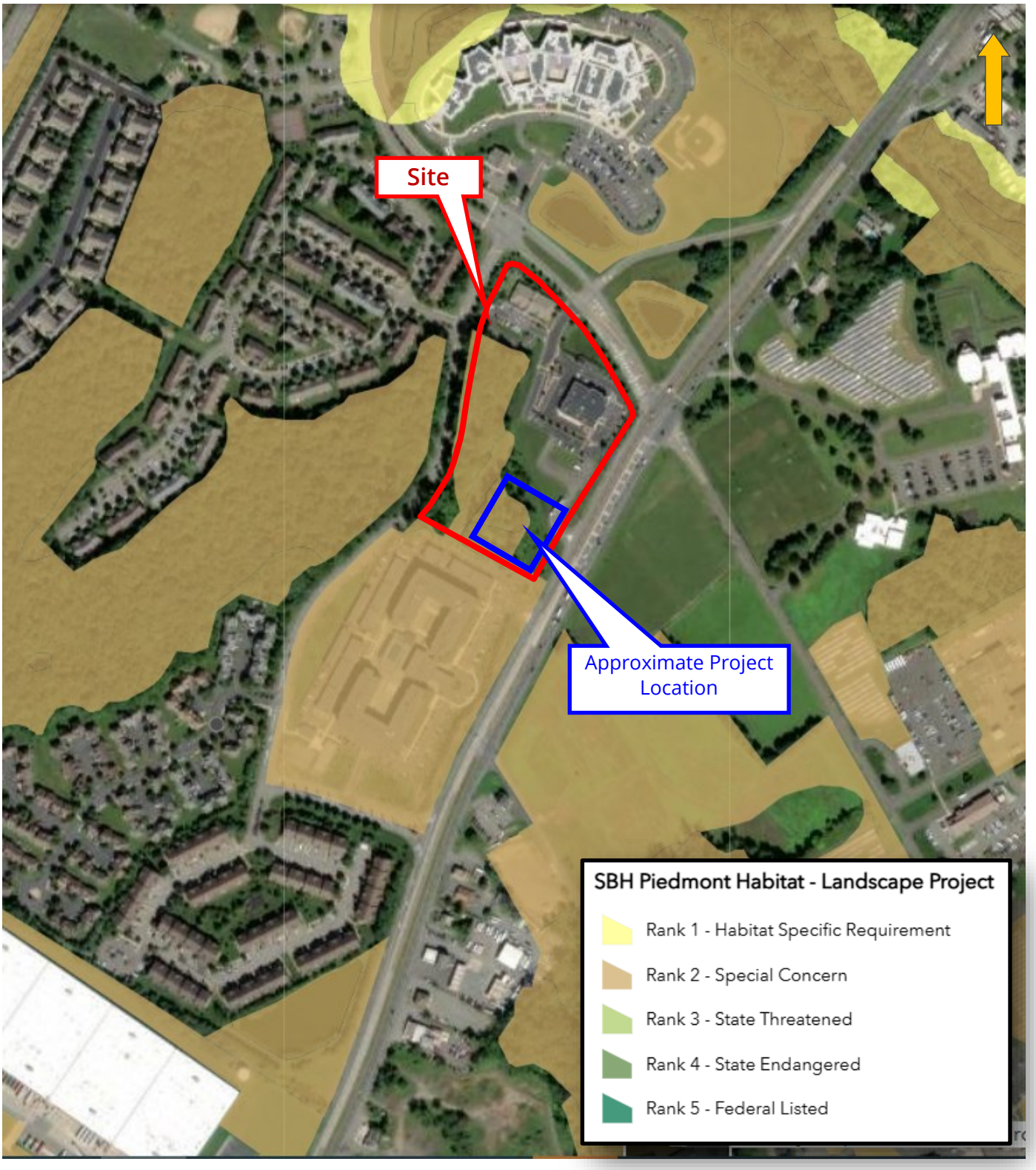

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Figure 10: Landscape Project Map

