

# ENVIRONMENTAL IMPACT STATEMENT

*For*

**Pallu Associates, LLC  
Hyde Park Residential Development**

**Texas Road & Falson Lane  
Block 146, Lots 25 & 26  
Township of Marlboro  
Monmouth County, NJ**

Prepared by:



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A handwritten signature in black ink, appearing to read 'Steven R. Cattani', is positioned above a horizontal line.

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November 2020  
DEC# 2841-99-001

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## **I. PROJECT DESCRIPTION**

The project site consists of Block 146, Lots 25 & 26, located on the northwest corner of Texas Road & Falson Lane in the Township of Marlboro, Monmouth County, New Jersey. Currently the site is vacant and mostly forested with power lines running through a grassed area which runs down the center of the property off of Texas Road. The subject site is 1,653,232 square feet (38.95 acres). The site is bordered to the north by vacant forested land; to the east by a commercial warehouse use (Life Storage); to the south by a residential use; and the west by a residential use and a commercial use (Insurance Auto Auctions). The project consists of developing the parcel with sixteen (16) multi-family residential dwelling units and one (1) community building, with eight hundred and eight (808) total vehicle parking spaces, driveways, landscaping, stormwater management facilities, and other related site improvements and structures. The developed area will be completed outside wetlands, and wetland buffers of the Deep Run tributary.

The existing conditions of the tract have been verified by the Boundary & Topographic Survey prepared by Dynamic Survey, LLC, dated July 31, 2020

## **II. EXISTING ENVIRONMENTAL CONDITIONS**

**A. Groundwater** – Per the Report of Geotechnical and Stormwater Basin Area Investigation prepared by Dynamic Earth, LLC, dated November 9, 2020 located in Appendix S, evidence of seasonal high groundwater (based on soil mottling) was encountered within the soil profile pits at depths ranging between 3 feet and 11.1 feet below the ground surface. It is important to note that the design provides that finished floors and detention basins will be at least 1 FT above the seasonal high groundwater table.

The planned development proposes to utilize three (3) detention basins, one (1) infiltration basin, five (5) recharge pits, and one (1) recharge basin to meet the stormwater recharge requirements due to the proposed development. As documented in the accompanying Stormwater Management, Groundwater Recharge & Water Quality Analysis prepared by Dynamic Engineering Consultants, PC Dated November 2020 located in Appendix T, the proposed infiltration and detention basins have been designed to permeate in excess of the post development recharge deficit, thereby complying with the groundwater recharge aspects of NJAC 7:8.

Therefore, the proposed development is not anticipated to have any negative impacts on the groundwater conditions or aquifer recharge areas.

**B. Air Quality** - Existing air quality surrounding the site is typical of a central New Jersey suburban setting. There are existing hazardous air pollutants (HAP's) which come from cars, heavy duty trucks, buses and other roadway vehicles. These vehicles produce diesel particulate matter, diesel exhaust and/or carbon monoxide. There are known health standards associated with these

pollutants. Current air quality readings taken from surrounding areas report the presence of pollutants such as PM<sub>2.5</sub> and at an Air Quality Index (AQI) of 21. The Air Quality Index is based on a value of 100 where 100 would be exceeding the health standard limit. Therefore, the pollutants measured are approximately five (5) times less than allowable. AQI readings in Marlboro Township can be expected to be similar to those recorded in surrounding areas.

- C. Site Geology** – Based on the Surficial Geology of New Jersey, surficial geology in the western corner of the site consists of Alluvium comprised of fine to coarse sand to clayey sand, gravel, silt, and minor clay and peat. Surficial geology across the rest of the site consists of Weathered Coastal Plain Formations comprised of exposed sand and clay Coastal Plain bedrock formations. Includes thin, patchy alluvium and colluvium, and pebbles left from erosion of surficial deposits. Other information regarding the site geology is provided in the Report of Geotechnical and Stormwater Basin Area Investigation prepared by Dynamic Earth, LLC, dated November 9, 2020 located in Appendix S.
- D. Soils** – Information regarding the site soils is provided in the Report of Geotechnical and Stormwater Basin Area Investigation prepared by Dynamic Earth, LLC, dated November 9, 2020 located in Appendix S.
- E. Ground Cover** – The subject parcel is currently undeveloped and relatively heavily wooded with trees and brush, and grass
- F. Flora & Fauna** – According to the NJGeoWeb database, there is no presence of endangered species based on the Natural Heritage Priority Map located in Appendix L.
- G. Drainage** – Information regarding the existing drainage is provided in the Stormwater Management, Groundwater Recharge & Water Quality Analysis prepared by Dynamic Engineering Consultants, PC Dated November 2020 located in Appendix T.
- H. Land Use** – As stated previously, the subject parcel is currently undeveloped and relatively heavily wooded with trees, brush, and grass.
- I. Vegetation** – The existing site vegetation consist of undeveloped, and relatively heavily wooded with trees, brush, and grass.
- J. Wildlife** – As previously stated, the existing site consists of undeveloped, wooded area. The proposed development will include four above ground basins, one on the southeast side, one on the northwest side, one on the southwest side, and one on the northeast corner of the lot. There is also one recharge basin at the south corner of the lot. These basins will not serve as a habitat for water dependent wildlife.

**K. Archaeological & Historic Features** – It is not anticipated that the proposed development will have a negative impact on any archaeological and/or historic features due to the fact that the existing site consists of undeveloped, wooded area.

According to NJDEP GIS mapping, the site is not located on or within the vicinity of a historic district or historic property.

### **III. SEWERAGE FACILITIES**

Western Monmouth Utilities Authority & Bayshore Regional Sewerage Authority, confirmed the existing sanitary sewer line is located east and south of the subject property on Texas Road & Falson Lane and the sewer plant has plenty of capacity. There is an 8” sewer line running down Texas Road & Falson Lane.

The estimated sewer demand for the development as per NJAC 7:14A-23(a) is as follows:

Apartment (1 Bedroom) = (150 GPD/ Unit) \* (96 Units) = 14,400 GPD

Apartment (2 Bedroom) = (225 GPD/Unit) \* (256 Units) = 57,600 GPD

Apartment (3 Bedroom) = (300 GPD/Unit) \* (35 Units) = 10,500 GPD

TOTAL = approx. 82,500 GPD

It is important to note that an application with NJDEP will be required for this sewer service (NJDEP WQMP & NJDEP TWA – see attached WMUA Resolution Dated March 24, 2020 located in Appendix R).

### **IV. WATER SUPPLY**

Water service will be provided to the development by way of connection to an existing 8” water main through Texas Road and Falson Lane. An 8” water line will be present onsite to service all 17 buildings. The water installation will be coordinated with and under the guidelines, regulations and specifications of CME Associates and the Township of Marlboro.

The NJDEP standard for domestic water demand for a one, two, and three bedroom apartment unit is 120, 175, and 275 gallons per day (GPD) per unit respectively, as specified in NJAC 5:21-5.2, Table 5.1. As such, the estimated domestic water demand for the development is as follows:

Apartment (1 Bedroom) = (120 GPD/ Unit) \* (96 Units) = 11,520 GPD

Apartment (2 Bedroom) = (175 GPD/Unit) \* (256 Units) = 44,800 GPD

Apartment (3 Bedroom) = (275 GPD/Unit) \* (35 Units) = 9,625 GPD

TOTAL = approx. 65,945 GPD

The subject site is within the Marlboro Township Water Utility Division service area. Our office has received a ‘will serve’ letter dated August 10, 2020, indicating that safe and proper water service is

available for the proposed project from the existing 8" water mains located within Texas Road and Falson Lane.

## **V. SURFACE DRAINAGE**

The surface runoff from the majority of the subject site in the existing conditions is tributary to The Deep Run Tributary located to the west of the subject parcel.

The proposed stormwater management facilities for this project have been designed to mitigate the impacts on stormwater runoff from the proposed development in accordance with applicable aspects of the Marlboro Township Land Use Ordinance and NJAC 7:8.

Stormwater runoff from the majority of the proposed development is conveyed to the four (4) proposed above ground basins. The proposed detention basin, A2, is located in the southwestern portion of the property, and has been designed to detain and release stormwater runoff, through an outlet control structure at a controlled rate, in order to satisfy the stormwater quantity requirements set forth by NJAC 7:8. In addition, according to the standards set forth by the NJ Stormwater Best Management Practices, manufactured treatment device with 80% TSS removal will be installed prior to discharging to the existing wetlands area also known as Study Point 1. With the two structures in place, the stormwater runoff satisfies the 80% TSS removal rate set forth by NJAC 7:8 for water quality.

Stormwater runoff is also collected in an infiltration basin, A1, located in the northeastern portion of the lot. Stormwater runoff from this area of the proposed development includes the roof runoff dwelling unit buildings # 1 & 2 and the northeastern portion of the impervious asphalt drive aisles and parking lots. The recharge requirements are satisfied by the above ground infiltration basin by storing approximately 12" of water for recharge. The stormwater from basin A1 travels through the stormwater conveyance system and discharges to basin A3 before discharging to the existing wetlands located at Study Point 1.

Stormwater runoff from dwelling unit buildings # 12 – 16, the northwestern portion of the impervious asphalt drive aisles and parking lots, and the community sport courts, pool area, and community clubhouse is collected and released into detention basin A3. This basin has been designed to detain and release stormwater runoff, through an outlet control structure at a controlled rate, in order to satisfy the stormwater quantity requirements set forth by NJAC 7:8. In addition, according to the standards set forth by the NJ Stormwater Best Management Practices, manufactured treatment device with 80% TSS removal will be installed prior to discharging to the existing wetlands located at Study Point 1. With the two structures in place, the stormwater runoff satisfies the 80% TSS removal rate set forth by NJAC 7:8 for water quality.

Lastly, detention basin B1 is located in the southeastern portion of the site and is designed to detain stormwater runoff from dwelling unit buildings # 3 – 8 and the southeastern portion of the impervious

asphalt drive aisles and parking lots. This basin has been designed to detain and release stormwater runoff, through an outlet control structure at a controlled rate, in order to satisfy the stormwater quantity requirements set forth by NJAC 7:8. In addition, according to the standards set forth by the NJ Stormwater Best Management Practices, manufactured treatment device with 80% TSS removal will be installed prior to discharging to the existing ditch located at Study Point 3. With the two structures in place, the stormwater runoff satisfies the 80% TSS removal rate set forth by NJAC 7:8 for water quality.

