

# ENVIRONMENTAL IMPACT ASSESSMENT REPORT

*For*

***Renard Management, Inc.***

***Proposed Self-Storage Facility***

***Block 29002, Lots 49 & 50  
1026 Georgetown Franklin Turnpike (C.R. 518)  
Township of Montgomery  
Somerset County, NJ***

Prepared by:



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A handwritten signature in black ink, appearing to read 'J. Sewald', is positioned above a horizontal line.

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June 2023  
DEC # 2334-22-00894

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## ***A. ENVIRONMENTAL ASSESSMENT REPORT***

This Environmental Assessment Report was prepared in accordance with requirements of the Township of Montgomery Land Development Ordinance Section §16-8.4.c, in support of the Use Variance and Preliminary and Final Major Site Plan application for the proposed self-storage facility on Lots 49 and 50, Block 29002 in the Township of Montgomery, Somerset County, New Jersey. The scope of the project includes the demolition of the existing structure, and the development of one (1) one-story drive-up self-storage building (9,907 SF) and one (1) three-story self-storage building (123,259 SF) with associated driveways, parking areas, landscaping, stormwater management systems, and other associated site improvements.

The purpose of this statement is to summarize, highlight, or otherwise qualify, the extent of the effects the proposed development will have on the ecological systems and the environment of the subject property and the lands of the Township of Montgomery.

The “Use Variance and Preliminary and Final Major Site Plans”, associated Traffic Impact Study and Stormwater Management Report have been submitted as part of the Use Variance and Preliminary and Final Major Site Plan Application to the Township.

### ***1) Project Description:***

The subject parcel encompasses approximately 2.99 acres and is located at 1026 Georgetown Franklin Turnpike (C.R. 518). The subject site is specifically identified as Block 29002, Lots 49 and 50, in the Township of Montgomery, Somerset County, New Jersey.

The overall tract is located within the HC (Highway Commercial) Zone. The scope of the project includes the demolition of the existing structure and associated parking area and other on-site improvements, and the development includes the construction of one (1) one-story drive-up self-storage building (9,907 SF) and one (1) three-story self-storage building (123,259 SF). Additional site improvements include constructing driveways, parking areas, landscaping, lighting and other associated site improvements.

The existing conditions of the tract have been verified by the ALTA/NSPS Land Title Survey, as prepared by Dynamic Survey, LLC, dated August 11, 2022.

The tract is bound to the north by a shopping center development; to the west by Wawa with Route 206 beyond; to the south by Georgetown Franklin Turnpike (C.R. 518); and to the east by residential uses. The eastern property line is the municipal boundary between the Township of Montgomery and the Borough of Rocky Hill. Enclosed within the Appendix of this report, the following regional maps have been provided to assist in project familiarity and locational reference: Township Tax Map,

USGS Map, Aerial Photo Map, NRCS Soils map and FIRM map. The “Preliminary and Final Major Site Plans” have also been submitted as part of the project application.

## 2) Site Description and Inventory

### [a]. Types of Soils

Based on the Somerset County Soil Survey, the soil types native to the site include:

| SOIL TYPE | SOIL TYPE NAME                             | HYDROLOGIC SOIL GROUP |
|-----------|--------------------------------------------|-----------------------|
| BhnB      | Birdsboro silt loam, 2 to 6 percent slopes | B                     |

### [b]. Topography

The site topography is generally defined by the prior grading improvements for the existing development as a majority of the property is covered by impervious surfaces.

### [c]. Geology

The existing tract previously consisted of a dilapidated two-story building with associated improvements, with a majority of the property being covered by impervious surfaces. The remainder of the property consisted of wooded areas and overgrown open space areas. There are no significant geological features associated with the subject tract.

### [d]. Vegetation

The existing tract consists of a dilapidated two-story building with associated improvements, with a majority of the property being covered by impervious surfaces. There are wooded areas along the western property boundary and northwestern property corner. The subject parcel does not contain any wetland areas. Existing vegetation on site has been identified as shown on the ALTA/NSPS Land Title Survey, prepared by Dynamic Survey, LLC.

### [e]. Wildlife

According to NJDEP GeoWeb there are no documented species habitats located on the project site. The wildlife found on-site would be typical of central New Jersey areas and could include species such as squirrels, opossums, skunks, rabbits, as well as numerous bird species.

### [f]. Subsurface Water

According to the NJDEP GeoWeb Mapping System and our initial site investigation, the nearest stream to the subject parcel is an unnamed tributary of Beden Brook and is approximately 750 feet to the north of the property. According to available FEMA Flood

Mapping, the subject parcel is not located within a flood hazard area. Additionally, the subject parcel does not contain any wetland areas.

**[g]. Distinctive Scenic and/or Historic Features**

There are no significant existing cultural or social factors that contribute to unique aesthetic features or historical character of the site. The subject property is not identified as a historical site and is not located within any historical districts.

Furthermore, the proposed project is located within the Delaware and Raritan Canal Commission Zone B. The project will require approval from the Delaware and Raritan Canal Commission and will comply with their visual, historic, and natural quality impact standards.

**[h]. Existing Development Features**

The existing tract previously consisted of a dilapidated two-story building with associated improvements which have since been demolished. A majority of the property is comprised of the impervious surfaces associated with the previously existing building and parking area. The building on-site has since been demolished.

In accordance with the Phase 1 Gateway Redevelopment: Princeton Gamma-Tech Instruments, Inc. Tract: Preliminary Investigation of an Area in Need of Redevelopment, the subject tract has been called out as in need of redevelopment.

**3) Adverse Impacts**

**[a]. Soil Erosion**

The planned development will require approval of the Somerset-Union Soil Conservation District and as such will be subject to the provisions of the Authority. Tree protection fencing, anti-tracking pads, silt fencing, inlet protection and seeding measures will be adhered to throughout construction. Dust will be controlled through daily watering of the construction entrances/exits and circulation aisles and cleaning of the streets in close proximity to same, as necessary. Top soil stockpiling will ensure appropriate seed bedding for final grading and landscape procedures. Inlet protection and conduit outlet protection such as rip-rap aprons will alleviate soil loss from the site.

**[b]. Flooding and Flood Plain Disruption**

The project site is not located within a flood hazard area based on available FEMA Flood Mapping. The proposed project will not increase flood risk as on-site stormwater management has been designed in accordance to N.J.A.C 7:8.

**[c]. Water Quality**

The project will be connected and serviced through the appropriate local water company, therefore, providing clean, safe drinking water within the facility.

The proposed development will result in a reduction of motor vehicle impervious surfaces of 0.82 acres and has been designed in accordance with N.J.A.C. 7:8, therefore, satisfying the water quality aspect of the Township of Montgomery Land Development Ordinance and NJAC 7:8.

**[d]. Ground Water Pollution**

The operations of the facility will not introduce any pollutants which may have an adverse effect on the quality of the ground water. Further the proposed development will reduce overall impervious coverage and motor vehicle impervious coverage when compared to existing conditions. It is therefore concluded that the proposed project will not increase the risk of groundwater pollution on-site.

**[e]. Reduction of Groundwater Capabilities**

Under proposed conditions, overall impervious coverage will be reduced; therefore, the proposed project meets groundwater recharge requirements.

**[f]. Sewage Disposal**

The existing building on-site has an existing connection for sewage disposal, serviced by the Township of Montgomery. The proposed development also will propose a connection utilizing infrastructure from the previous connection on-site. An application for sewer service from the Township of Montgomery Sewer Department has been submitted as a part of the Use Variance and Preliminary and Final Site Plan Application.

**[g]. Solid Waste Disposal**

Solid waste will be stored and disposed of in accordance with all local and state regulations.

**[h]. Vegetation Destruction**

Every reasonable effort will be made to protect the existing natural environment with an ultimate goal of incorporating the proposed development with minimal disruption of the existing environment as possible. The proposed development includes the planting of new trees and shrubs around the proposed parking areas and property borders to help minimize the impact on impervious coverage of the proposed redevelopment. The landscaping design

has been prepared to provide an aesthetic improvement to the interior and perimeter of the site through use of approved native species and other low maintenance vegetation.

**[i]. Disruption of Wildlife Habitats**

According to NJDEP GeoWeb there are no documented species habitats located on the project site. With that being said, any proposed development of the property will not result in the destruction of the habitat of and threatened or endangered species.

**[j]. Destruction or Degradation of Scenic and Historic Features**

There are no significant existing cultural or social factors that contribute to unique aesthetic features or historical character of the site. The subject property is not identified as a historical site and is not located within any historical districts.

As previously mentioned, in accordance with the Phase 1 Gateway Redevelopment: Princeton Gamma-Tech Instruments, Inc. Tract: Preliminary Investigation of an Area in Need of Redevelopment, the subject tract has been called out as in need of redevelopment consisting of a dilapidated building with its associated site features in disrepair. With that being said, any redevelopment of the property will seek to enhance visual aspects of the property.

**[k]. Air Quality Degradation**

As previously mentioned in this Assessment, existing air quality surrounding the site is typical of a property located in a suburban area. There are existing hazardous air pollutants (HAP's) which result from cars, heavy duty trucks, buses and other vehicles. These vehicles produce diesel particulate matter, diesel exhaust and/or carbon monoxide. The proposed development does not anticipate negatively affecting the existing air quality.