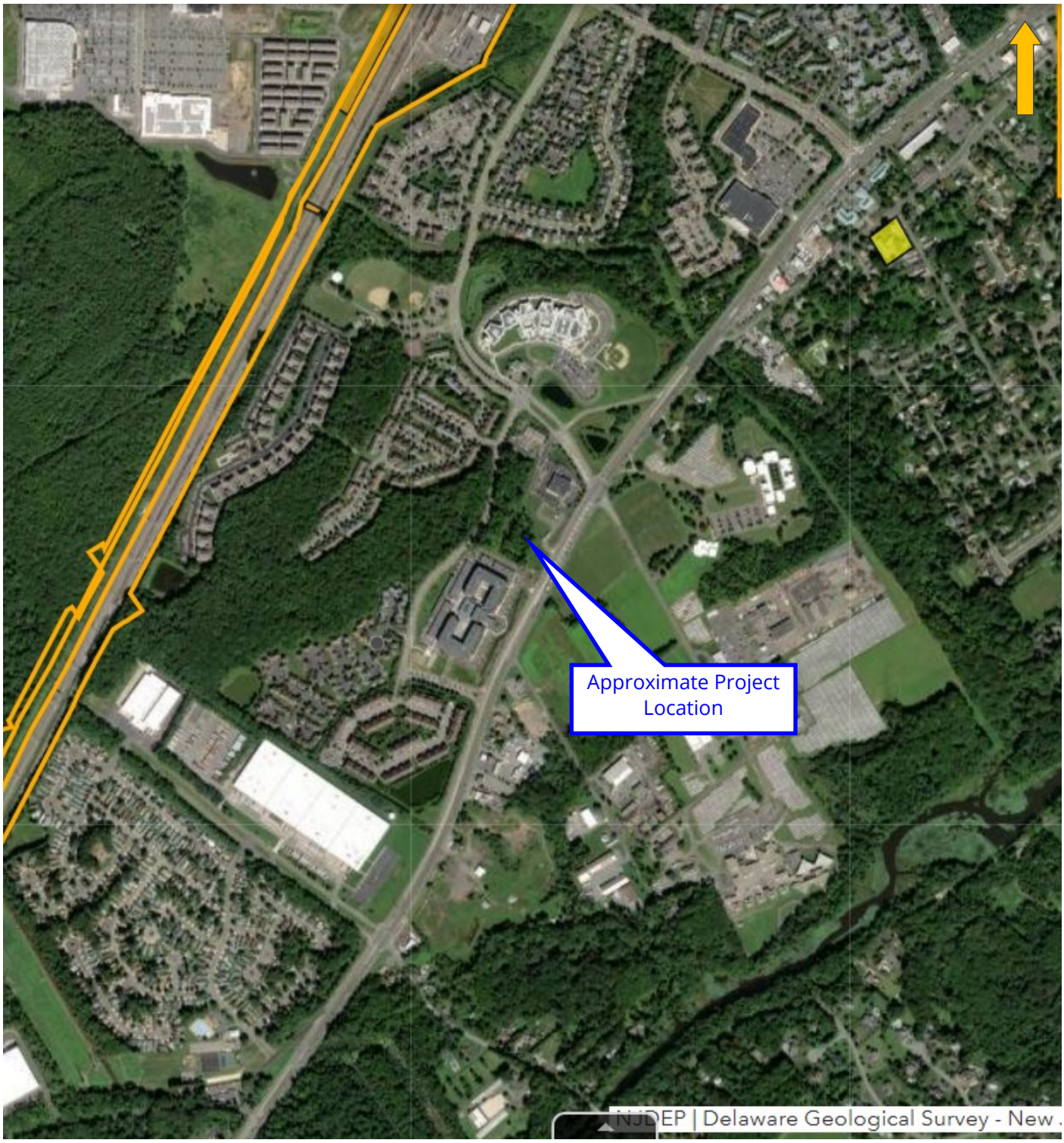
Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C



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Main: 877 627 3772

Figure 11: Historic Resources Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C

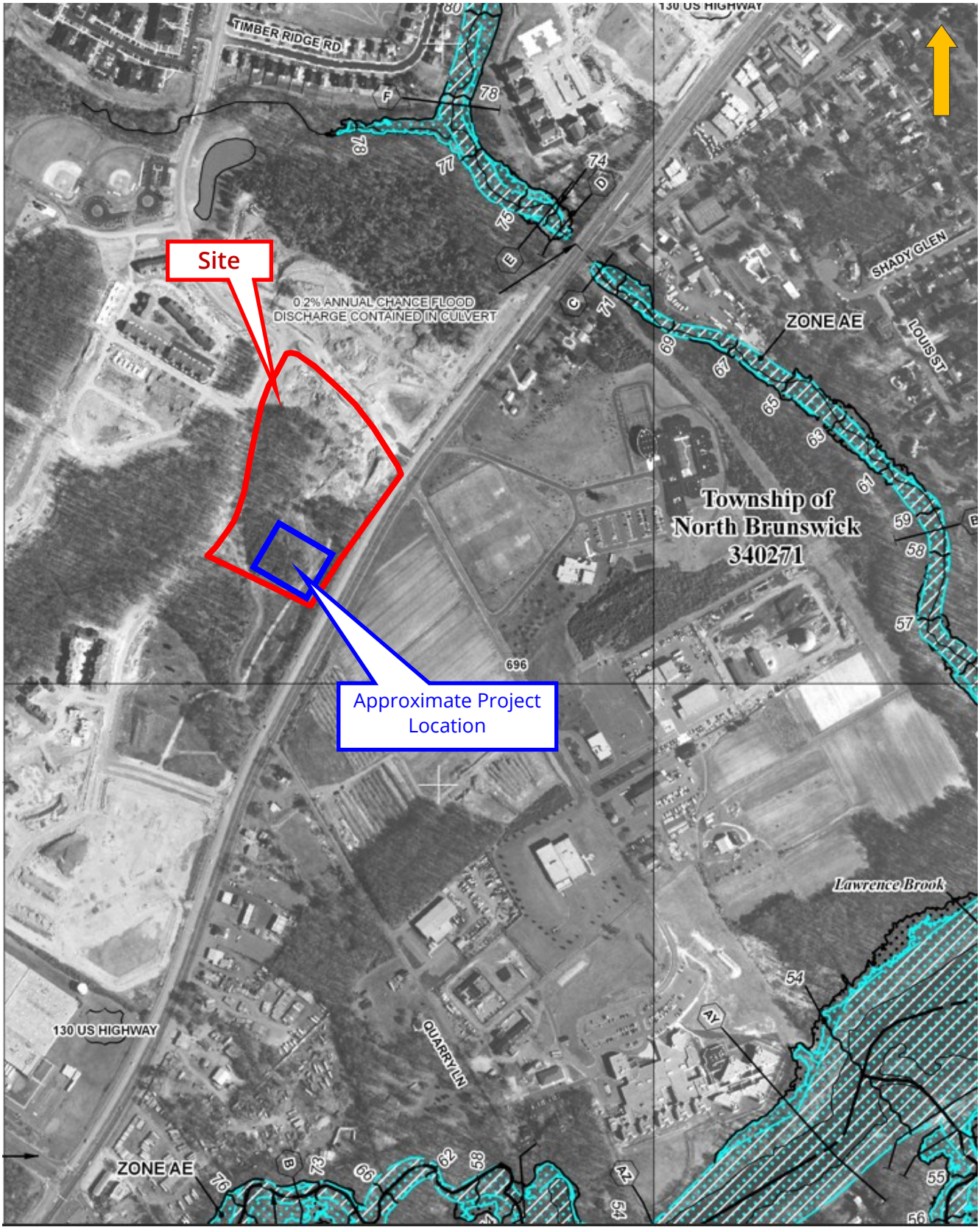

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Figure 12: FEMA Flood Insurance Rate Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: FEMA Map 34023C0136F, effective on7/6/2010