Furthermore, the stormwater management design facilities attenuate peak flow rates for the proposed development area that satisfy the minimum peak flow reduction for the 2, 10 and 100-year storm frequencies as dictated by NJAC 7:8. With this stated, it is evident that the proposed development will not have a negative impact on the existing stormwater management system, water quality, or groundwater recharge on site or within the vicinity of the subject parcel.

Please refer to the accompanying Stormwater Management, Groundwater Recharge & Water Quality Analysis for further information.

## **VI. STREAM ENCROACHMENTS**

Deep Run Tributary is located just beyond North West boundary of Block 146 Lot 25. It is important to note that the proposed project will not fill or divert a water channel, alter a stream, or repair or construct a bridge, culvert, reservoir, dam, wall, pipeline, or cable crossing. Our office is coordinating with DuBois Environmental Consultants, LLC to submit a NJDEP LOI Verification Application to verify that the subject parcel is located within a freshwater wetlands and/or transition area. No FHA is present on site per our FEMA FIRM map in Appendix C.

## **VII. SOLID WASTE DISPOSAL**

The proposed development will be serviced by the Township of Marlboro Department of Public Works Solid Waste/Recycling Bureau. According to the Marlboro Township website, trash shall be picked up one a week and recycling shall be picked up every other week.

## **VIII. CRITICAL IMPACTS**

**A. Stream Corridors & Streams** – Deep Run Tributary is located offsite to the northwest of the subject parcel. Our office is coordinating with DuBois Environmental Consultants, LLC to submit a NJDEP LOI Verification

Furthermore, the design of the project satisfies the water quality, stormwater quantity and groundwater recharge requirements set forth by NJAC 7:8 and the Township of Marlboro Land Use Ordinance.



- B. Wetlands** – According to the NJDEP NJ-GeoWeb freshwater wetlands are present on the subject parcel. A Letter Of Interpretation has been submitted to the NJDEP to verify the location of the wetlands and transition areas on the site.
- C. Estuaries** - There are no estuaries near the subject site.
- D. Slopes Greater Than 20 Percent** - The subject parcel contains small isolated areas where the slope of land is greater than 20%. Soil erosion and sediment control measures shall be put into place in order to ensure steep slopes shall be stabilized. The proposed project serves to preserve the existing slopes greater than 20% to the maximum extent possible.
- E. High Acid or Highly Erodible Soils** – Based on the Report of Geotechnical and Stormwater Basin Area Investigation prepared by Dynamic Earth, LLC, dated November 9, 2020 located in Appendix S, there are no high acid or high erodible soils located on the subject parcel.
- F. Areas of High-Water Table** - As previously stated, according to the Report of Geotechnical and Stormwater Basin Area Investigation prepared by Dynamic Earth, LLC, dated November 9, 2020 located in Appendix S, the seasonal high groundwater was Evidence of seasonal high groundwater (based on soil mottling) was encountered within the soil profile pits at depths ranging between 3 feet and 11.1 feet below the ground surface from the test pits performed throughout the site. It is important to note that all finished floors and basins for the proposed development will be at least 1 FT above the groundwater table.

The planned development proposes to utilize three (3) detention basins, one (1) infiltration basin, five (5) recharge pits, and one (1) recharge basin to meet the stormwater recharge requirements due to the proposed development. As documented in the accompanying Stormwater Management, Groundwater Recharge & Water Quality Analysis prepared by Dynamic Engineering Consultants, PC Dated November 2020 located in Appendix T, the proposed basins have been designed to not have a negative impact on the existing drainage pattern, water quality, or groundwater recharge on site or within the vicinity of the subject parcel. The infiltration basins are a minimum of two (2) feet above the seasonal high-water table.

Therefore, the proposed development is not anticipated to have any negative impacts on the groundwater conditions or aquifer recharge areas in the surrounding area.

- G. Mature Stands of Native Vegetation** – The parcel is wooded which may contain some mature stands of native vegetation. The proposed project will preserve as much of the existing mature native vegetation as feasible. The project will utilize a silt fence and tree protection fences to ensure that

vegetation located outside the limit of disturbance shall not be harmed. Additional soil erosion and sediment control measures shall be utilized to protect the existing vegetation.

Furthermore, the proposed landscaping design has been prepared to provide aesthetic improvement to the interior and perimeter of the site through use of approved native species and other low maintenance vegetation. Landscaping improvements incorporated into the development meet the Township of Marlboro Ordinance requirements.

**H. Aquifer Recharge and Discharge Areas** - Based on information obtained from the NJDEP NJ-GeoWeb, there is no surficial aquifer present at the site.

As previously mentioned, the proposed development has been designed with provisions for the safe and efficient control of stormwater runoff in a manner that will not adversely impact the existing drainage patterns, adjacent roadways, or adjacent parcels. The TSS removal obligations set forth by the Marlboro Township Land Use Ordinance and NJAC 7:8 have been satisfied by utilizing above ground detention basins, manufactured treatment devices, and an above ground infiltration basin to achieve the 80% TSS required removal rate for the development.

In addition, the project promotes groundwater recharge into the sub-surface soils. The infiltration basin has been designed to infiltrate the post development recharge deficit, thereby complying with the groundwater recharge aspects of NJAC 7:8. Maintenance activities include inspection of outfalls, inspection of outlet control structures, inspection of basin bottoms and implementation of remediation activities to address and mitigate conditions that would otherwise negatively affect operations of the stormwater management facility.

**I. Archaeologically Sensitive Areas** – According to NJDEP GeoWeb Mapping, the subject site does not contain any Archaeologically Sensitive Areas.

**J. List of Permits, Licenses & Approvals:**

- Marlboro Township Planning Board
- Monmouth County Planning Board
- Freehold Soil Conservation District
- Bayshore Regional Sewerage Authority
- Western Monmouth Utilities Authority
- NJDEP Wetlands LOI Verification
- NJDEP WQMP
- NJDEP TWA
- NJDEP BWSE

## **IX. SUMMARY ENVIRONMENTAL ASSESSMENT**

A tributary of The Deep Run Stream is located offsite to the northwest of the subject parcel; however, the proposed development will not adversely affect the runoff associated with The Deep Run Stream and its tributaries.

Freshwater wetlands are present on the subject parcel and is currently pending an LOI Verification.

The stormwater runoff quantity, water quality and groundwater recharge standards set forth by the Stormwater Management Regulations (NJAC 7:8) have been satisfied by proposing three (3) detention basins, one (1) infiltration basin, and one (1) recharge basin to mitigate the impact of the proposed development on stormwater runoff. The proposed stormwater management facilities serve to provide for water quality measures that meet and exceed the design standards set forth by the NJ Stormwater Best Management Practices and therefore provides a minimum TSS Removal Rate of 80%.

By using the infiltration basin, recharge basin, and five (5) recharge pits, the site is able to meet the recharge requirements set forth by NJAC 7:8.

The proposed project will be serviced by the Western Monmouth Utility Authority's sanitary sewer system and Marlboro Township Water Utility Division water supply and shall comply with all State and Municipal guidelines, regulations and specifications required.

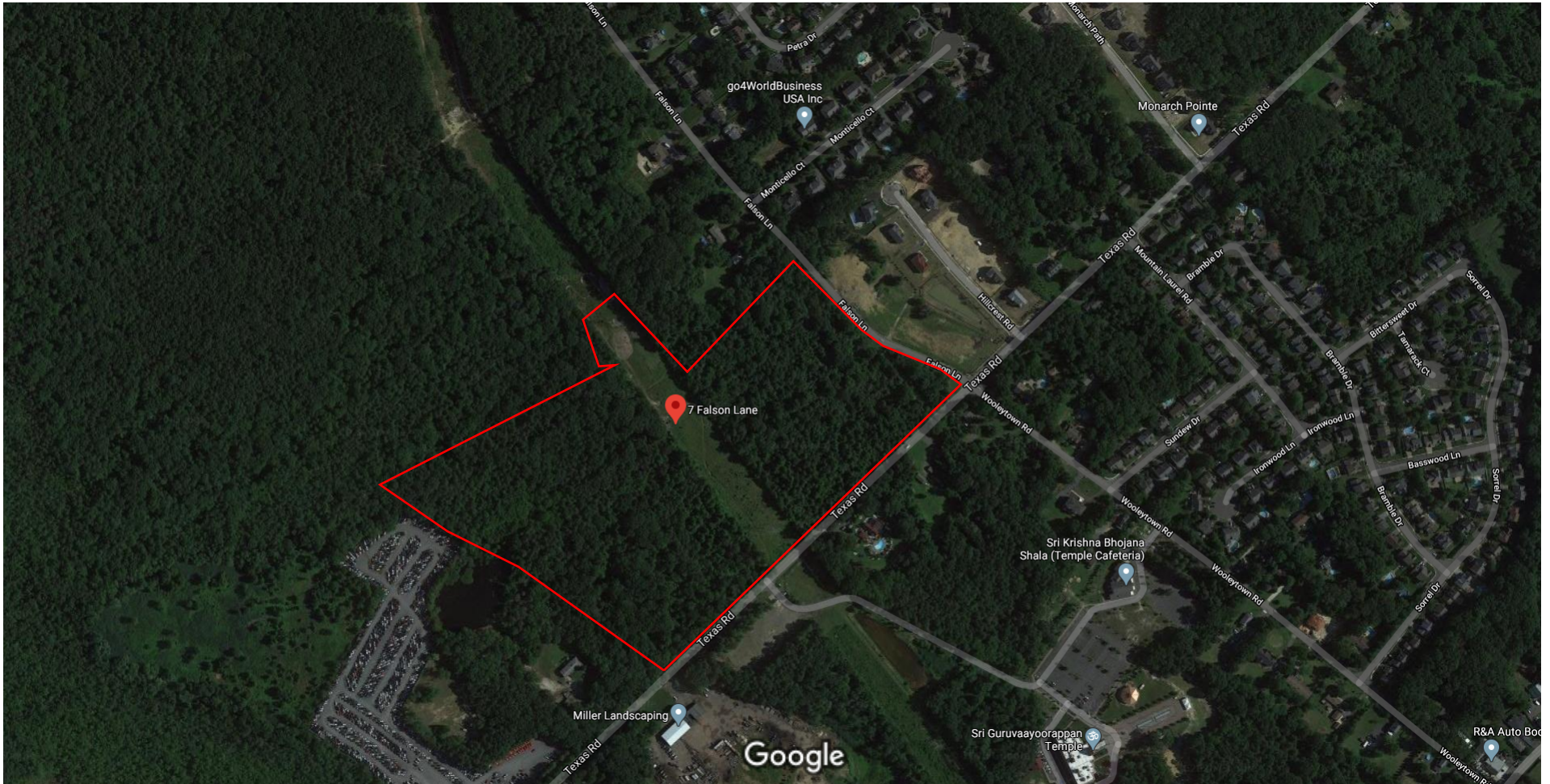
The proposed development will be serviced by the Township of Marlboro Department of Public Works Solid Waste/Recycling Bureau, according to the Marlboro Township website, trash shall be picked up once a week and recycling shall be picked up every other week.