There may be some temporary airborne dust particulates associated with the construction process but these conditions will be localized and will dissipate with the stoppage of each workday. Dust will be controlled through daily watering of the construction entrances/exits and circulation aisles and cleaning of the streets in close proximity to same, as necessary.

**[l]. Noise Levels**

Existing noise levels on-site can be characterized as typical of a site located within a suburban setting. Most noise emanates from passenger vehicles and delivery traffic along adjacent roadways at peak times. This should be considered normal for the proposed and existing uses in the area. Sound levels are subject to daytime and nighttime limits.

Governmental regulations limit the A-weighted sound levels produced when measured at a residential property line to the following levels.

Daytime (7:00 AM – 10:00 PM) – 65DB (A)

Nighttime (10:00 PM – 7:00 AM) – 50DB (A)

The term A-weighted is a standardized frequency weighting which attempts to duplicate the human ear frequency and sensitivity; and, therefore, provides an overall sound level measurement with how people actually perceive noise.

The regulations also provide limits for sound pressures in the preferred octave bands with center frequencies between 31.5 and 8.0 Hz.

In comparison to the surrounding roadway network, any impacts on ambient noise levels due to the proposed improvements would be negligible. Furthermore, due to the proposed changes, it is not anticipated that this facility will exceed the daytime or nighttime usage allowances. Therefore, in our estimation, ambient noise will not adversely impact the quality of life on the site or in close proximity thereof.

#### **[m]. Energy Utilization**

The proposed development will provide energy efficient LED lighting throughout various locations on the subject site. The tenant will take part in recycling all materials accepted in Montgomery Township. Further, the proposed development will feature one EV charging stall with the associated EV charging tower.

#### **4) Required Approvals**

The following represents a listing of anticipated approvals:

|                                             |                                                                                       |
|---------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Montgomery Township</b>                  | Use Variance (Zoning Board of Adjustment)<br>Preliminary and Final Site Plan Approval |
| <b>Somerset County</b>                      | Site Plan Approval                                                                    |
| <b>Montgomery Township Sewer Department</b> | Sewer Connection Approval                                                             |
| <b>New Jersey American Water</b>            | Water Connection Approval                                                             |
| <b>Somerset/Union SCD</b>                   | Soil Erosion & Sediment Control Certification                                         |
| <b>Delaware Raritan Canal Commission</b>    | Site Plan Approval                                                                    |

Miscellaneous utility companies, Montgomery Township Police and Fire Commission concerns will be addressed as required.

**5) Impact of the Proposed Project**

As a result of the site design techniques, stormwater management design and good construction practices employed as part of this project, it is anticipated that the proposed project will have no significant effects on the surrounding area. The proposed development will provide the local area with increased economic growth and does not have an effect on the projected costs associated with the provision of municipal and education services.

The adjacent roadways are expected to accommodate the anticipated minimal traffic volumes due to the proposed development. For specific traffic related items, please refer to the “Traffic Impact Study” prepared by Dynamic Traffic, LLC, dated 12/06/2022.

Under proposed conditions, there will be a minimal increase in the police and fire department demands to incorporate the construction of the facility into the community. This impact will be offset by the additional tax revenue generated by the project.

**6) Project Alternatives**

**[a].** The “No Project” or no-action alternative - In accordance with the Phase 1 Gateway Redevelopment: Princeton Gamma-Tech Instruments, Inc. Tract: Preliminary Investigation of an Area in Need of Redevelopment, the subject tract has been called out as in need of redevelopment. The “no project” option would result in the existing dilapidated site in disrepair and keep it under utilized.

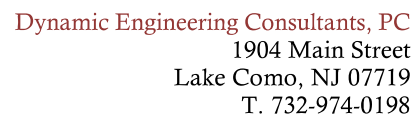
**[b].** Alternative uses permitted in the HC District – The proposed self-storage use is a generally less intensive use than the permitted uses for the HC (Highway Commercial) Zone. Permitted uses in the zone include retail, banks, offices, restaurants, automobile sales, etc. One of the permitted HC uses would likely have a greater impact to the surrounding relations with regards to noise, light, and traffic impacts.

**B. Conclusion**

In light of the geographic location and the zoning designation of the site, it is the opinion of this firm that the proposed development is consistent with the expected impacts to the existing natural resources of the subject properties within the Township of Montgomery. The proposed development will serve as a suitable addition to

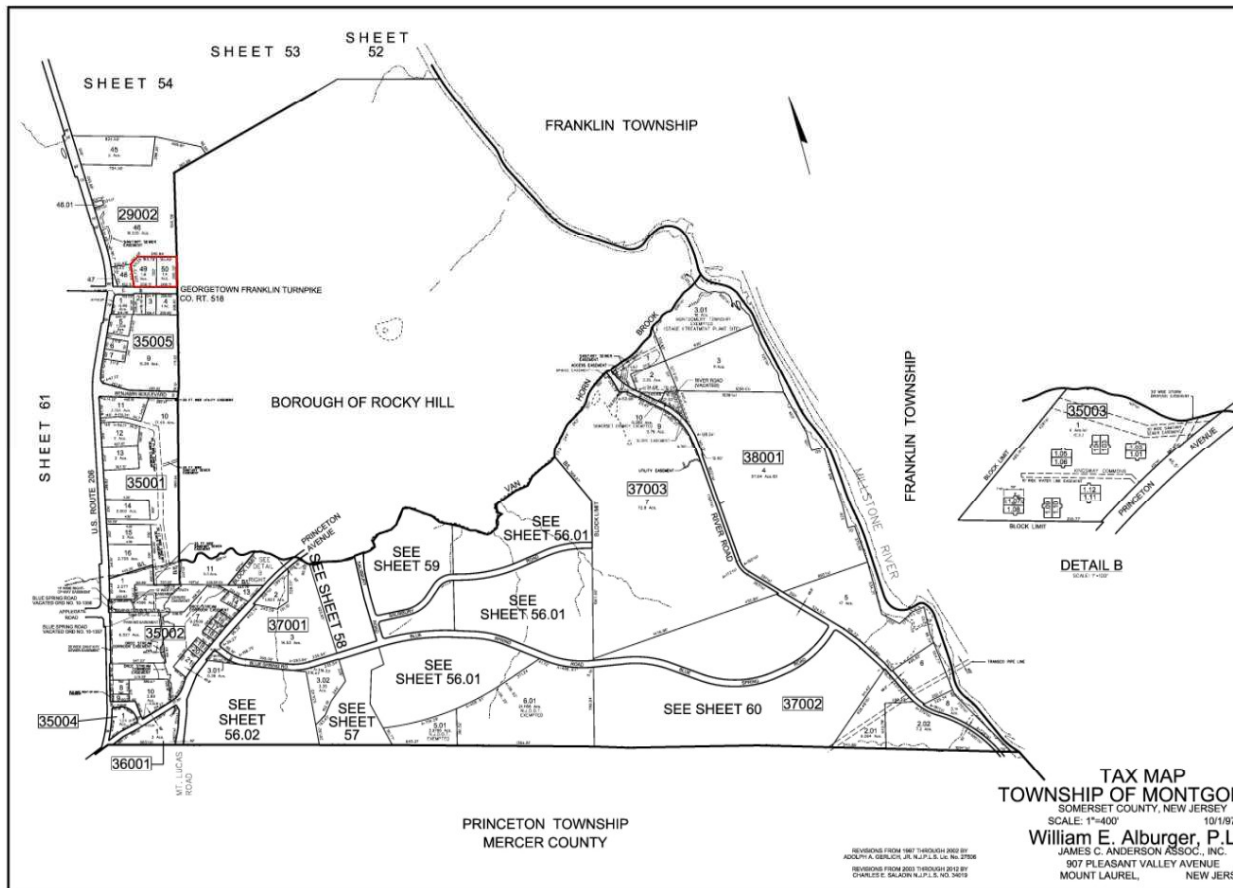
the surrounding developments as well as the local community. The entire subject parcel shall be successfully incorporated into the indigenous environment without detriment to public or private natural resources.