Scale: Not to Scale

Date: May 22, 2025

CED Project No. 17001949C

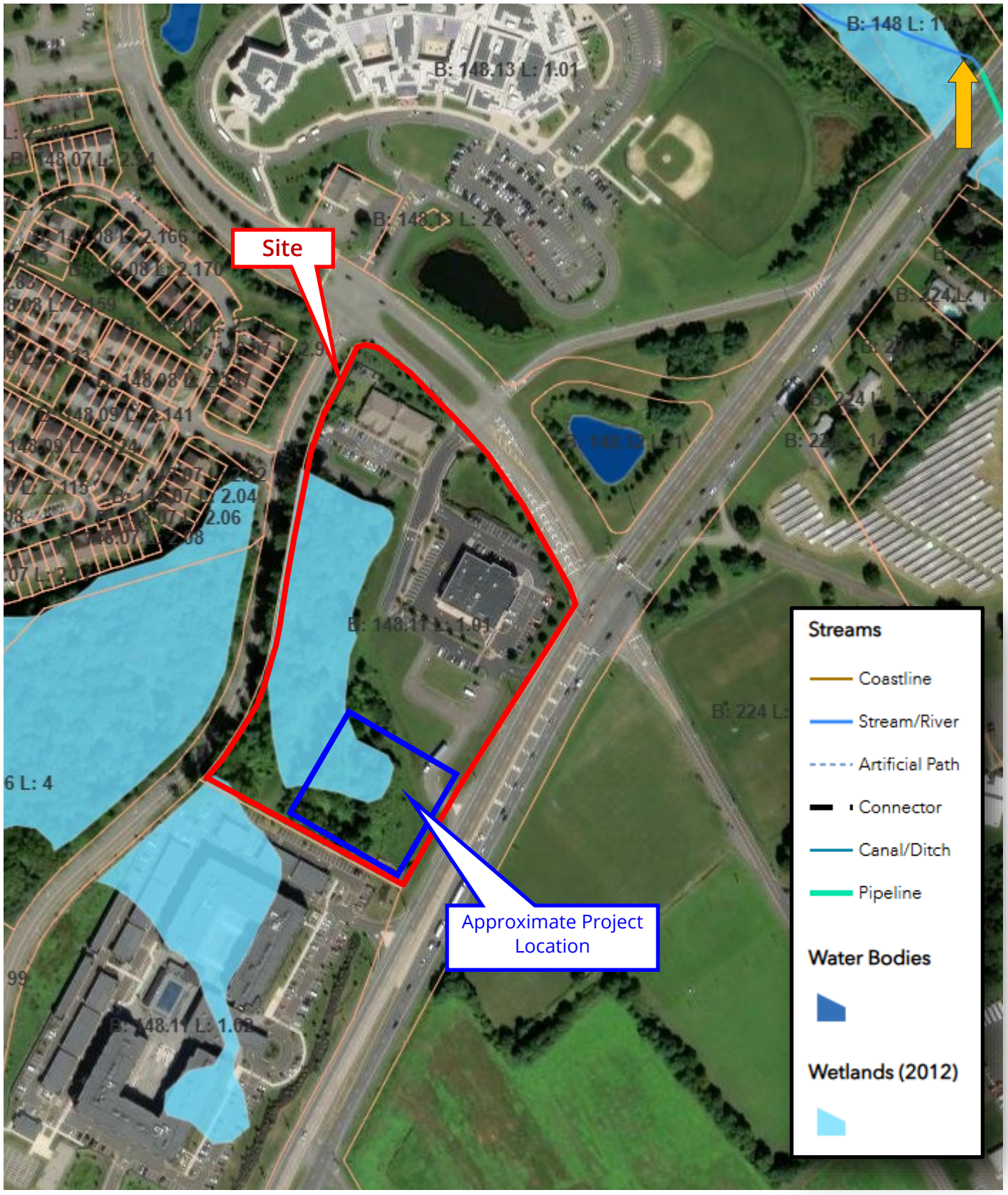

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Figure 13: Wetlands & Waters Map

Proposed Take 5 (Block 148.11, Lot 1.01)
North Brunswick Twp., Middlesex Co., NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: May 22, 2025

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Appendix B

Site Photographs

Site Photographs

Proposed Take 5 for Amaranth North Brunswick – Phase 4
Block 148.11, Lot 1.01
North Brunswick Township, Middlesex County, New Jersey

CED Project No. 17001949D

Site Photographs

Proposed Take 5 for Amaranth North Brunswick – Phase 4
Block 148.11, Lot 1.01
North Brunswick Township, Middlesex County, New Jersey

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Proposed Take 5 for Amaranth North Brunswick – Phase 4
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Proposed Take 5 for Amaranth North Brunswick – Phase 4
Block 148.11, Lot 1.01
North Brunswick Township, Middlesex County, New Jersey