The following steps will be taken to avoid/minimize adverse environmental impacts during construction and operation:

- Effective implementation of soil erosion and sediment control measures, including tree preservation fencing, haybales, silt fencing, and inlet filters, as well as, utilization of Stormwater best management practices should successfully minimize the site development's impact on existing natural resources.
- Strict adherence to the limits of disturbance parameters and stabilizing the construction entrances on Texas Road to reduce the amount of soil being brought off-site.
- Every reasonable effort will be made to protect the existing natural environment with the ultimate goal of providing for minimal disruption throughout the course of construction and after completion.

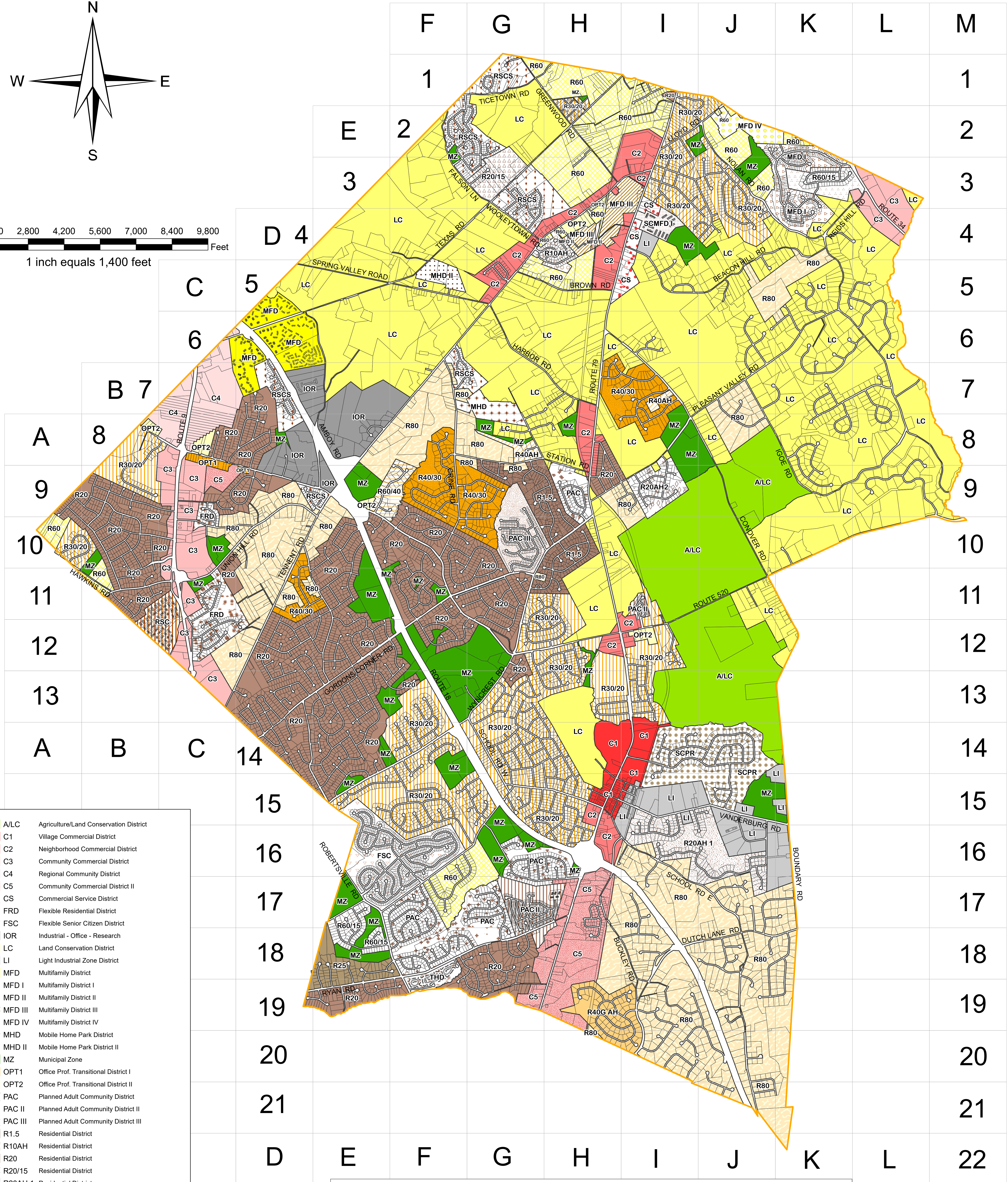
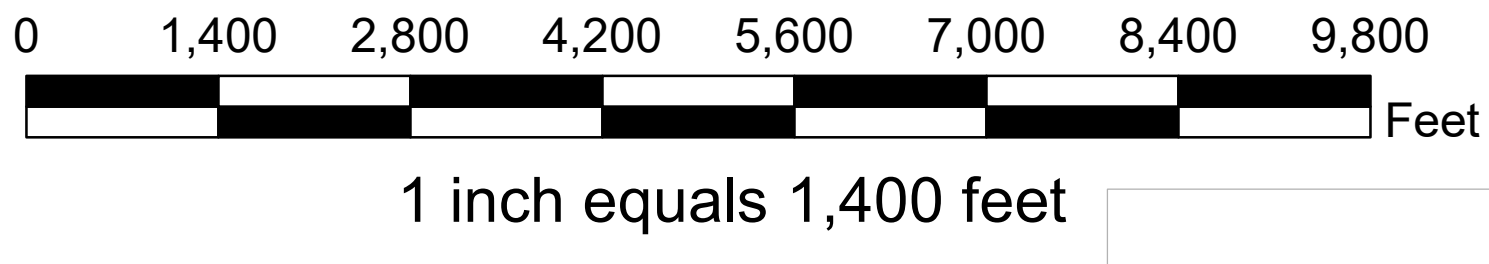
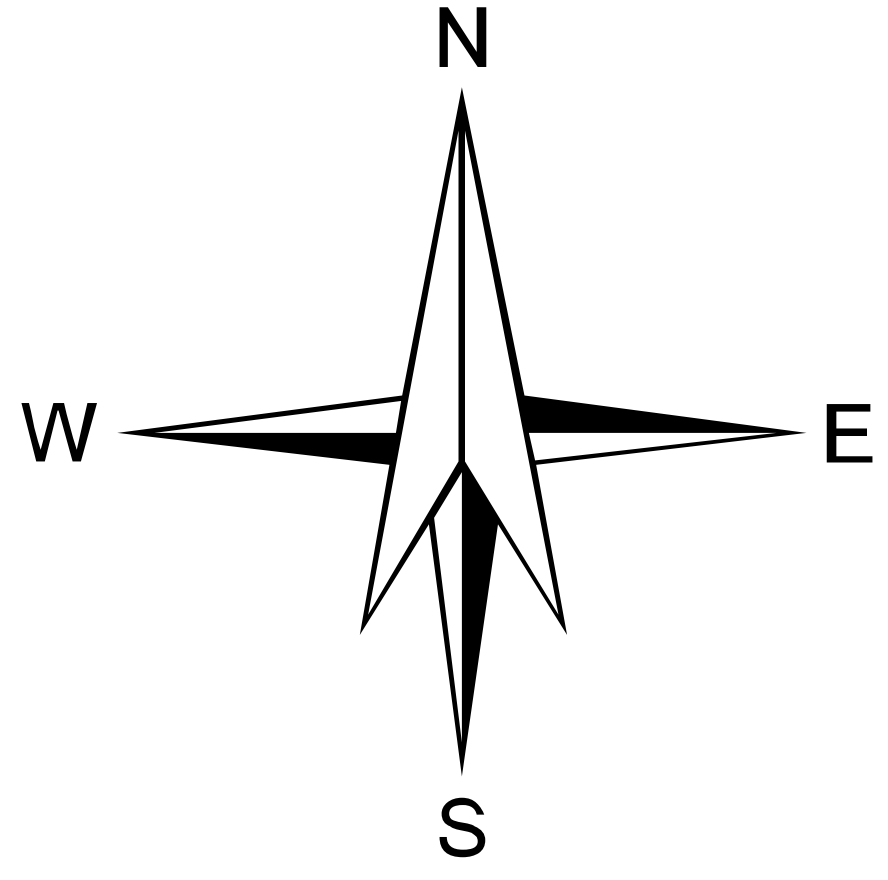
## **APPENDIX**

## **A. AERIAL MAP**



## **B. ZONE MAP**

# ZONING MAP MARLBORO TOWNSHIP



- |  |         |   |
|--|---------|---|
|  | A/LC    | Agriculture/Land Conservation District              |
|  | C1      | Village Commercial District                         |
|  | C2      | Neighborhood Commercial District                    |
|  | C3      | Community Commercial District                       |
|  | C4      | Regional Community District                         |
|  | C5      | Community Commercial District II                    |
|  | CS      | Commercial Service District                         |
|  | FRD     | Flexible Residential District                       |
|  | FSC     | Flexible Senior Citizen District                    |
|  | IOR     | Industrial - Office - Research                      |
|  | LC      | Land Conservation District                          |
|  | LI      | Light Industrial Zone District                      |
|  | MFD     | Multifamily District                                |
|  | MFD I   | Multifamily District I                              |
|  | MFD II  | Multifamily District II                             |
|  | MFD III | Multifamily District III                            |
|  | MFD IV  | Multifamily District IV                             |
|  | MZ      | Municipal Zone                                      |
|  | OPT1    | Office Prof. Transitional District I                |
|  | OPT2    | Office Prof. Transitional District II               |
|  | PAC     | Planned Adult Community District                    |
|  | PAC II  | Planned Adult Community District II                 |
|  | PAC III | Planned Adult Community District III                |
|  | R1.5    | Residential District                                |
|  | R10AH   | Residential District                                |
|  | R20     | Residential District                                |
|  | R20/15  | Residential District                                |
|  | R20AH 1 | Residential District                                |
|  | R20AH2  | Residential District                                |
|  | R25     | Residential District                                |
|  | R30/20  | Residential District                                |
|  | R40/30  | Residential District                                |
|  | R40AH   | Residential District                                |
|  | R40G AH | Residential District                                |
|  | R60     | Residential District                                |
|  | R60/15  | Residential District                                |
|  | R60/40  | Residential District                                |
|  | R80     | Residential District                                |
|  | RSC     | Senior Citizen Residential District                 |
|  | RSCS    | Senior Citizen Residential & Single Family District |
|  | SCMFD I | Senior Citizen Multifamily District I               |
|  | SCPR    | Stream Corridor Preservation Residential District   |
|  | THD     | Townhouse District                                  |