## **APPENDIX**

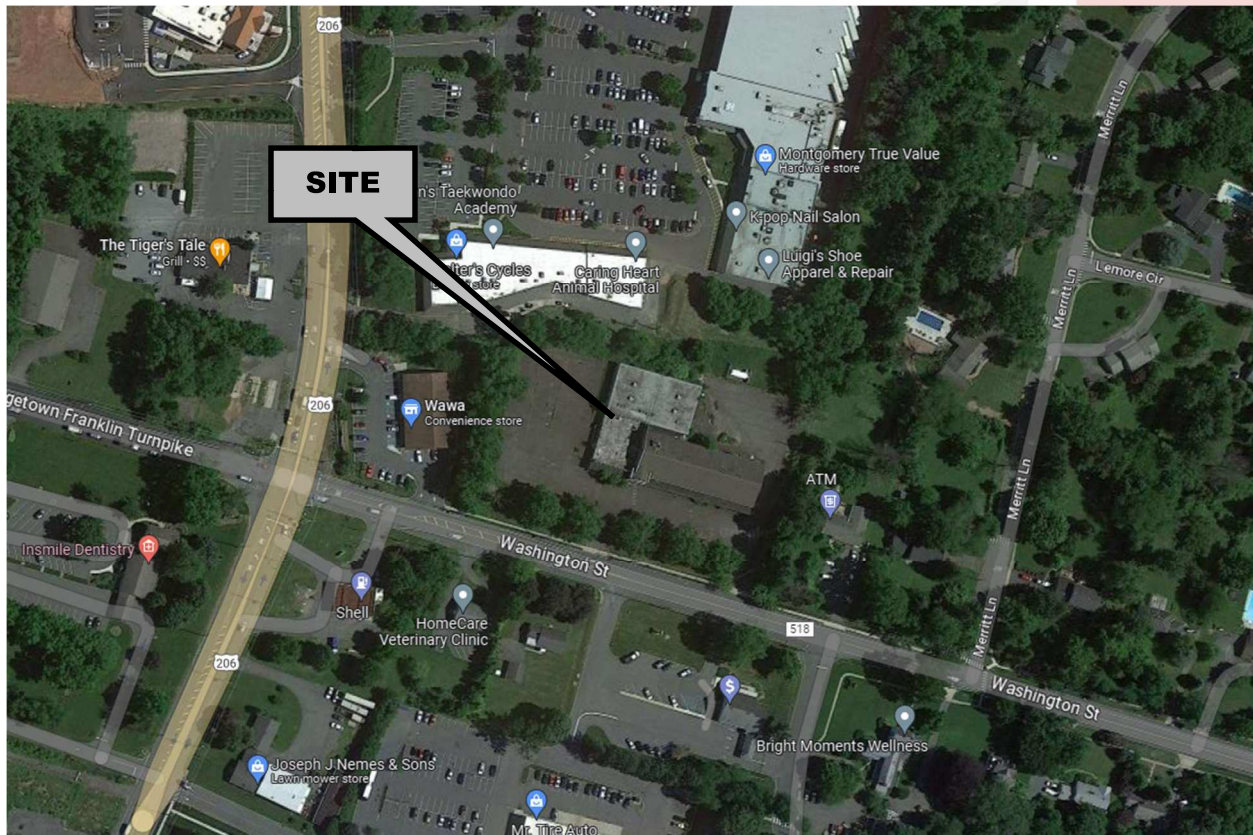


Lake Como, NJ • Chester, NJ • Toms River, NJ • Newark, NJ • Newtown, PA • Philadelphia, PA  
Bethlehem, PA • Allen, TX • Houston, TX • Austin, TX • Delray Beach, FL

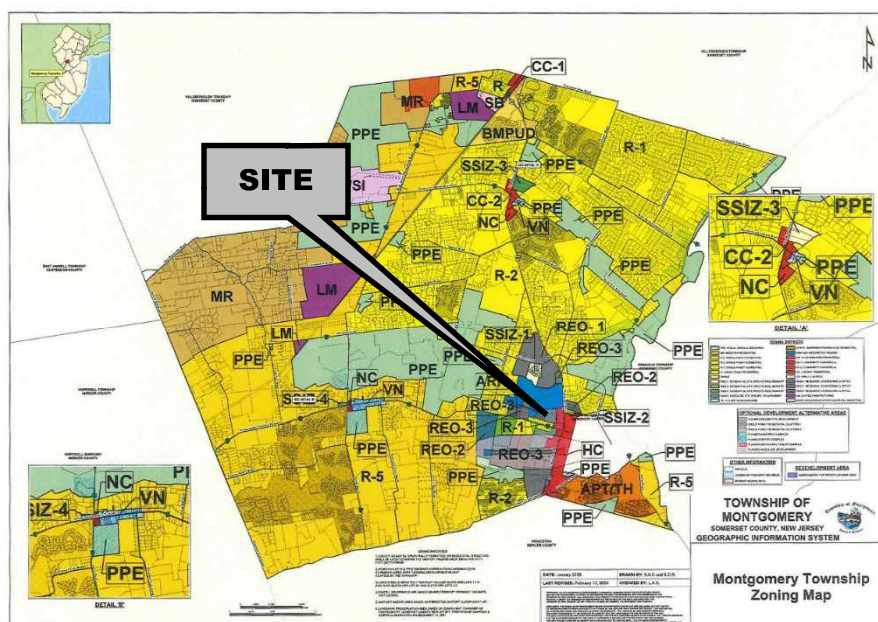
## Tax Map



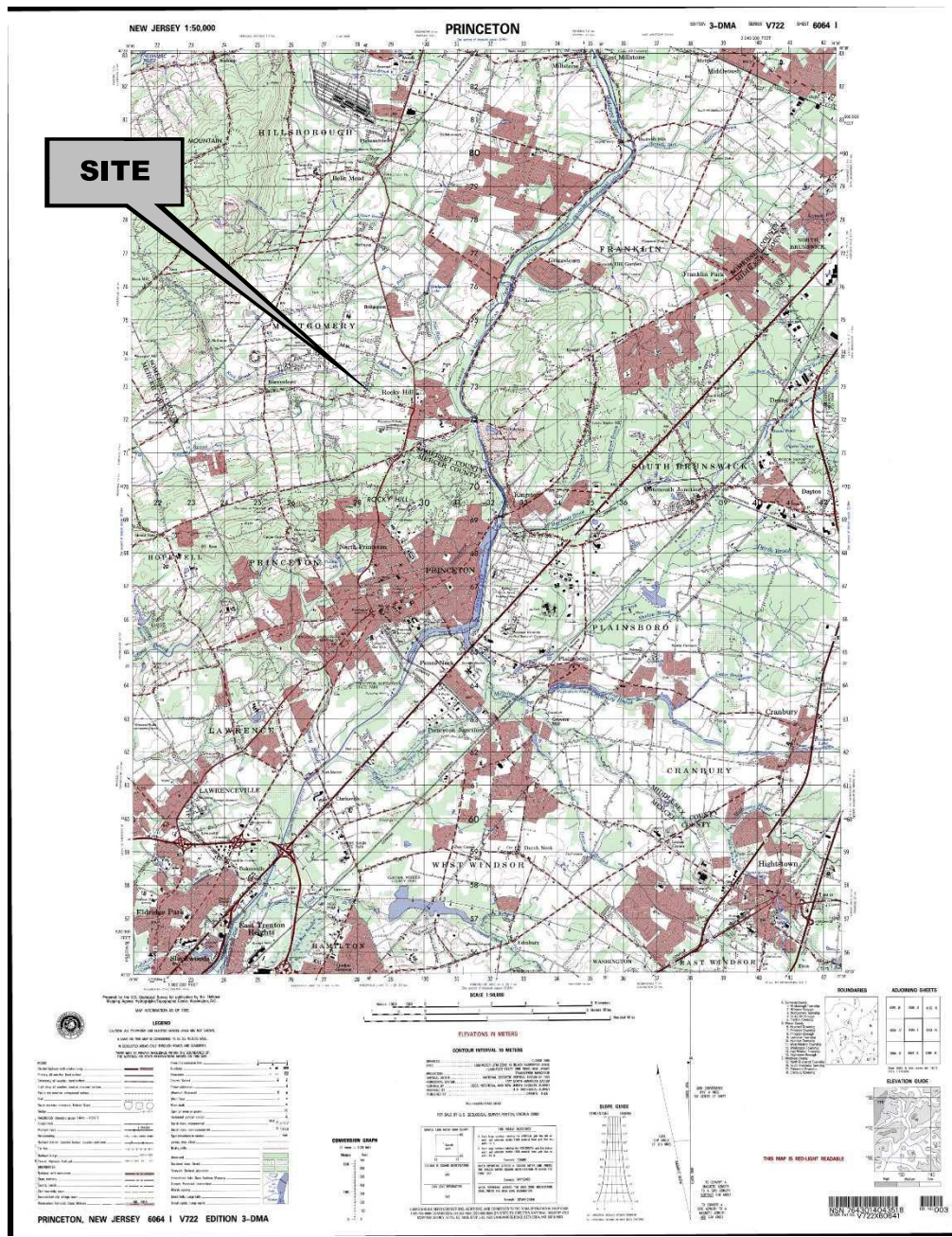
## Aerial Map



LAND DEVELOPMENT  
16 Attachment 2  
[Amended 2-6-2020 by Ord. No. 20-1625]



## USGS Map



## NRCS Web Soil Survey

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[www.dynamicec.com](http://www.dynamicec.com)

Lake Como, NJ • Chester, NJ • Toms River, NJ • Newark, NJ • Newtown, PA • Philadelphia, PA  
Bethlehem, PA • Allen, TX • Houston, TX • Austin, TX • Delray Beach, FL



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 **Somerset County, New Jersey**



May 24, 2023

# Preface

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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](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.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

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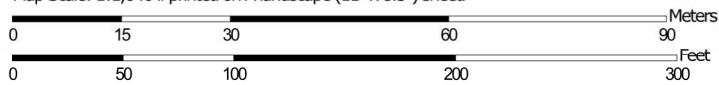
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:1,040 if printed on A landscape (11" x 8.5") sheet.