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Proposed Take 5 for Amaranth North Brunswick – Phase 4
Block 148.11, Lot 1.01
North Brunswick Township, Middlesex County, New Jersey

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Appendix C

Natural Heritage Program Database Response

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE PARKS, FORESTS & HISTORIC SITES
OFFICE OF NATURAL LANDS MANAGEMENT
501 East State Street
P.O. Box 420, Mail Code 501-04
Trenton, New Jersey 08625-0420
Tel. (609) 984-1339 * Fax (609) 984-1427
https://www.nj.gov/dep/parksandforests/natural/index.html

PHILIP D. MURPHY
Governor

TAHESHA L. WAY
Lt. Governor

SHAWN M. LATOURETTE
Commissioner

April 6, 2025

Courtney Rybak
Colliers Engineering & Design
101 Crawfords Corner Road, Suite 3400
Holmdel, New Jersey 07733

Re: Amaranth at North Brunswick
Block(s) - 148.11, Lot(s) - 1.01 (DEP part of 1)
North Brunswick Township, Middlesex County

Courtney Rybak:

Thank you for your data request regarding rare species information for the above referenced project site.

Searches of the Natural Heritage Database and the Landscape Project (Version 3.4) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the map(s) submitted with the Natural Heritage Data Request Form into our GIS. We do not typically verify that your project bounds are accurate or check them against other sources.

We have checked the Landscape Project habitat mapping for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Biotics Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as 'Yes' in Table 1.

We have also checked the Landscape Project habitat mapping for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Biotics Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as 'Yes' in Table 2. These reports may include species that have also been documented on the project site.

We have also checked the Landscape Project habitat mapping for all occurrences of rare wildlife species or wildlife habitat within one mile of the referenced site. Please refer to Table 3 (attached) to determine if any rare wildlife species or wildlife habitat is documented within one mile of the project site. Detailed reports are provided for each category coded as 'Yes' in Table 3. These reports may include species that have also been documented on the project site.

For requests submitted in order to make a riparian zone width determination as part of a Flood Hazard Area Control Act (FHACA) rule application, we report records for all rare plant species and ecological communities tracked by the Natural Heritage Program that may be on, or in the immediate vicinity of, your project site. A subset of these plant species is also covered by the FHACA rules when the records are located within one mile of the project site. One-mile searches for FHACA plant species will only report precisely located occurrences for those wetland plant species identified under the FHACA regulations as being critically dependent on the watercourse. Please refer to Table 3 (attached) to determine if any

precisely located rare wetland plant species covered by the FHACA rules have been documented. Detailed reports are provided for each category coded as 'Yes' in Table 3. These reports may include species that have also been documented on, or in the immediate vicinity of, the project site.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1, 2 and 3 (attached) to determine if any priority sites are located on, in the immediate vicinity, or within one mile of the project site.

A list of rare plant species and ecological communities that have been documented from the county (or counties), referenced above, can be downloaded from https://nj.gov/dep/parksandforests/natural/heritage/database.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from https://nj.gov/dep/parksandforests/natural/docs/nhpcodes_2010.pdf.

Beginning January 6, 2025, the Natural Heritage Program reports for wildlife species will utilize data from Landscape Project Version 3.4. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive web application at the following URL, https://dep.nj.gov/njfw/landscapeapp/, or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.

Occurrences of Bald Eagle nest and roost habitat have "special concern" rank and are included in Landscape Project Version 3.4. The DEP also recognizes that the U.S. Fish & Wildlife Service maintains additional jurisdiction pursuant to the Bald and Golden Eagle Protection Act (BGEPA). They provide guidance to avoid negative impacts in the "National Bald Eagle Management Guidelines" document found at https://www.fws.gov/sites/default/files/documents/national-bald-eagle-management-guidelines_0.pdf. They also provide a screening tool to help identify activities that may require a Federal permit, at https://www.fws.gov/media/northeast-bald-eagle-project-screening-form.

For occurrences of Osprey nests and other bird nests that persist year to year, active nests continue to be protected from disturbance that can result in "take" (i.e., disturbance that can cause abandonment or loss) pursuant to the NJ Endangered and Nongame Species Conservation Act (ENSCA) and the Federal Migratory Bird Treaty Act. As a result of delisting of Osprey to "stable" conservation status, Osprey nests are not represented in Landscape Project maps, but nest locations are available online at www.Osprey-Watch.org.

For additional information regarding any Federally listed plant or animal species, please contact the U.S. Fish & Wildlife Service, New Jersey Field Office at http://www.fws.gov/northeast/njfieldoffice/endangered/consultation.html.

Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements (species and/or ecological communities) or their locations. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Robert J. Cartica
Administrator

c: NHP File No. 25-4007444-33153

Table 1: On Site Data Request Search Results (6 Possible Reports)

Report Name	Included	Number of Pages
1. Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites On Site	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.4 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.4	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.4 Stream Habitat File	No	0 pages included

Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.4 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Mammalia								
	Northern Hoary Bat	Lasiurus cinereus	Active Season Sighting	2	NA	Special Concern	G3G4	S3

Table 2: Vicinity Data Request Search Results (6 possible reports)

Report Name	Included	Number of Pages
1. Immediate Vicinity of the Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites within the Immediate Vicinity	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.4 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat In the Immediate Vicinity of Project Site Based on Search of Landscape Project 3.4	Yes	1 page(s) included
5. Rare Wildlife Species or Wildlife Habitat In the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.4 Stream Habitat File	No	0 pages included