**Zoning Map**

Township of Marlboro  
Engineering Department  
Geographic Information System

Greg Valesi, PE, PP, CME, Township Engineer	1979 Township Drive, Marlboro, New Jersey, 07746
Dean Staknys, PE, Assistant Township Engineer	Phone: (732) 536-0200
Charles Brady, Assistant Civil Engineer	Fax: (732) 972-7697

New Jersey State Plane Coordinate System  
North American Datum 1983/92  
North American Vertical Datum 1988

Date: 8-25-2011  
Last Revised: 03-22-2017

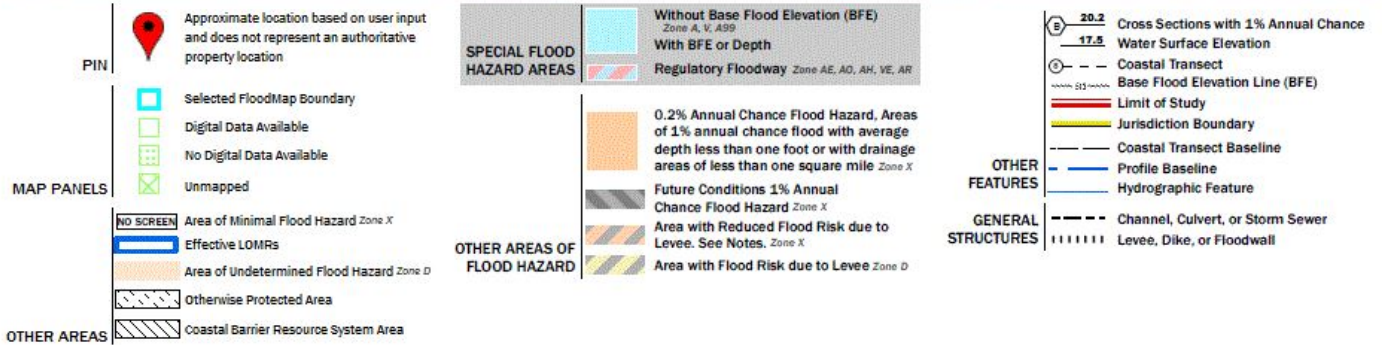
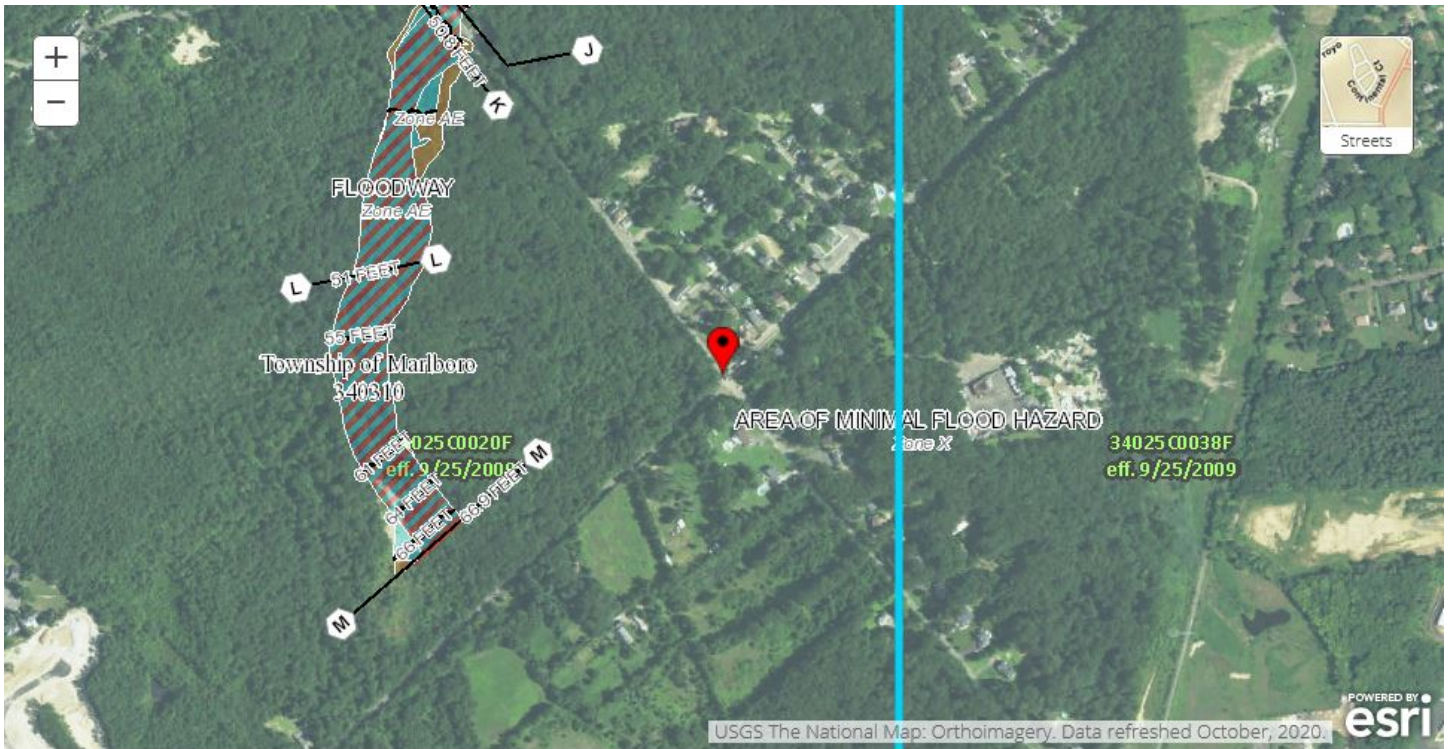
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Scale: 1" = 1400'

Photography Date: Winter 2008/2009  
Photography Scale: 1"=660'

Drawn By: C. Brady  
File: Marlboro\_Zoning\_Map.mxd

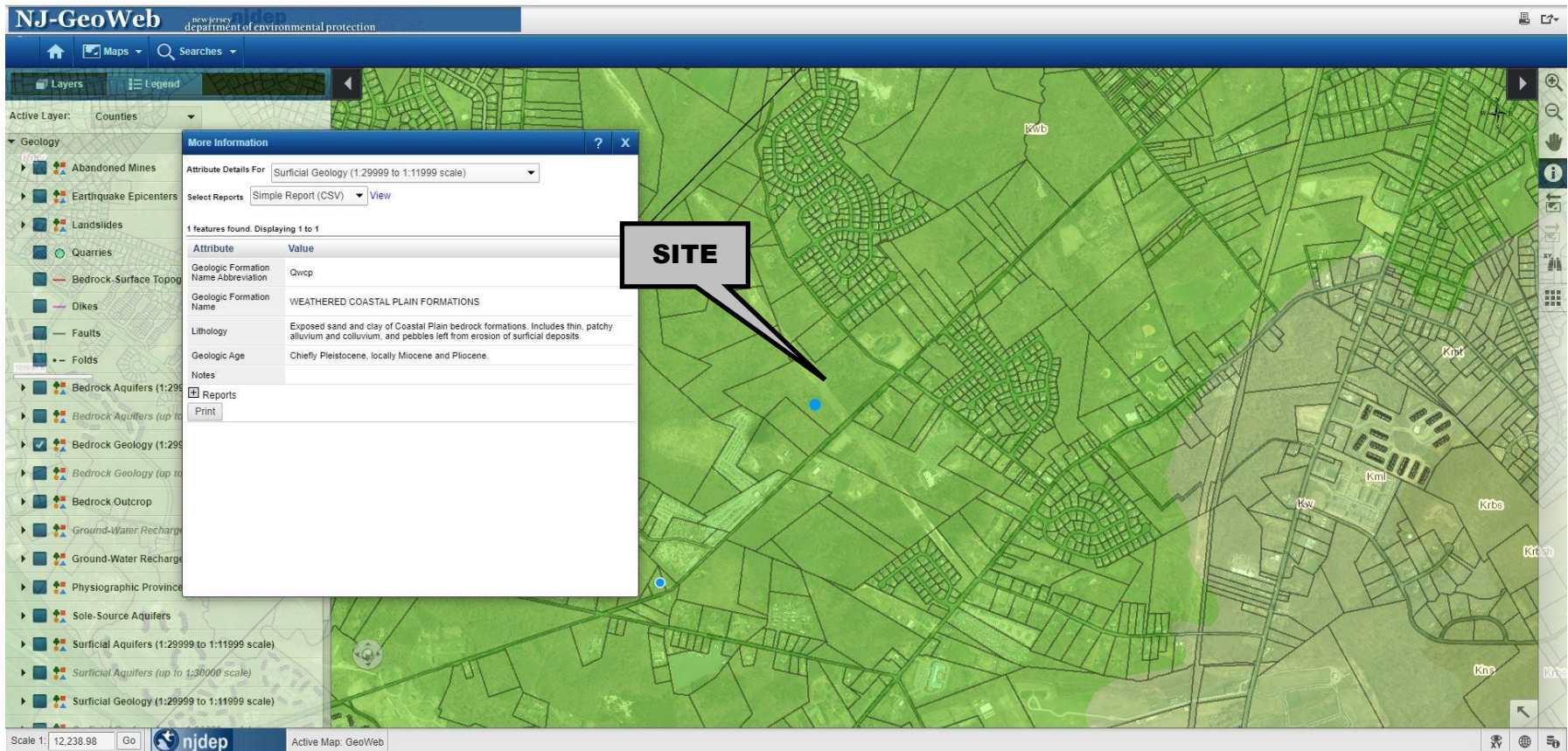


## **C. FEMA FIRM MAP**



**D. NJDEP GIS MAPPING – BEDROCK GEOLOGY  
MAP**

## NJDEP GeoWeb – Bedrock Geology Map



**NJ-GeoWeb** new jersey department of environmental protection

Active Layer: Counties

Geology

- Abandoned Mines
- Earthquake Epicenters
- Landslides
- Quarries
- Bedrock-Surface Topog
- Dikes
- Faults
- Folds
- Bedrock Aquifers (1:295
- Bedrock Aquifers (up to
- Bedrock Geology (1:295**
- Bedrock Geology (up to
- Bedrock Outcrop
- Ground-Water Recharge
- Ground-Water Recharge
- Physiographic Province
- Sole-Source Aquifers
- Surficial Aquifers (1:29999 to 1:11999 scale)
- Surficial Aquifers (up to 1:30000 scale)
- Surficial Geology (1:29999 to 1:11999 scale)