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 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Somerset County, New Jersey  
Survey Area Data: Version 20, Aug 30, 2022

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

Date(s) aerial images were photographed: Mar 13, 2021—Sep 14, 2021

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 |
|------------------------------------|--------------------------------------------|--------------|----------------|
| BhnB                               | Birdsboro silt loam, 2 to 6 percent slopes | 3.3          | 100.0%         |
| <b>Totals for Area of Interest</b> |                                            | <b>3.3</b>   | <b>100.0%</b>  |

## 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.

## Custom Soil Resource Report

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.

## Somerset County, New Jersey

### BhnB—Birdsboro silt loam, 2 to 6 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1j514  
*Elevation:* 200 to 1,000 feet  
*Mean annual precipitation:* 30 to 64 inches  
*Mean annual air temperature:* 46 to 79 degrees F  
*Frost-free period:* 131 to 178 days  
*Farmland classification:* All areas are prime farmland

#### Map Unit Composition

*Birdsboro and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Birdsboro

##### Setting

*Landform:* Stream terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Old alluvium derived from sandstone and siltstone and/or shale

##### Typical profile

*Ap - 0 to 8 inches:* silt loam  
*BA - 8 to 13 inches:* silt loam  
*Bt - 13 to 29 inches:* silt loam  
*BC - 29 to 40 inches:* silt loam  
*C - 40 to 60 inches:* stratified sand to silty clay loam  
*2C - 60 to 80 inches:* stratified sand to fine sand

##### Properties and qualities

*Slope:* 2 to 6 percent  
*Depth to restrictive feature:* More than 80 inches  
*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:* High (about 10.0 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 2e  
*Hydrologic Soil Group:* B  
*Ecological site:* F148XY025PA - Moist, Triassic, Upland, Mixed Oak - Hardwood -  
Conifer Forest  
*Hydric soil rating:* No

## Minor Components

### Duffield

*Percent of map unit:* 5 percent  
*Landform:* Hills  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### Bucks

*Percent of map unit:* 5 percent  
*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

### Raritan, rarely flooded

*Percent of map unit:* 5 percent  
*Landform:* Stream terraces  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

# **Soil Information for All Uses**

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## **Soil Properties and Qualities**

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## **Soil Qualities and Features**

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## **Hydrologic Soil Group**

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

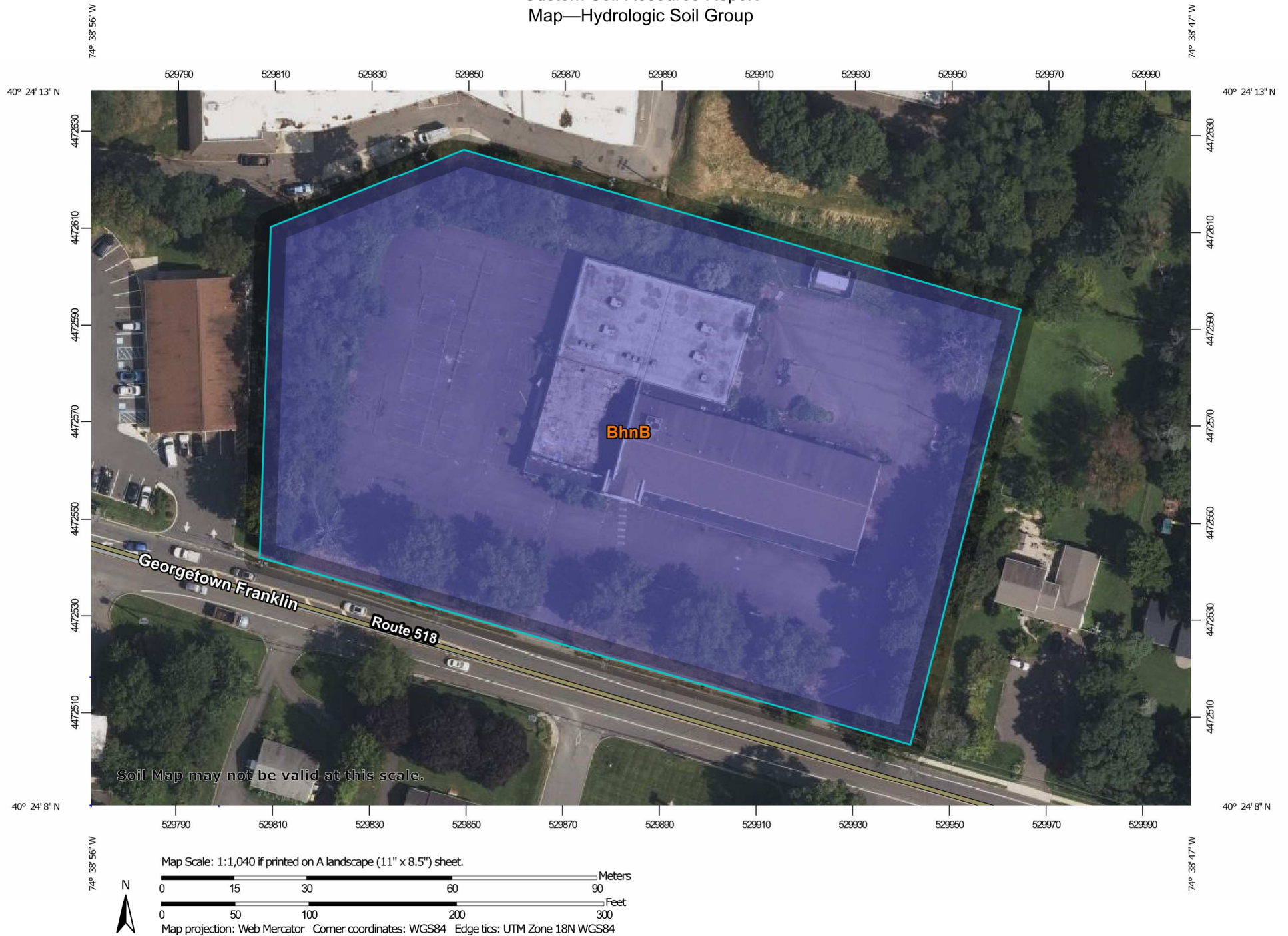
## Custom Soil Resource Report

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report  
Map—Hydrologic Soil Group



MAP LEGEND

**Area of Interest (AOI)**

Area of Interest (AOI)

**Soils**

**Soil Rating Polygons**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

**Water Features**

Streams and Canals

**Transportation**

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

**Background**

Aerial Photography

**Soil Rating Lines**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

**Soil Rating Points**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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)

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**Table—Hydrologic Soil Group**

| Map unit symbol                    | Map unit name                              | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|--------------------------------------------|--------|--------------|----------------|
| BhnB                               | Birdsboro silt loam, 2 to 6 percent slopes | B      | 3.3          | 100.0%         |
| <b>Totals for Area of Interest</b> |                                            |        | <b>3.3</b>   | <b>100.0%</b>  |

**Rating Options—Hydrologic Soil Group**

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

**Water Features**

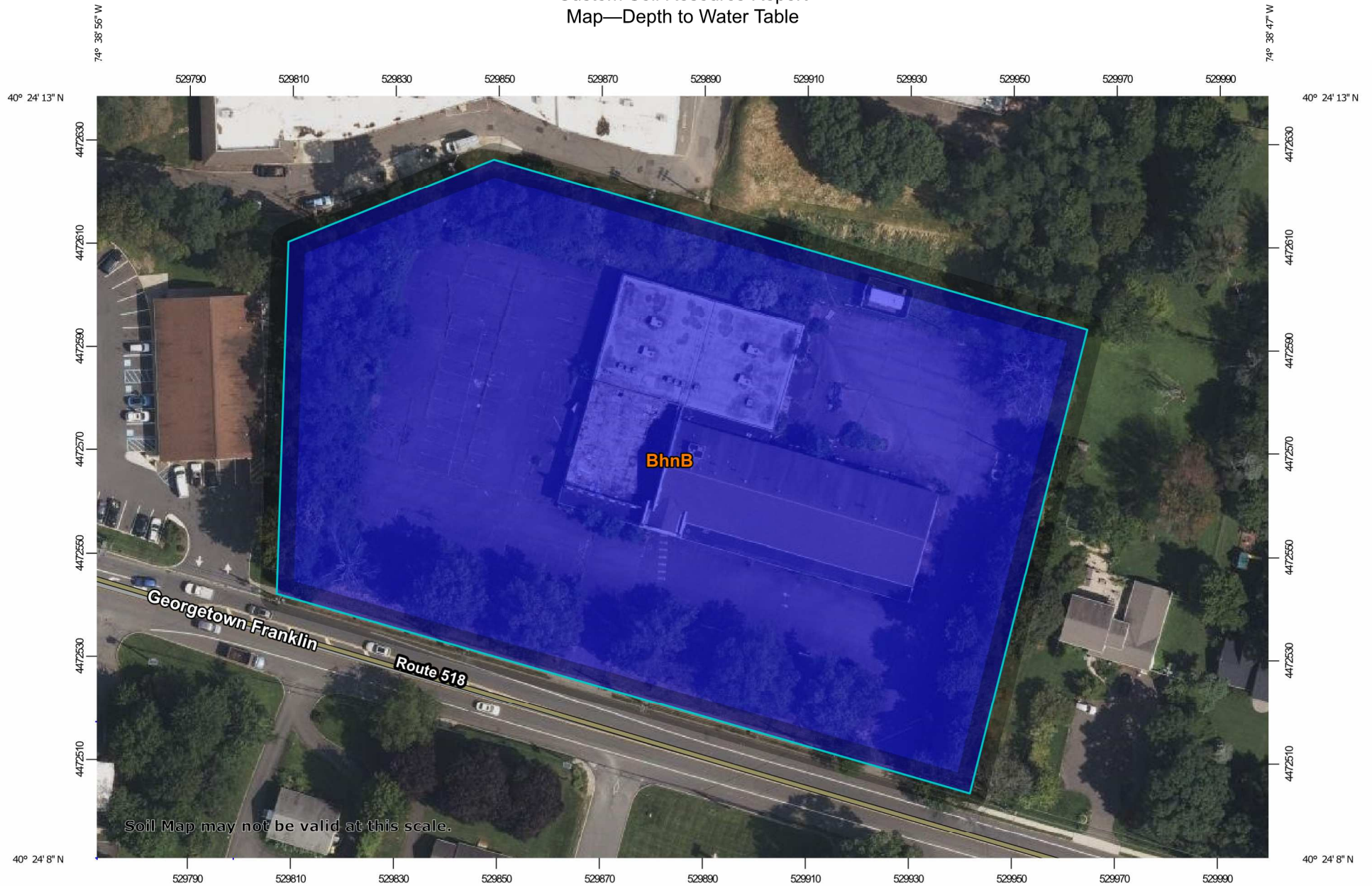
Water Features include ponding frequency, flooding frequency, and depth to water table.