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.4 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Great Blue Heron	Ardea herodias	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Wood Thrush	Hylocichla mustelina	Breeding Sighting	2	NA	Special Concern	G4	S3B,S4N
Mammalia								
	Northern Hoary Bat	Lasiurus cinereus	Active Season Sighting	2	NA	Special Concern	G3G4	S3

Vernal Pool Habitat
In the Immediate Vicinity of
Project Site Based on Search of
Landscape Project 3.4

Vernal Pool Habitat Type	Vernal Pool Habitat ID
Potential vernal habitat area	427

Total number of records: 1

Table 3: Within 1 Mile for Riparian Zone Width Determination
(6 possible reports)

Report Name	**Included**	**Number of Pages**
1. Rare Plant Species Occurrences for Riparian Zone Width Determination (Flood Hazard Area Control Act Rule Appplication) - Within One Mile of the Project Site Based on Search of Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites for Riparian Zone Width Determination - Within One Mile of the Project Site	Yes	See emailed attachments
3. Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.4 Species Based Patches	Yes	2 page(s) included
4. Vernal Pool Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.4	Yes	1 page(s) included
5. Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.4 Stream Habitat File	Yes	1 page(s) included

Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination
Within One Mile of the Project Site
Based on Search of Landscape Project 3.4 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Amphibia								
	New Jersey Chorus Frog	Pseudacris kalmi	Vernal Pool Breeding	2	NA	Special Concern	G4	S3
	Spotted Salamander	Ambystoma maculatum	Occupied Habitat	2	NA	Special Concern	G5	S3
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Great Blue Heron	Ardea herodias	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Great Blue Heron	Ardea herodias	Nesting Colony	2	NA	Special Concern	G5	S3B,S4N
	Wood Thrush	Hylocichla mustelina	Breeding Sighting	2	NA	Special Concern	G4	S3B,S4N
Insecta								
	Myrina Fritillary	Boloria myrina myrina	Breeding/Courtship	4	NA	State Endangered	G5?T5	S1
Mammalia								
	Northern Hoary Bat	Lasiurus cinereus	Active Season Sighting	2	NA	Special Concern	G3G4	S3
	Northern Myotis	Myotis septentrionalis	Active Season Sighting	5	Federally Listed Endangered	State Endangered	G2G3	S1

Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination
Within One Mile of the Project Site
Based on Search of Landscape Project 3.4 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Reptilia								
	Wood Turtle	Glyptemys insculpta	Occupied Habitat	3	NA	State Threatened	G2G3	S2
	Woodland Box Turtle	Terrapene carolina carolina	Occupied Habitat	2	NA	Special Concern	G5T5	S3

Vernal Pool Habitat for Riparian Zone Width Determination
Within One Mile of the Project Site
Based on Search of Landscape Project 3.4

Vernal Pool Habitat Type	Vernal Pool Habitat ID
Potential vernal habitat area	62
Potential vernal habitat area	427

Total number of records: 2

Sunday, April 6, 2025

NHP File No.: 25-4007444-33153

Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination
Within One Mile of the Project Site
Based on Search of Landscape Project 3.4 Stream Habitat File

Link ID	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank	Last Observed	Count
128124	Mud Sunfish	Acantharchus pomotis	Occupied Habitat	2	NA	Special Concern	G4G5	S3	2013	1
128224	Mud Sunfish	Acantharchus pomotis	Occupied Habitat	2	NA	Special Concern	G4G5	S3	2013	1

Total number of records: 2

Colliers
Engineering
& Design

Appendix D

Qualifications of Preparers

Resume

Courtney Rybak

Environmental Technician | Natural Resources

Colliers Engineering & Design

Experience

Ms. Rybak is an Environmental Technician with 4 years of experience in ecological and regulatory consulting. She specializes in wetland assessment and delineation, environmental impact analyses, and environmental permitting and compliance at the local, state, and federal levels.

As an Environmental Technician, Ms. Rybak has prepared applications to secure permit authorizations for public and private residential, commercial, and industrial projects. This includes U.S. Army Corps of Engineers Permits, and New Jersey Department of Environmental Protection Freshwater Wetland Permits, Freshwater Wetland Transition Area Waivers, Individual Permits, Waterfront Development Permits and CAFRA Permits. She has hands-on ecological field experience surveying suitable bog turtle habitat and previously working as a student research assistant at Rowan University studying the effects of urbanization on aquatic turtle populations.

With the aforementioned experience and technical skills acquired, Ms. Rybak has successfully assisted clients with regulatory compliance.

Representative Projects

Wetland Investigations & Delineation Projects

Wetland Delineations, Various Clients
Locations visited in NJ include Spotswood, West Caldwell, Monroe, Vernon, Hazlet, Hamilton, Sewaren, Howell, Mansfield
Assisted in the identification and delineation of freshwater wetlands and waters throughout New Jersey to obtain general permitting compliance. The assessment of wetland value (resource classification) was involved for many of these wetlands.

Permitting & Compliance Projects

Wildwood Boardwalk Rehabilitation
City of Wildwood, Cape May County, NJ
Prepared NJDEP CAFRA Individual Permit application for the proposed boardwalk rehabilitation from East Oak Avenue to East 26th Avenue.

Point Pleasant Wildlife Management Area Boat Ramp & Fishing Access
Borough of Point Pleasant, Ocean County, NJ
Prepared NJDEP CAFRA Individual Permit and Waterfront Development Individual Permit application along with a U.S. Army Corps of Engineers Permit application for proposed boat ramp and fishing access improvements.