**More Information**

Attribute Details For: Surficial Geology (1:29999 to 1:11999 scale)

Select Reports: Simple Report (CSV) View

1 features found. Displaying 1 to 1

Attribute	Value
Geologic Formation Name Abbreviation	Qwcp
Geologic Formation Name	WEATHERED COASTAL PLAIN FORMATIONS
Lithology	Exposed sand and clay of Coastal Plain bedrock formations. Includes thin, patchy alluvium and colluvium, and pebbles left from erosion of surficial deposits.
Geologic Age	Chiefly Pleistocene, locally Miocene and Pliocene.
Notes	

Reports

Print

Scale 1: 12,238.98 Go njdep Active Map: GeoWeb

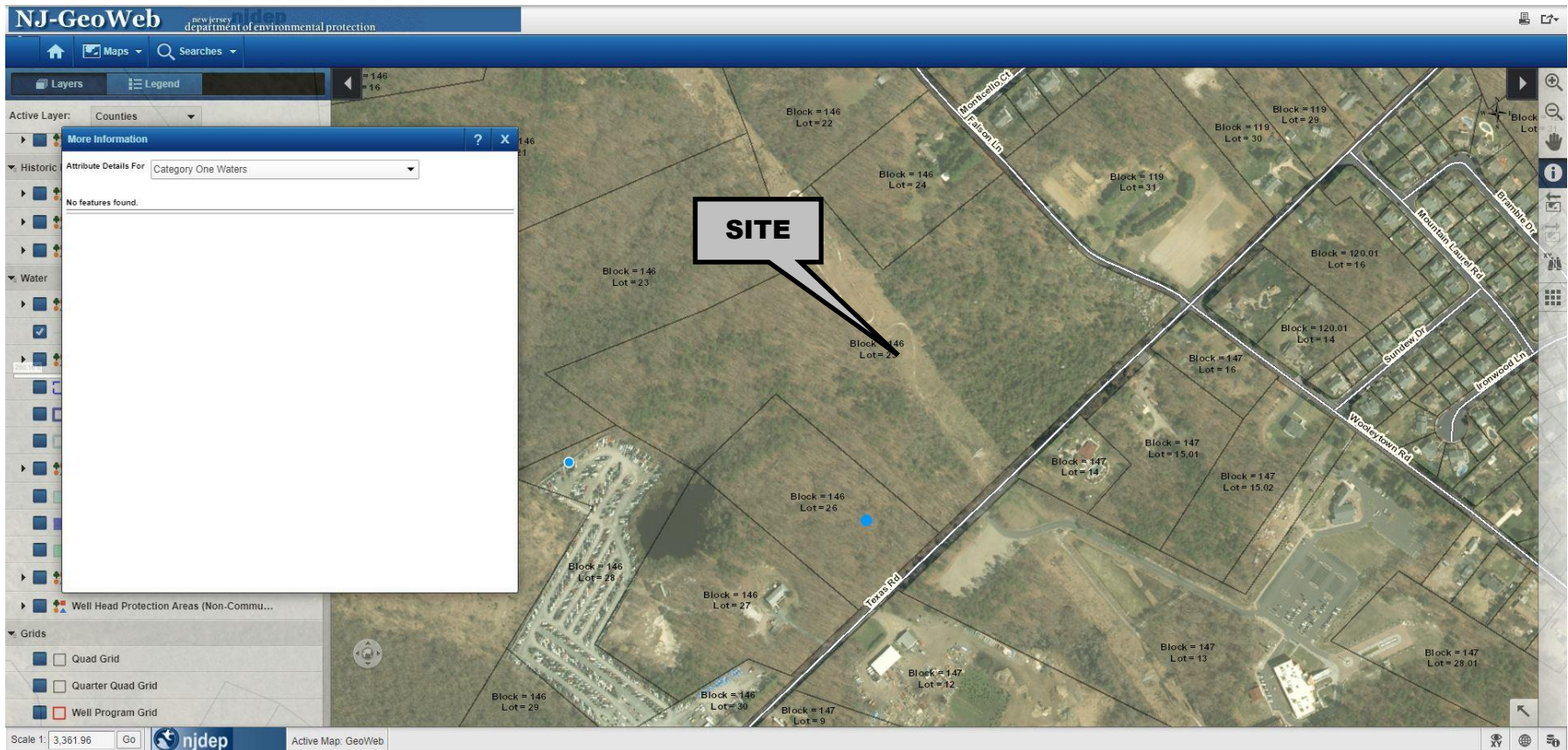
1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

245 Main Street, Suite 110, Chester, NJ 07930 T. 908-879-9229  
 8 Robbins Street, Suite 102, Toms River, NJ 08753 T. 732-974-0198  
 826 Newtown Yardley Rd., Suite 201, Newtown, PA 18940 T. 267-685-0276

100 NE 5<sup>th</sup> Avenue, Suite B2, Delray Beach, FL 33483 T. 561-921-8570  
 14521 Old Katy Road, Suite 270, Houston, TX 77079 T. 281-789-6400  
 714 S. Greenville Avenue, Suite 100, Allen, TX 75002 T. 972-534-2100

**E. NJDEP GIS MAPPING – CATEGORY 1 WATERS &  
HUC14 MAP**

## NJDEP GeoWeb – Category 1 Waters Map



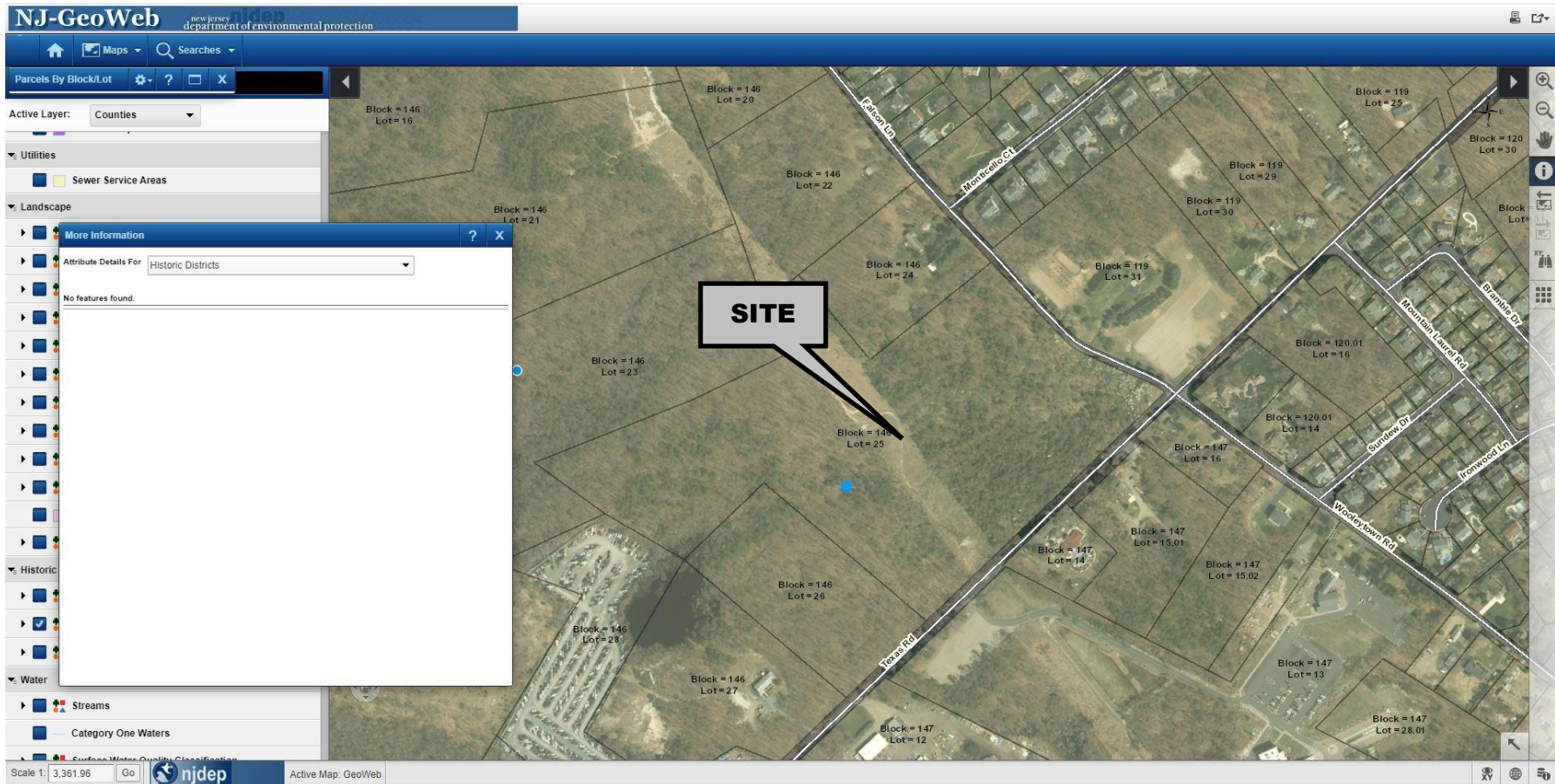
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100 NE 5<sup>th</sup> Avenue, Suite B2, Delray Beach, FL 33483 T. 561-921-8570  
14521 Old Katy Road, Suite 270, Houston, TX 77079 T. 281-789-6400  
714 S. Greenville Avenue, Suite 100, Allen, TX 75002 T. 972-534-2100