**Depth to Water Table**

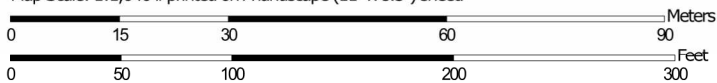
"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

# Custom Soil Resource Report Map—Depth to Water Table

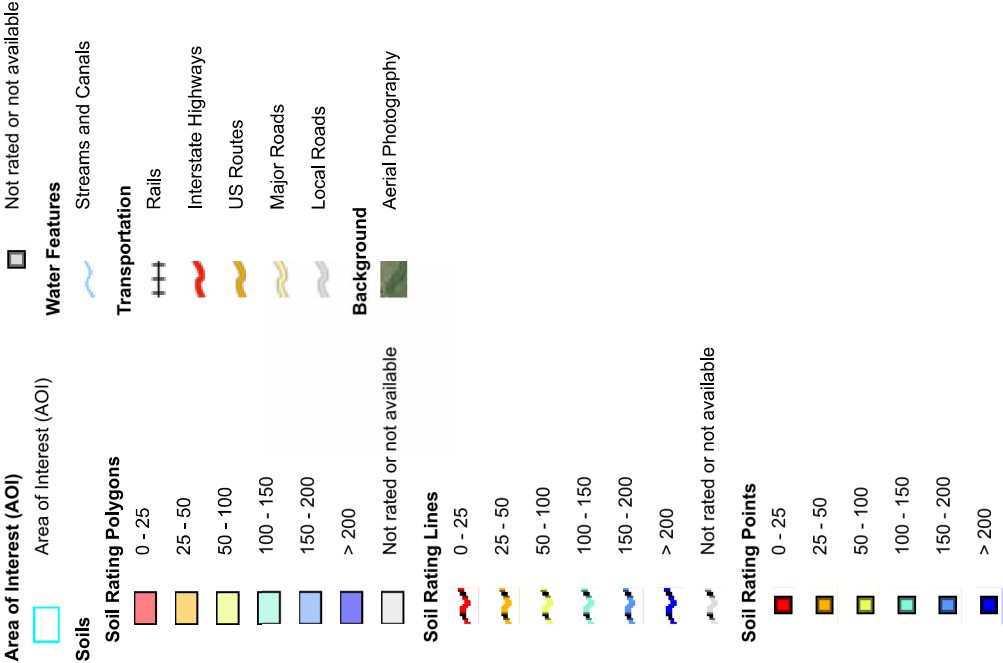


Map Scale: 1:1,040 if printed on A landscape (11" x 8.5") sheet.



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

MAP LEGEND



**Table—Depth to Water Table**

| Map unit symbol                    | Map unit name                              | Rating (centimeters) | Acres in AOI | Percent of AOI |
|------------------------------------|--------------------------------------------|----------------------|--------------|----------------|
| BhnB                               | Birdsboro silt loam, 2 to 6 percent slopes | >200                 | 3.3          | 100.0%         |
| <b>Totals for Area of Interest</b> |                                            |                      | <b>3.3</b>   | <b>100.0%</b>  |

## **Rating Options—Depth to Water Table**

*Units of Measure:* centimeters

*Aggregation Method:* Dominant Component

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

*Interpret Nulls as Zero:* No

*Beginning Month:* January

*Ending Month:* December

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

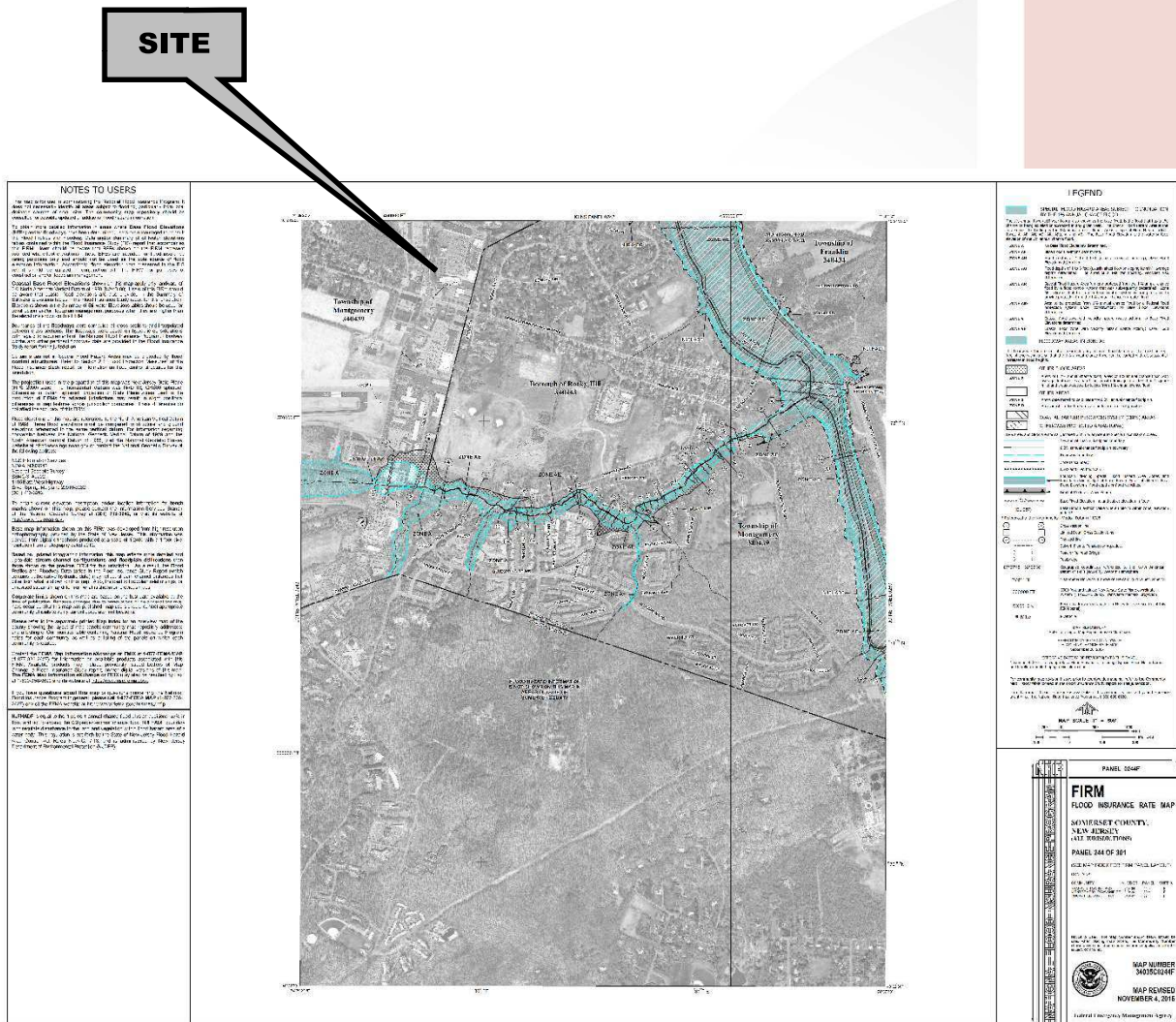
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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