Mosquito Landing - Tuckahoe Wildlife Management Area
Township of Upper, Cape May County, NJ

Education

B.S. Biological Sciences, minor in Environmental Science, Rowan University, 2019

Professional Certifications

Wetland Delineation Certification, Rutgers University, The New Jersey Agricultural Experiment Station Office of Continuing Professional Education, 2021

Internship & Volunteer Experience

Aquatic Turtle Population Structure Research, Rowan University, (2018-2019)

Manalapan Township Environmental Commission Projects (2018-2019)

Affiliations & Memberships

Member of Association of State Wetland Managers

Speaking Engagements

Rowan University's Student Scholars Symposium (RUSSS). Rowan University, Glassboro, New Jersey. *Effects of Urbanization on Aquatic Turtle Population Structure in Southern New Jersey*; 2019.

Resume

Prepared NJDEP CAFRA Individual Permit and Waterfront Development Individual Permit application and U.S. Army Corps of Engineers Permit application for the replacement of the existing boat ramp and bulkhead and construction of a new barrier free dock and fishing access improvements.

Residences at Bancroft
Borough of Haddonfield, Camden County, NJ
Prepared NJDEP Freshwater Wetlands General Permits and Transition Area Waivers application for residential redevelopment consisting of 90 townhomes including 10 affordable housing units.

White Street Bridge D4.108
Township of Mount Holly, Burlington County, NJ
Prepared NJDEP Waterfront Development Individual Permit, Freshwater Wetland General Permit and Flood Hazard Area Individual Permit application and U.S. Army Corps of Engineers Permit application for the rehabilitation of the historic bridge that has been classified as in poor condition.

Threatened & Endangered Species

Bog Turtle Surveying
2602 NY-17M - Town of Goshen, Orange County, NY
2300 NY-300 - Town of Wallkill, Ulster County, NY
Provided pre-construction surveying services for proposed commercial/industrial development within freshwater wetlands that were determined to be suitable habitat for bog turtle in accordance with freshwater wetland permit conditions.

Environmental Impact Statements and Assessments

Commercial Development
Township of Hamilton, Mercer County, NJ
Prepared Environmental Impact Assessment (EIA) and site location maps for the development of a 245,670 SF single-loaded warehouse building located on property containing approximately 35.7 acres of land.

Residential Development
Township of Jackson, Ocean County, NJ
Prepared Environmental Impact Statement (EIS) along with site location maps for the development of 465 residential townhome units located on property containing approximately 117.8 acres of land.

Commercial Development
Borough of Tinton Falls, Monmouth County, NJ
Prepared Environmental Impact Report (EIS) along with site location maps for the development of 29 buildings, consisting of 6-18 units, along with a 4,500 SF clubhouse located on approximately 47.3 acres of land.

Training/Continuing Education

Vegetation Identification for Wetland Delineation – North, Rutgers University.
Methodology for Delineating Wetlands, Rutgers University.

Resume

Joseph P. Layton

Principal Associate | Discipline Leader | Natural Resources

Colliers Engineering & Design

Education

B.S. Environmental Planning and Natural Resource Management, Rutgers University, Cook College, 1992

Professional Certifications

NJDEP Certified Subsurface Evaluator, License #229606

NJDEP Certified Underground Storage Tank Closure

Environmental Assessment Association - Certified Environmental Specialist

Certified Remediation Specialist

Radon Measurement Specialist #MES11066

40 Hr NJ/EPA Model Lead Inspector/Risk Assessor

OSHA 40 Hr HAZWOPER Training

8-Hour OSHA HAZWOPER Refresher Training

Affiliations & Memberships

Ecological Society of America

Society of Wetland Scientists

Experience

Mr. Layton is an Environmental Scientist with over 24 years of experience including an extensive background and expertise in environmental sciences. His expertise includes an emphasis on wetland delineation, regulatory permitting and compliance, environmental assessment, environmental impact analysis, and soil evaluation. His diversified experience also includes natural resource evaluations, ecological research, watershed management, subsurface explorations, underground storage tank exploration and removal, soil classification systems, and environmental sampling design and protocol in accordance with State and Federal regulations. He utilizes Geographic Information Systems (GIS) and Global Positioning Systems (GPS) in environmental sampling and studies, including site remediation design and sampling, groundwater and surface water quality monitoring and management, and lake rehabilitation and restoration.

As Assistant Department Manager, Mr. Layton has utilized the aforementioned experience and technical skills to successfully assist clients with litigation support and regulatory compliance and has been deemed an expert in the field by various Planning and Zoning Boards while providing testimony regarding the same. His proven dedication to client satisfaction has resulted in long standing professional relationships. His client base includes private development and redevelopment companies, municipalities, county governments, infrastructure authorities, daycare facilities, higher education institutions, financial institutions, utility companies, and law firms.

Representative Projects

Groundwater Quality Monitoring/ Management
Responsible for designing, implementing, and preparing groundwater monitoring and management plans. A sampling of representative projects includes the following:

- **New Jersey National Golf Club Groundwater Quality Monitoring Plan**
  Township of Bernards, Somerset County, NJ
  Responsible for determining location and depth of monitoring wells; coordinating and supervising well installation; sampling and analyzing results; and determining groundwater flow and fate of contaminants.
- **Leisure Glen Retirement Community**
  Township of Manchester, Ocean County, NJ
  Responsible for determining the location, depth and sampling parameters of groundwater monitoring wells in a 2,500-unit retirement and 18-hole golf course community widening, complete

resurfacing of all 13 miles of existing roadway, safety improvements and implementation, as well as construction of IVHS systems in this corridor.