**F. NJDEP GIS MAPPING – HISTORIC PROPERTIES  
MAP**

## NJDEP GeoWeb – Historic Districts



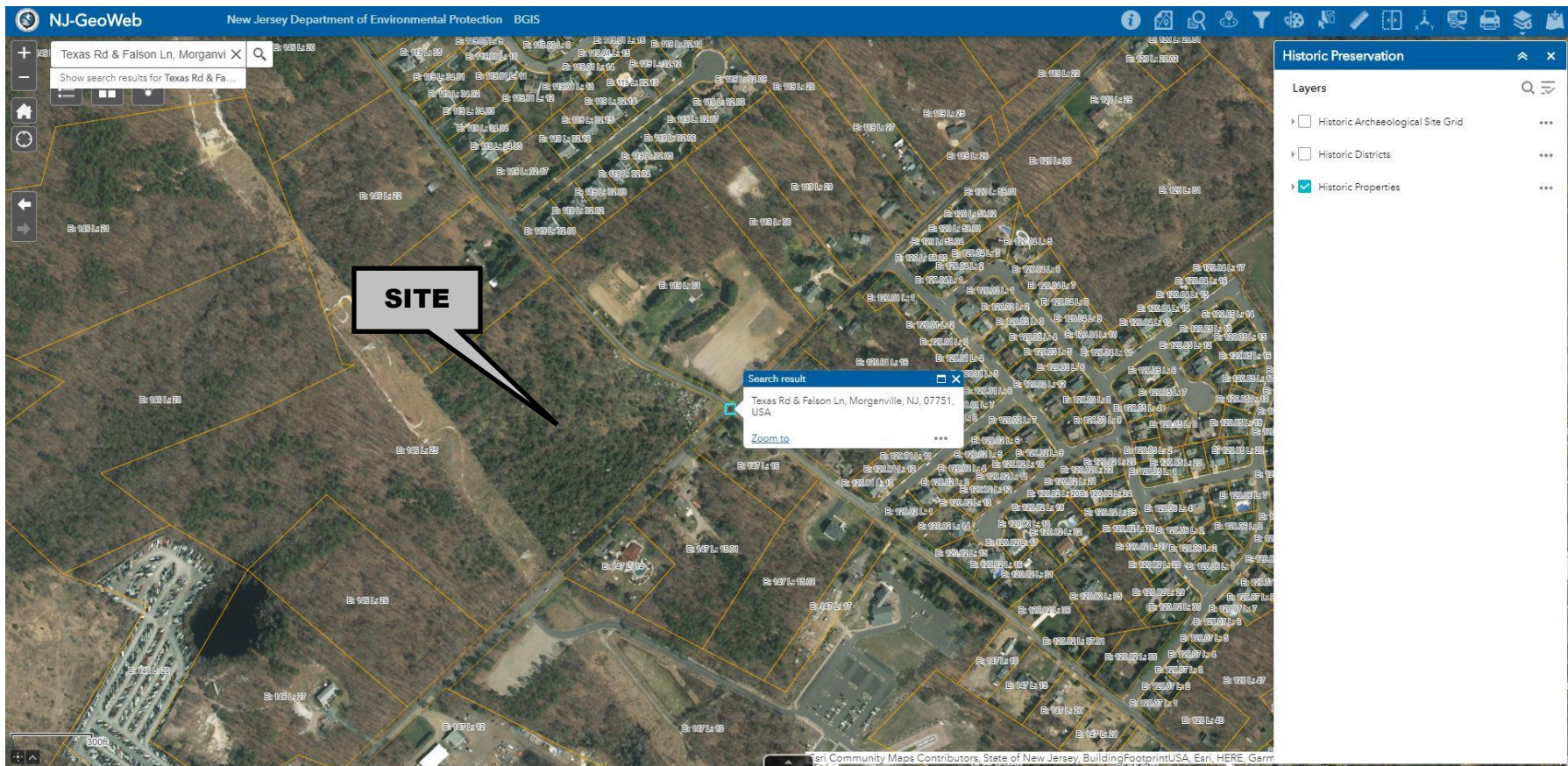
1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

245 Main Street, Suite 110, Chester, NJ 07930 T. 908-879-9229  
8 Robbins Street, Suite 102, Toms River, NJ 08753 T. 732-974-0198  
826 Newtown Yardley Rd., Suite 201, Newtown, PA 18940 T. 267-685-0276

100 NE 5<sup>th</sup> Avenue, Suite B2, Delray Beach, FL 33483 T. 561-921-8570  
14521 Old Katy Road, Suite 270, Houston, TX 77079 T. 281-789-6400  
714 S. Greenville Avenue, Suite 100, Allen, TX 75002 T. 972-534-2100



## NJDEP GeoWeb – Historic Properties



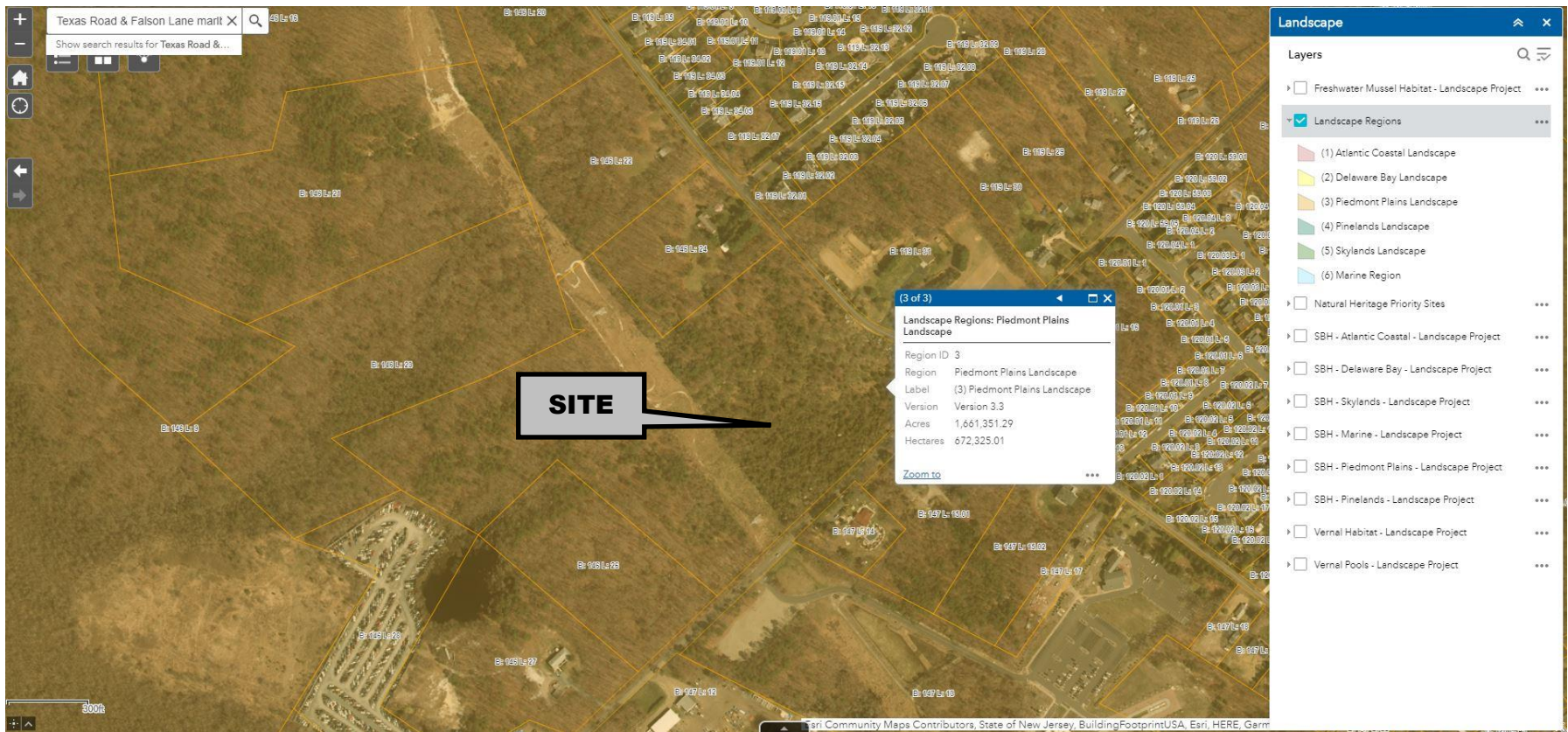
1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

245 Main Street, Suite 110, Chester, NJ 07930 T. 908-879-9229  
8 Robbins Street, Suite 102, Toms River, NJ 08753 T. 732-974-0198  
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714 S. Greenville Avenue, Suite 100, Allen, TX 75002 T. 972-534-2100