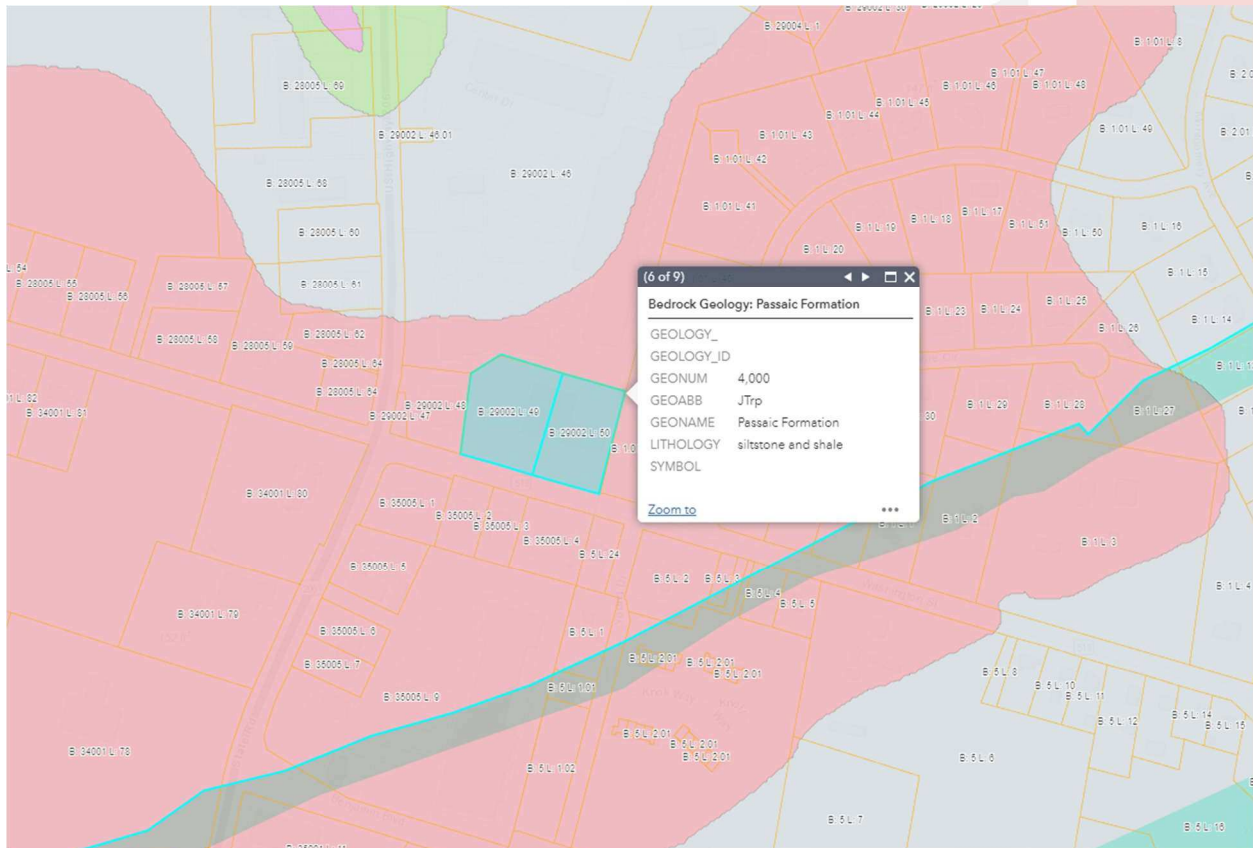
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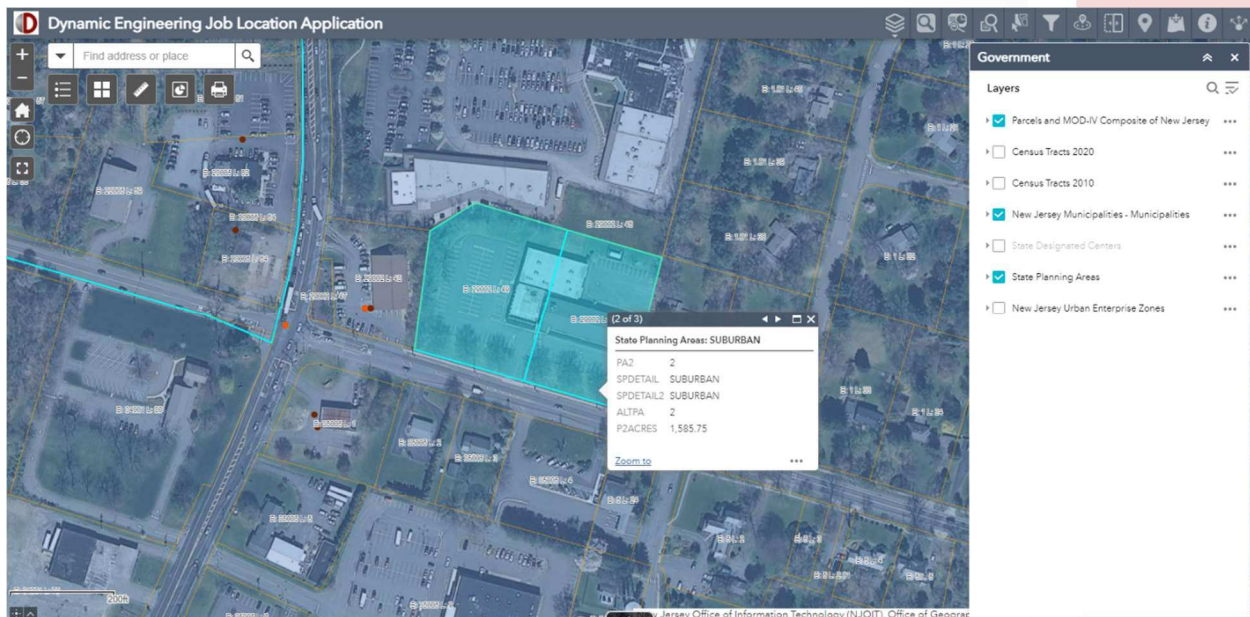
## FEMA Flood Insurance Rate Map