- **Trump National Hudson Valley Golf Club Groundwater Quality Monitoring Plan**
  Township of Bernards, Somerset County, NJ
  Responsible for determining location and depth of monitoring wells; coordinating and supervising well installation; sampling and analyzing results; and determining groundwater flow and fate of contaminants.

Watershed Management /Lake Restoration
Responsible for determining sources of non-point pollution using available mapping and field reconnaissance, determining watershed boundaries, and preparing best management practices manuals.

- **The Great Swamp National Wildlife Refuge Watershed Management Study, Morris & Somerset Counties, NJ**
- **Wemaconk Lake Restoration, Borough of Englishtown, Monmouth County, NJ**

Wetland Delineation
Involved in the identification and delineation of numerous freshwater and tidal wetlands (over 10,500 acres) in New Jersey and New York. The assessment of wetland value (resource classification) was involved for many of these wetlands.

- **Runyon Interceptor Trunk Sanitary Sewer Line Alignment**
  Township of Old Bridge, Middlesex County, NJ
  Determined alignment of two miles of sanitary sewer on a 400-acre+ site using aerial photography and site inspections minimizing impacts to numerous wetland communities.
- **Oakwood at Old Bridge**
  Township of Old Bridge, Middlesex County, NJ
  Delineated freshwater wetlands on a 235-acre site, half of which was wetlands.
- **Ashland/Former Hercules Plant**
  Parlin, Middlesex County, NJ
  Delineated freshwater wetlands on a 300-acre site formerly utilized as a munitions plant in 1930s-1960s.
- **MEC Power Generating Facility**
  Sayreville Borough, Middlesex County, NJ
  Delineated freshwater and tidal wetlands on a 40-acre site formerly utilized as a landfill. Site recently delisted as a Superfund site and will be developed as an electric power generating facility.
- **Gates Landfill**
  Jersey City, Hudson County, NJ
  Delineated freshwater and tidal wetlands on a 60-acre site formerly utilized as a fly-ash landfill of a PSEG power generating facility. Site recently delisted as a Superfund site and will be developed as an electric power generating facility.

Permit Applications
Prepared environmental permits for private residential, commercial and industrial projects. This has included U.S. Army Corps of Engineers Permits and New Jersey Department of Environmental Protection

Freshwater Wetland Permits, Freshwater Wetland Transition Area Waivers, Individual Permits, Waterfront Development Permits, and CAFRA Permits.

- **National Lead Redevelopment**
  Borough of Sayreville, Middlesex County, NJ
  Determined alignment of two miles of sanitary sewer on a 400-acre+ site using aerial photography and site reconnaissance minimizing impacts to numerous wetland communities.
- **Transcontinental Gas Pipeline Armoring**
  Township of Hopewell, Mercer County, NJ
  Prepared and obtained an Individual Permit from the NJDEP-LURP to permanently disturb a stream and its associated wetland to construct armoring to protect a Transcontinental Gas Pipeline.
- **The Hills Development**
  Township of Bernards, Somerset County, NJ
  Prepared and obtained majority of wetland permitting for a 5,300 residential unit, 400,000 SF of commercial and professional office space and an 18-hole golf course planned development in an environmentally sensitive ecosystem.
- **Apple Cove Development Township of Middletown,**
  Monmouth County, NJ
  Prepared and obtained freshwater wetland and CAFRA permits for single-family, residential subdivision located along a tidally influenced watercourse.
- **Trump National Pine Hill Golf Club**
  Pine Hill, Camden County, NJ
  Prepared and obtained freshwater wetland Individual permits for redeveloping a former amusement park into a premier golf course. Rehabilitating/reconstructing the only remaining native Brook trout stream in southern New Jersey was required as part of permit approval.
- **Frenchtown Nishisakawick Creek Stream Bank Restoration**
  Borough of Frenchtown, Hunterdon County, NJ
  Through funding by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), the Borough of Frenchtown sought to restore and stabilize eroded streambanks along Nishisakawick Creek, a highly protected water in the state of New Jersey. Mr. Layton provided oversight and management of the ecological team. The scope included delineation of wetlands and open waters, restoration design oversight, and prepared applications to the NJDEP for a Freshwater Wetlands Individual Permit and Flood Hazard Area Individual Permit.

Environmental Assessments/Regulatory Compliance

Prepared and conducted Environmental Phase I Assessments for residential, commercial, and industrial property transfers in accordance with ASTM and Fannie Mae guidelines. Also prepared and conducted Preliminary Assessments, Site Investigations, Remedial Investigations, and Remedial Action Work Plans in accordance with N.J.A.C. 7:26E.

- **Heavenly Farms**
  Township of East Brunswick, Middlesex County, NJ
  Prepared and performed Preliminary Remedial Investigation/Action to obtain a “Letter of No Further Action” for a 230-acre farm with contaminated soils for development of recreational fields.

- **Marlboro Psychiatric State Hospital**
  Marlboro Township, Monmouth County, NJ
  Consultant to the Township of Marlboro regarding the municipality purchasing a 411-acre State-owned psychiatric hospital. Responsible for identifying areas of environmental concern, review of environmental investigation and remediation reporting generated by State contractors and making recommendations to the municipality regarding environmental concerns and purchase of the property.
- **Columbian Chemicals Mapico Iron Oxide Plant**
  South Brunswick Township, Middlesex County, NJ
  Prepared and performed preliminary assessment/site investigation, remedial Investigation/Action and Baseline Ecological Evaluation to obtain a "Letter of No Further Action" from the NJDEP to develop an 86-acre former chemical plant in a residential land use. Extensive soil and groundwater contamination was remediated.
- **The Villas at Shoregate**
  City of South Amboy, Middlesex County, NJ
  Prepared and performed Preliminary Assessment/Site investigation to obtain a "Letter of No Further Action" for a 16-acre, former dredge disposal area adjacent to the Raritan Bay.
- **Rolling Acres Subdivision**
  Monroe Township, Middlesex County, NJ
  Prepared and performed Preliminary Assessment, Site Investigation, and Remedial Investigation/Action to obtain a "Letter of No Further Action" for a 168-acre farm with contaminated soils.
- **Stewart International Airport**
  Town of New Windsor, Orange County, NY
  Consultant to potential leaseholders to the Port Authority New York and New Jersey to determine potential environmental areas of concern to development. This included Phase I and Phase II investigations in accordance with ASTM standards.