## **G. NJDEP GIS MAPPING – LANDSCAPE MAP**

## NJDEP GeoWeb – Landscape Map



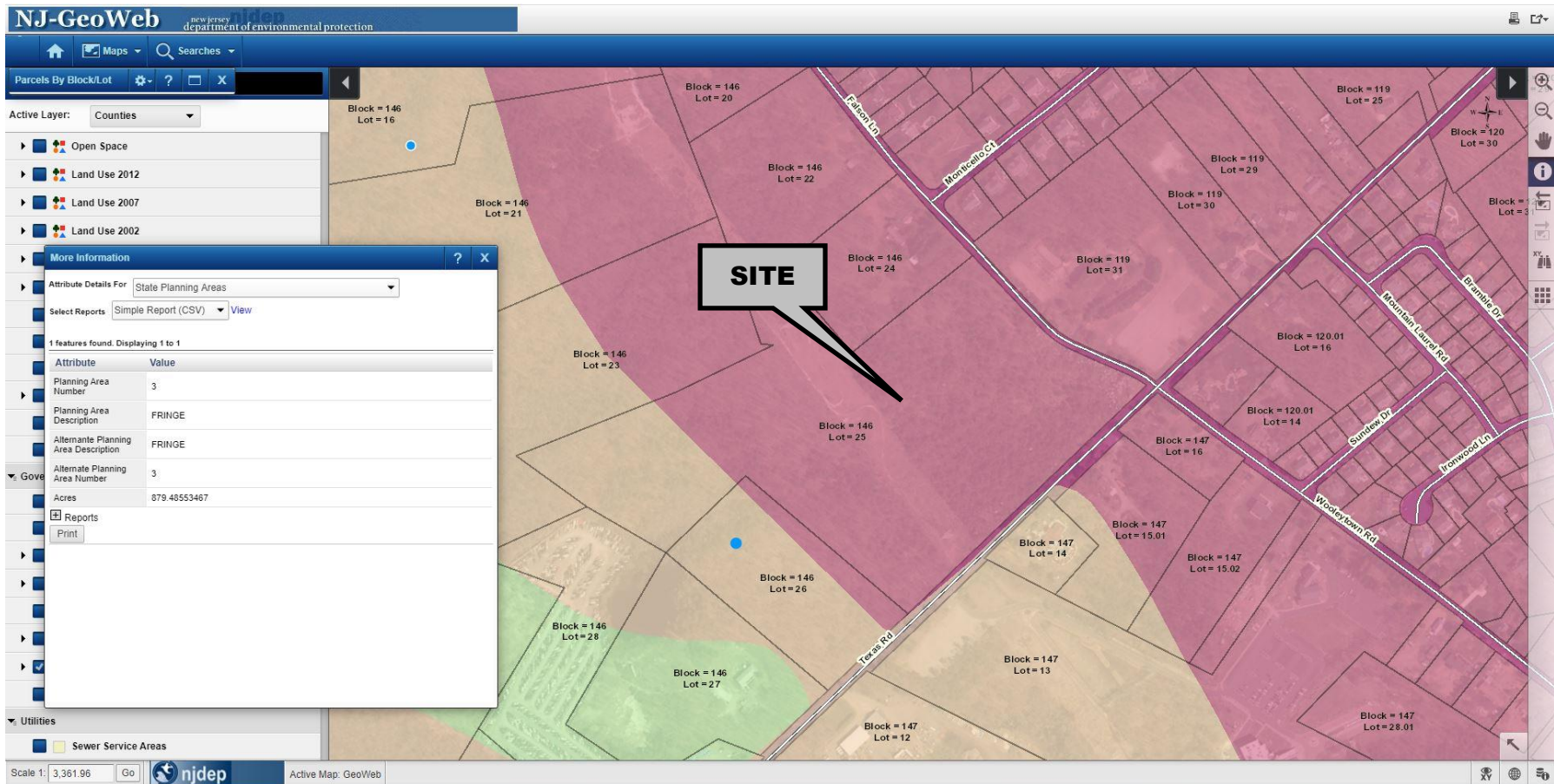
1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

245 Main Street, Suite 110, Chester, NJ 07930 T. 908-879-9229  
 8 Robbins Street, Suite 102, Toms River, NJ 08753 T. 732-974-0198  
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**H. NJDEP GIS MAPPING – STATE PLANNING AREAS  
MAP**

## NJDEP GeoWeb – State Planning Area Map



The screenshot shows the NJ-GeoWeb interface with the following details:

- Searches:** Parcels By Block/Lot
- Active Layer:** Counties
- Layers:** Open Space, Land Use 2012, Land Use 2007, Land Use 2002, More Information.
- More Information Window:**
  - Attribute Details For: State Planning Areas
  - Select Reports: Simple Report (CSV)
  - 1 features found. Displaying 1 to 1

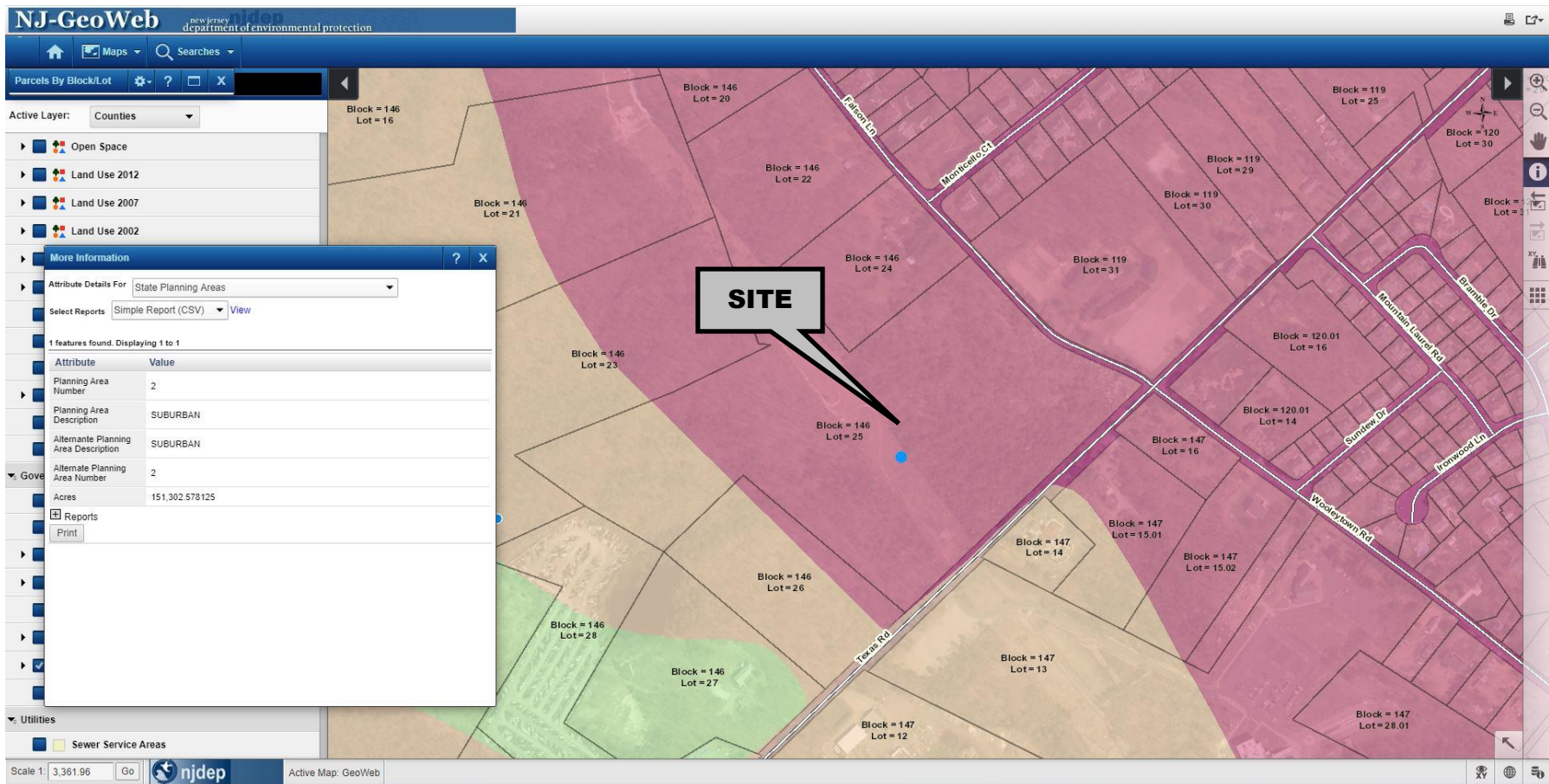
Attribute	Value
Planning Area Number	3
Planning Area Description	FRINGE
Alternate Planning Area Description	FRINGE
Alternate Planning Area Number	3
Acres	879.48553487
- Map Labels:** Block = 146 Lot = 16, 20, 21, 22, 23, 24, 25, 26, 27, 28; Block = 119 Lot = 25, 29, 30, 31; Block = 120 Lot = 30; Block = 120.01 Lot = 16, 14; Block = 147 Lot = 14, 15.01, 15.02, 13, 12, 28.01.
- Scale:** 1: 3,361.96

1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

245 Main Street, Suite 110, Chester, NJ 07930 T. 908-879-9229  
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 14521 Old Katy Road, Suite 270, Houston, TX 77079 T. 281-789-6400  
 714 S. Greenville Avenue, Suite 100, Allen, TX 75002 T. 972-534-2100

## NJDEP GeoWeb – State Planning Area Map



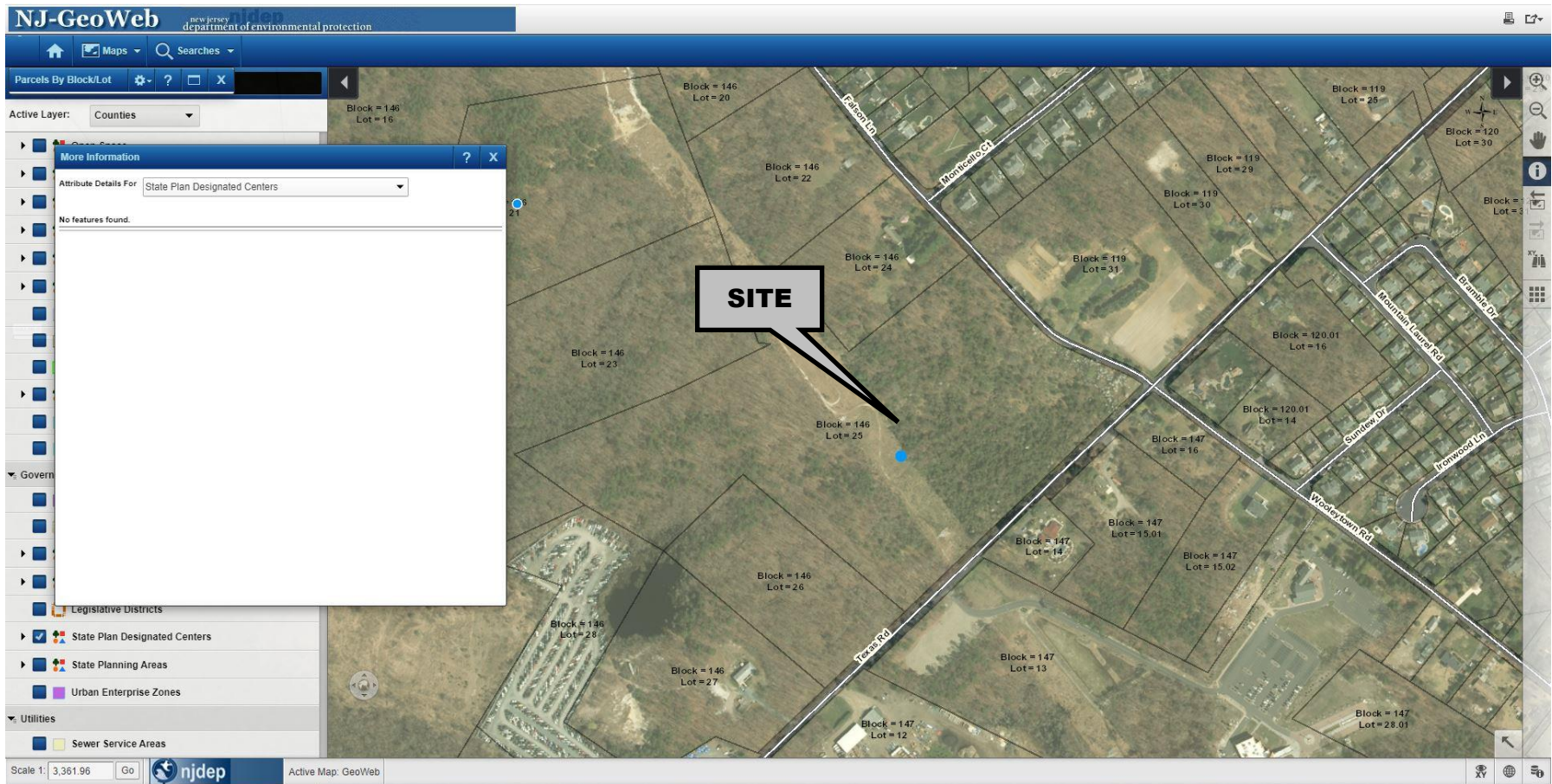
1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