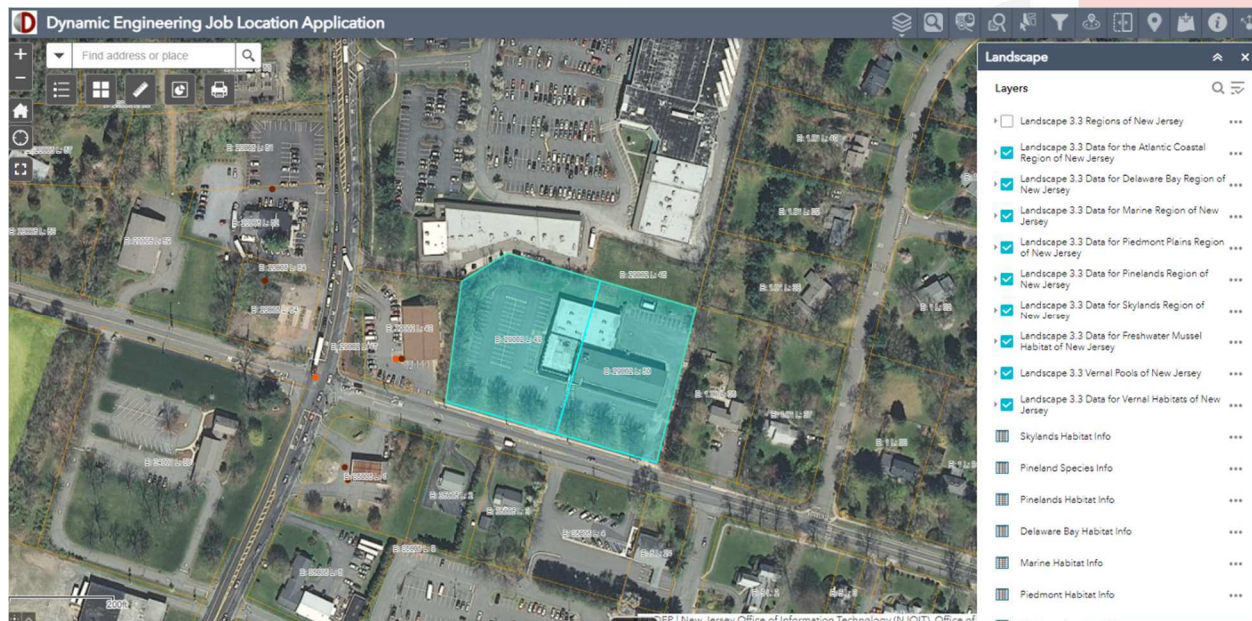
## NJDEP GeoWeb Bedrock Geology Map



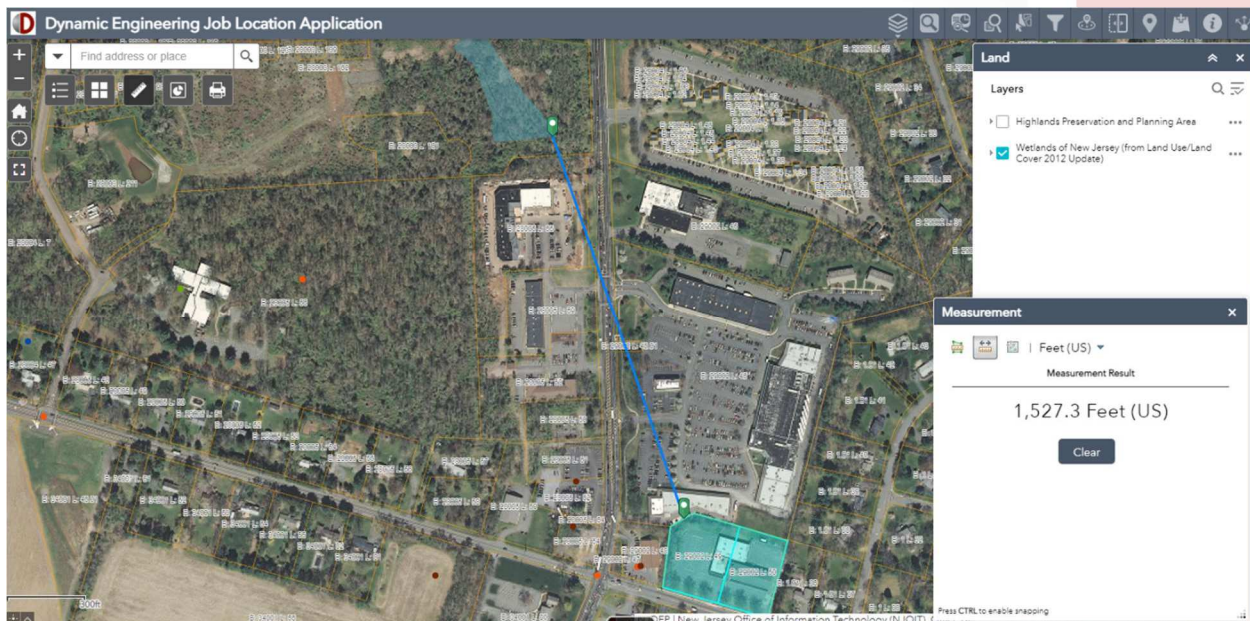
## NJ GeoWeb State Planning Areas Map



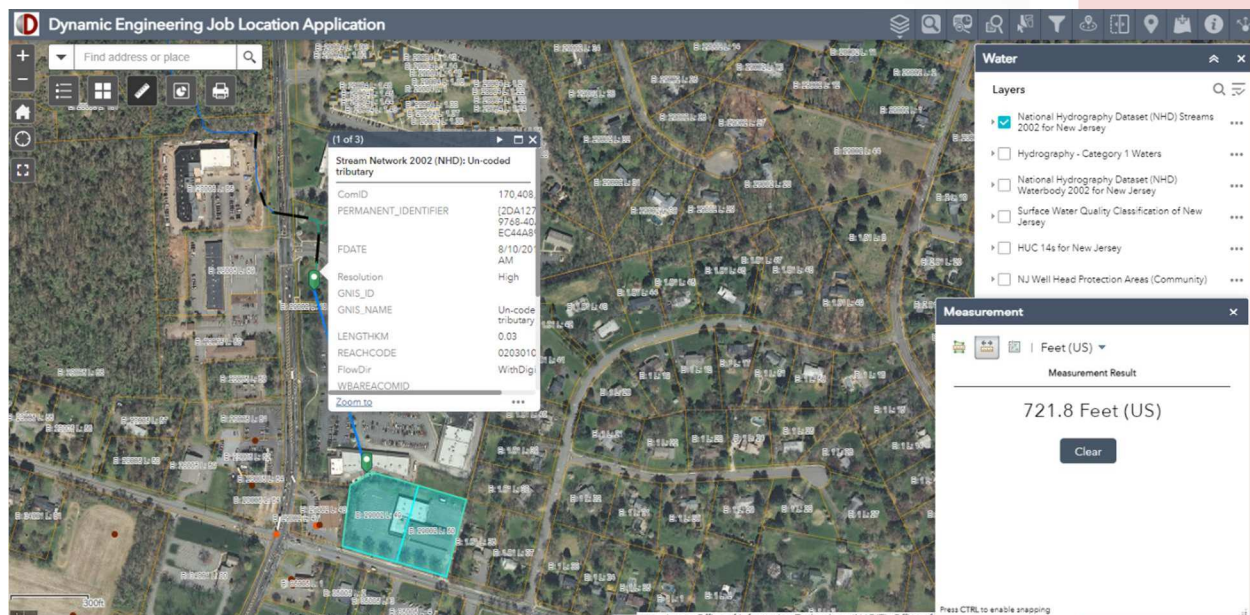
## NJ GeoWeb Landscape Map



## NJ GeoWeb Wetlands Map



## NJ GeoWeb Streams and Waterbodies Map



## Requirements for Environmental Impact Statement

development is to be phased, the location of areas where such clearing or construction is proposed. The following additional information also is required to be submitted at this time:

- (a) A letter from the developer indicating that he/she shall be proceeding with construction based upon a preliminary approval only at his/her own risk and that he/she acknowledges that there are no assurances that the improvements installed will be granted final approval.
  - (b) A separate plan depicting the areas within the site where construction shall be performed prior to final approval, including clearing and grading limits, and a summary of the improvements that are proposed to be constructed prior to final approval.
  - (c) A separate plan depicting soil erosion and sediment control measures which shall be implemented prior to final approval, the location of topsoil and material stockpiles and construction staging areas, and measures to protect existing trees and vegetation along clearing limits.
  - (d) If clearing and grading are proposed beyond the right-of-way line on a proposed lot prior to final approval, a written explanation setting forth the reasons for such clearing prior to final approval and grading plan approval for the subject lot(s).
43. In the case of any subdivision or site plan submission of a planned development, the applicant shall be required to submit all of the required information for all of the properties comprising the planned development, regardless of whether the applicant is seeking approval of the whole or a section of the planned development; specifically, the applicant shall be required to show the interrelationship of each portion of the project with the whole of the project considering land use, traffic, open space, buffering, drainage and surface water management, sewerage, potable water supply and any other specific planning considerations as may be of particular relevance to a particular planned development.
44. The Board reserves the right to require additional information before granting preliminary approval when unique circumstances affect the tract and/or when the application for development poses special problems for the tract and surrounding area. Such information shall include, but not be limited to, drainage calculations and traffic analyses, provided however, that no application shall be declared incomplete for the lack of such additional information.

c. Environmental Impact Statement.

1. General Provisions. The impact on the environment generated by land development projects necessitates a comprehensive analysis of the variety of problems that may result and the actions that can be taken to minimize the problems. It is further recognized that the level of detail required for various types of applications will vary depending on the size of the proposal, the nature of the site, the location of the project and the information already in the possession of the Township. Therefore, having determined that some flexibility is needed in preparing the Environmental Impact Statement, the requirements for such a document pertaining to different types of development applications are listed below:
- (a) All agricultural operations conducted in accordance with a plan approved by the Soil Conservation District and all silviculture operations conducted in accordance with a plan prepared by a professional forester are specifically exempt from the Environmental Impact Statement requirements.
  - (b) All variance applications submitted to the Board of Adjustment pursuant to N.J.S.A. 40:55D-70d shall require an Environmental Impact Statement in accordance with the requirements of this section. Any other variance applications to the Zoning Board of Adjustment shall not require an Environmental Impact Statement unless specifically requested by the Board.

- (c) Any application for subdivision approval where 10 lots or less are involved and all applications for minor site plan approval, either to the Planning Board or to the Zoning Board of Adjustment, as the case may be, shall not require an Environmental Impact Statement unless specifically requested by the Board.
  - (d) All preliminary major subdivision and/or preliminary major site plan applications shall be accompanied by an Environmental Impact Statement.
2. Submission Format. When an Environmental Impact Statement is required, the applicant shall retain one or more competent professionals to perform the necessary work. The qualifications and background of the professionals shall be provided, and the method of investigation shall be described. All applicable material on file in the Township pertinent to evaluation of regional impacts shall also be considered including the Township Master Plan and Natural Resources Inventory. Furthermore, as much original research as necessary shall be conducted to develop the Environmental Impact Statement. All Environmental Impact Statements shall consist of written and graphic materials which clearly present the required information utilizing the following format:
- (a) Project Description. Indicate the purpose and scope of the proposed project. Enumerate the benefits to the public which will result from the proposed project and describe the suitability of the site for the intended use. A description of the proposed project shall be presented to indicate the extent to which the site must be altered, the kinds of facilities to be constructed and the uses intended. The resident population, working population and visitor population shall be estimated. The compatibility or incompatibility of the proposed project shall be described in relation to the following:
    - (1) Township Master Plan.
    - (2) Montgomery Township Natural Resources Inventory.
    - (3) Master Plan of Adjacent Municipalities.
    - (4) Somerset County Master Plan.
    - (5) Regional and State Planning Guides.
    - (6) Other Pertinent Planning Documents.
  - (b) Site Description and Inventory. Provide a description of environmental conditions on the site which shall include the following items:
    - (1) Types of Soils. List and describe each soil type on the site. If applicable, provide percolation data. Where the proposed area of land disturbance will involve soils with moderate or severe limitations relative to the type of project proposed, a complete mapping of all soil types where the moderate and severe limitations exist.
    - (2) Topography. Describe the topographic conditions on the site.
    - (3) Geology. Describe the geologic formations and features associated with the site as well as depth to bedrock conditions. Delineate those areas where bedrock is within two feet of the surface as well as major rock outcroppings.
    - (4) Vegetation. Describe the existing vegetation on the site. A map shall be prepared showing the location of major vegetative groupings such as woodlands, open fields and wetlands. Where woodlands are delineated, the forest types shall be indicated.