Subsurface Exploration/Evaluation
Capable of evaluating soils in accordance with NJDEP's Chapter 199 for subsurface sewage disposal systems. Able to establish depth of water tables, evaluate suitability of sites for subsurface disposal systems, perform percolation tests, basin flood tests, pit bail tests and tube permeameter tests. Capable of evaluating subsurface conditions utilizing the Burmister classification system, USDA Soil Taxonomy terminology and the Unified classification system.

Environmental Impact Assessment
Prepared numerous environmental impact statements and assessments for a wide variety of projects, including residential and commercial developments for both the public and private sector.

- **Taconic Homes Site Bog Turtle Survey and Wildlife Inventory**
  Village of Pleasant Valley, Dutchess County, NY
  Performed survey for bog turtle on a 76± acre tract using Phase II survey methods. Also performed a limited wildlife inventory during the spring season. This work was performed to satisfy lead agency requirements under the NY SEQRA.

- **Middlesex County Educational Services Commission Special Education Facility**
  Borough of Sayreville, Middlesex County, NJ
  Provided environmental services to conduct a Phase I environmental assessment associated with professional engineering services for a 65,000 SF special education facility with a pool, a future building, associated parking lot, and a playground. Tasks included a historical review of project site, industrial / commercial historical review, site visit to identify obvious visual signs of contamination and use of hazardous materials, project approval status review, review of existing, local, state and federal records, review of adjacent lands, preparation of site location map, and report preparation.
- **Capodagli Property Company Phase I Assessment**
  North Arlington Borough, Bergen County, NJ
  Provided environmental services to delineate wetlands, prepare an application for a Letter of Interpretation to the New Jersey Department of Environmental Protection, and prepare a Phase I Environmental Assessment for the property that is between .5 to 1.0 acres and adjacent to the Passaic River, and regulatory permitting (NJDEP upland waterfront development and waterfront development, NJDEP tidelands conveyance, and US Army Corps of Engineers Section 10 – installation of outfall structure).
- **New Gregory Elementary School (NJSCC Funded)**
  City of Long Branch, Monmouth County, NJ
  Provided site design, civil, and environmental engineering services for a proposed three-story, 45,000 SF elementary school to accommodate children from pre-kindergarten through 5th grade located on a six-acre tract of land. Environmental services included wetlands evaluation, preliminary assessment (PA), site investigation (SI), and environmental impact statement (EIS)/ EO 215), and environmental regulatory permitting (NJDEP statewide general, and NJDEP treatment and water works). The preliminary assessment (PA) report indicated four areas of Concern (AOC). Three UST's, waste piles (plastic bottles, plastic bags, aluminum cans, etc.), one pole mounted electrical transformer and capacitor, and a former railroad easement adjacent to property with inactive rail lines with possible polynuclear aromatic hydrocarbons (PAHs). A site investigation (SI) will be performed to evaluate the presence or absence of soil and groundwater impact associated with UST's and the former railroad easement. A report will be prepared containing all lab results and recommendations for further investigation and/or remedial action as well as projected cost estimates for remedial investigation and cleanup.
- **Diversified Developers, LLC – Retail Store and Day Care Facility**
  Jackson Township, Ocean County, NJ
  Provided environmental services to conduct a Phase I environmental assessment associated with the site design and civil engineering services associated with the development of a 35,000 SF retail facility including a day care facility along with typical appurtenant site improvements on approximately 3.8-acres of land. Services included historical review to evaluate past conditions of sites as they relate to existing and proposed uses, industrial/commercial historical review, site visit to identify all obvious visual signs of contamination and the use of hazardous materials, review existing local, State, and federal records, review of adjacent lands, prepared site location map depicting the approximate parcel boundaries, and an area of at least one-mile radius around the site.

- **Thomas Associates – Site Assessment Proposed School Site**
  City of Bordentown, Burlington County, NJ
  Provided environmental services for a Phase I Environmental Assessment for a 75-acre parcel of land previously historically farmed for a proposed new school facility. Services included preliminary assessment, SI & RI historical review, industrial and commercial historical review, review of existing local, state and federal records, review of adjacent lands, preparation site location map, preliminary soil screening, delineation of wetlands and LOI and regulatory permitting (stream encroachment, land use regulations freshwater wetlands and soil erosion and sediment control), Colonial Pipeline Crossing/Encroachment and Environmental Impact Statement (EIS).

Continuing Education

Methodology for Delineating Wetlands, Cook College

Vegetation Identification for Wetland Delineation, Cook College

Hydrology of Wetlands, Cook College

Endangered & Threatened Species of New Jersey, Cook College

Lake Management, Cook College

Soils and Site Evaluation for Septic Disposal Systems & Stormwater BMP's , Cook College

Site Remediation Basics, Cook College

Remedial Decision Making, Cook College

Ecological Risk Management, Cook College

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