- (5) **Wildlife.** Identify and describe any unique habitats of endangered or protected species.
  - (6) **Subsurface Water.** Describe the subsurface water conditions on the site both in terms of depth to ground water and water supply capabilities. The location, depth, capacity and water quality of all existing water wells on the site and within 500 feet of the site shall be indicated.
  - (7) **Distinctive Scenic and/or Historic Features.** Describe and map those portions of the site that can be considered to have distinctive scenic and/or historic qualities.
  - (8) **Existing Development Features.** Describe any existing features on the site that are not considered to be part of the natural environment. This may include, but not necessarily be limited to, roads, driveway accesses, housing units, accessory structures, utility lines, etc.
  - (9) **Miscellaneous.** When warranted, an analysis should be conducted of existing air quality and noise levels as prescribed by the New Jersey State Department of Environmental Protection.
- (c) **Impact.** Discuss both the adverse and positive impacts during and after construction. Indicate those adverse impacts that are unavoidable. The specific concerns that shall be considered include the following and shall be accompanied by specific quantitative measurements where possible and necessary:
- (1) Soil erosion and sedimentation resulting from surface runoff.
  - (2) Flooding and flood plain disruption.
  - (3) Degradation of surface water quality.
  - (4) Ground water pollution.
  - (5) Reduction of ground water capabilities.
  - (6) Sewage disposal.
  - (7) Solid waste disposal.
  - (8) Vegetation destruction.
  - (9) Disruption of wildlife habitats of endangered and protected species.
  - (10) Destruction or degradation of scenic and historic features.
  - (11) Air quality degradation.
  - (12) Noise levels.
  - (13) Energy utilization.
- (d) **Environmental Performance Controls.** Describe what measures will be employed during the planning, construction and operation phases which will minimize or eliminate adverse impacts that could result from the proposed project. Of specific interest are:

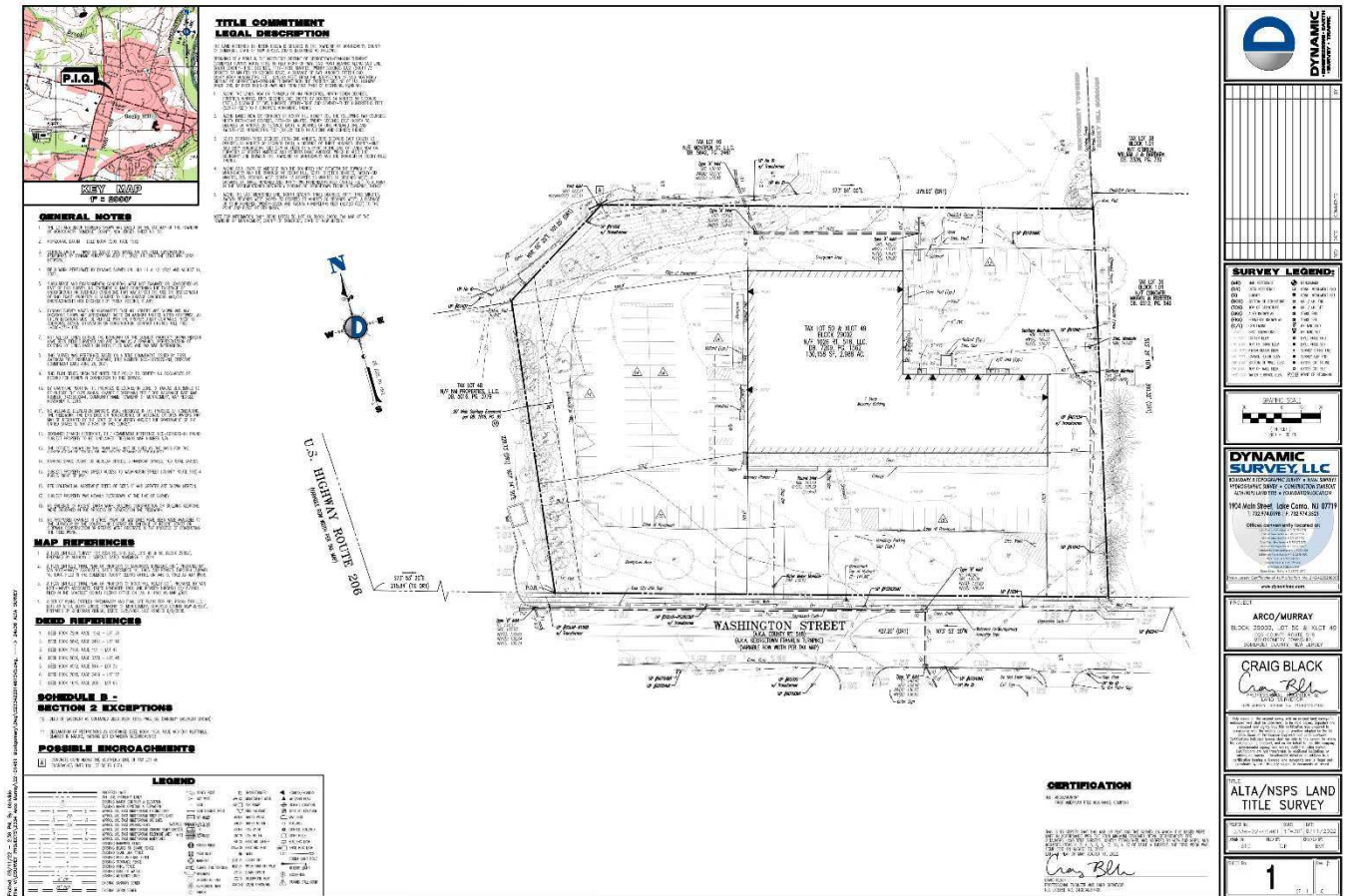
- (1) Drainage plans which shall include soil erosion and sedimentation controls.
  - (2) Sewage disposal techniques.
  - (3) Water supply and water conservation proposals.
  - (4) Energy conservation measures.
  - (5) Noise reduction techniques.
  - (e) Licenses, Permits and Other Approvals Required by Law. The applicant shall list all known licenses, permits and other forms of approval required by law for the development and operation of the proposed project. The list shall include approvals required by the Township, as well as agencies of the County, State and Federal governments. Where approvals have been granted, copies of said approvals shall be attached. When approvals are pending, a note shall be made to that effect.
  - (f) Documentation. All publications, file reports, manuscripts or other written sources of information which were first consulted and employed in compilation of the Environmental Impact Statement shall be listed. A list of all agencies and individuals from whom all pertinent information was obtained orally or by letter shall be listed separately. Dates and locations of all meetings shall be specified.
3. Disposition by the Board. The Board shall review the information furnished in the Environmental Impact Statement in the context of the overall design of the proposed development and the relationship of the proposed development to the environment. The information is to be used solely to help insure that the proposed development will cause no reasonably avoidable damage to any environmental resource.

d. Traffic Impact Statement.

1. General Provisions. The impact on the existing road systems generated by land development necessitates a comprehensive analysis of the variety of problems that may result and the actions that can be taken to minimize the problems. Therefore, all preliminary major subdivision applications resulting in the generation of more than 10 lots and/or all preliminary major site plan applications shall be accompanied by a Traffic Impact Statement unless specifically waived by the Board. Any application for subdivision approval where less than 10 lots are involved and all applications for minor site plan approval, either before the Planning Board or Board of Adjustment as the case may be, shall not require a Traffic Impact Statement unless specifically requested by the Board.  
  
The Board may waive the requirement for a Traffic Impact Statement totally or partially only if sufficient evidence is submitted to the Board indicating that the proposed project will have a negligible traffic impact, or, alternatively, that a complete report need not be prepared and submitted in order to evaluate adequately the specific traffic impact to be generated by the proposed development. The burden of demonstrating the exceptions hereinabove stated shall at all times rest with the applicant who must affirmatively demonstrate to the Board the basis for the waiver request.
2. Contents of Report. The Traffic Impact Statement shall contain the following information:
  - (a) Projections of traffic to be generated by the proposed development for average daily, morning peak hour(s), afternoon peak highway hour(s) and any other peak traffic condition deemed applicable as a result of the type and/or location of the proposed generator. Traffic generation rates should be based upon local indices, where available, or rates promulgated by the Institute of Transportation Engineers, where local indices are not available. All rates should be documented in the report. Also, the method

**Traffic Impact Study – Dynamic Traffic, LLC**  
**(Under Separate Cover)**

## Existing Conditions Map – ALTA/NSPS Land Title Survey



## Site Plan