245 Main Street, Suite 110, Chester, NJ 07930 T. 908-879-9229  
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## **I. NJDEP GIS MAPPING – STATE PLAN CENTERS MAP**

## NJDEP GeoWeb – State Plan Centers Map



1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

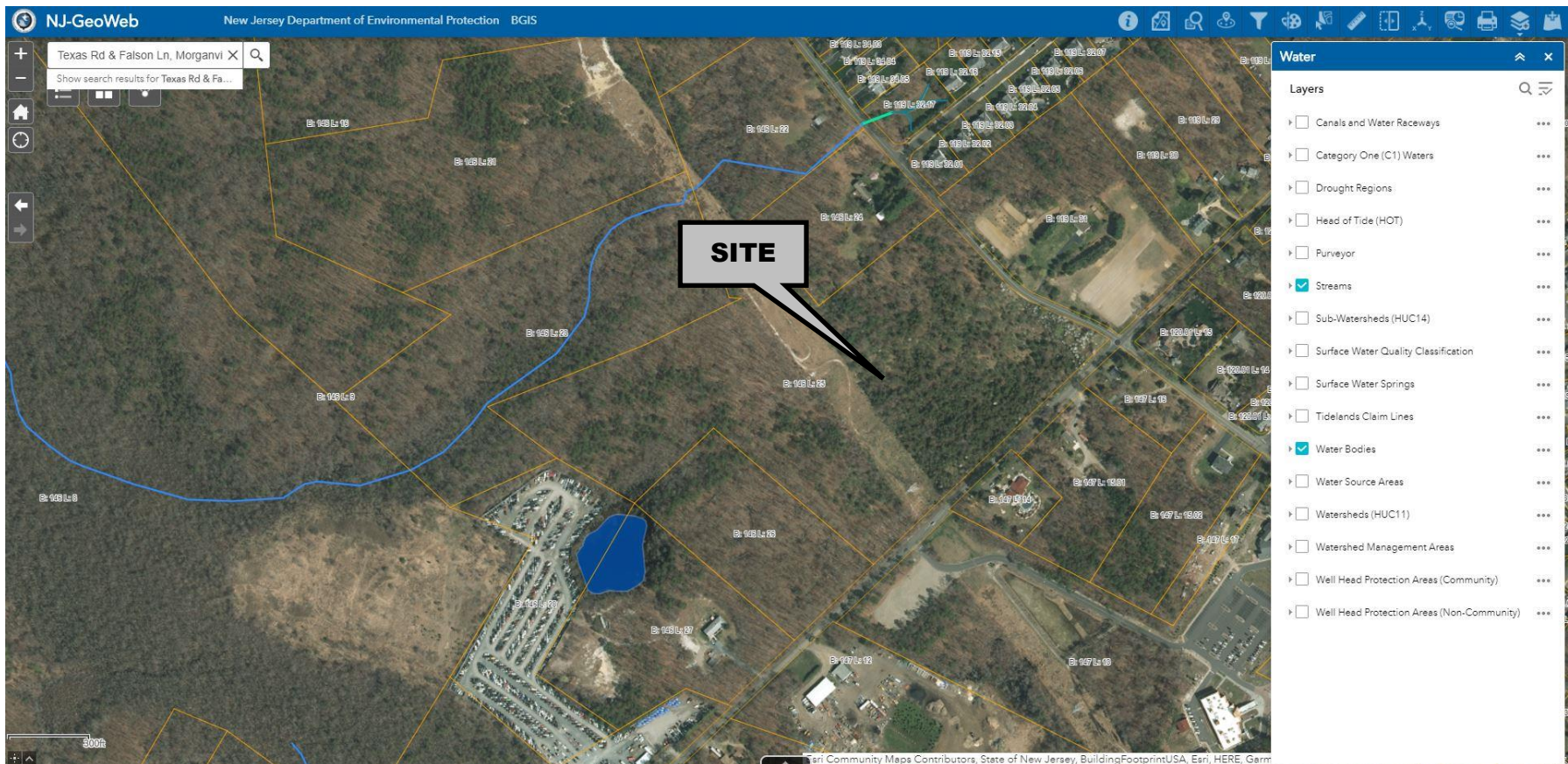
245 Main Street, Suite 110, Chester, NJ 07930 T. 908-879-9229  
8 Robbins Street, Suite 102, Toms River, NJ 08753 T. 732-974-0198  
826 Newtown Yardley Rd., Suite 201, Newtown, PA 18940 T. 267-685-0276

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**J. NJDEP GIS MAPPING – STREAMS AND  
WATERBODIES MAP**

## NJDEP GeoWeb – Streams and Waterbodies Map



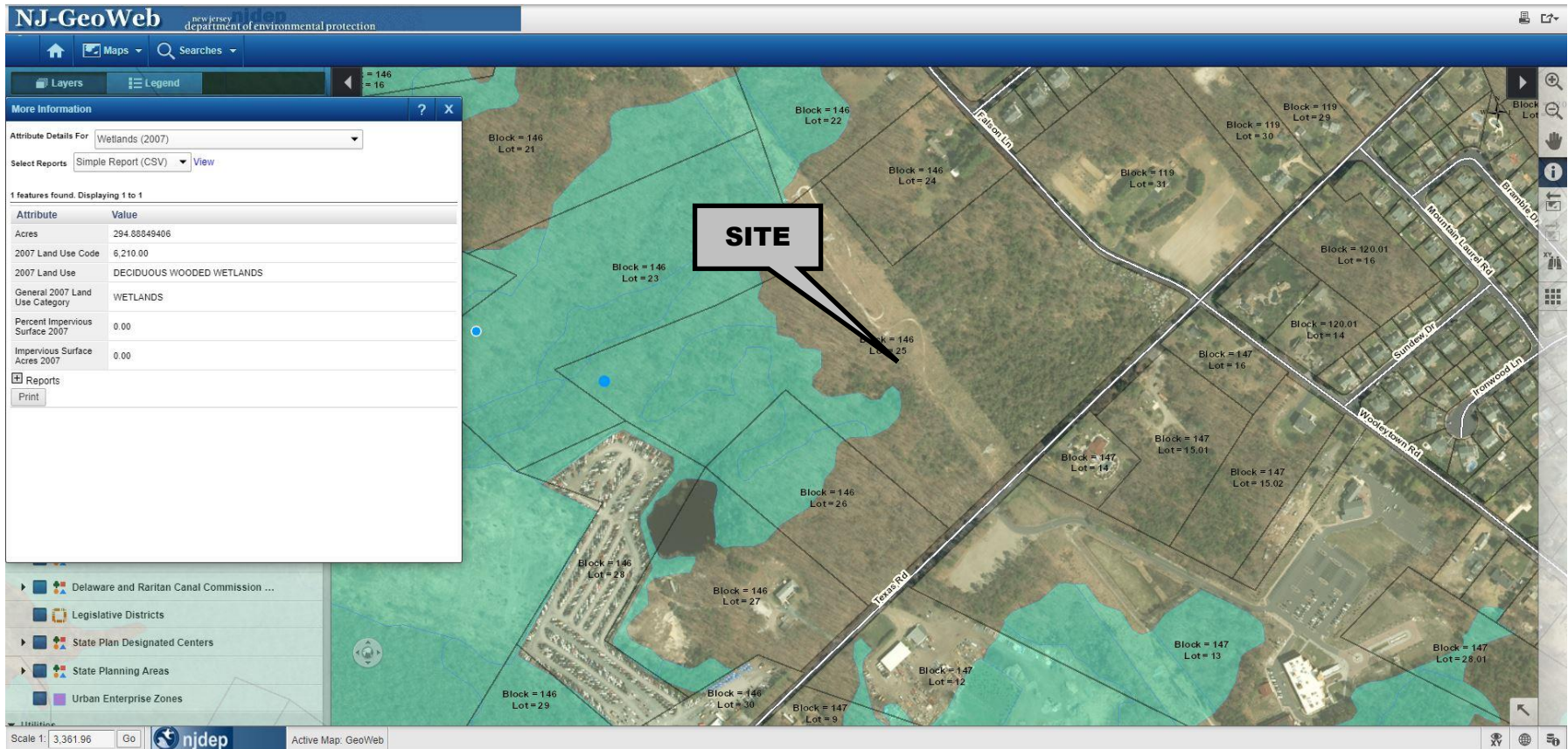
1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

245 Main Street, Suite 110, Chester, NJ 07930 T. 908-879-9229  
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## **K. NJDEP GIS MAPPING – SURFICIAL AQUIFER**

## NJDEP GeoWeb – Wetlands (2012)



The screenshot shows the NJ-GeoWeb interface with the following details:

- Header:** NJ-GeoWeb, new jersey department of environmental protection
- Navigation:** Home, Maps, Searches, Layers, Legend
- More Information Panel:**
  - Attribute Details For: Wetlands (2007)
  - Select Reports: Simple Report (CSV) View
  - 1 features found. Displaying 1 to 1

Attribute	Value
Acres	294.88849406
2007 Land Use Code	6,210.00
2007 Land Use	DECIDUOUS WOODED WETLANDS
General 2007 Land Use Category	WETLANDS
Percent Impervious Surface 2007	0.00
Impervious Surface Acres 2007	0.00

  - Reports: Print
- Map:** Aerial view with green wetland overlays. A callout box labeled "SITE" points to a specific area. Block and lot numbers are visible on the map.
- Scale:** 1: 3,361.96
- Footer:** njdep Active Map: GeoWeb

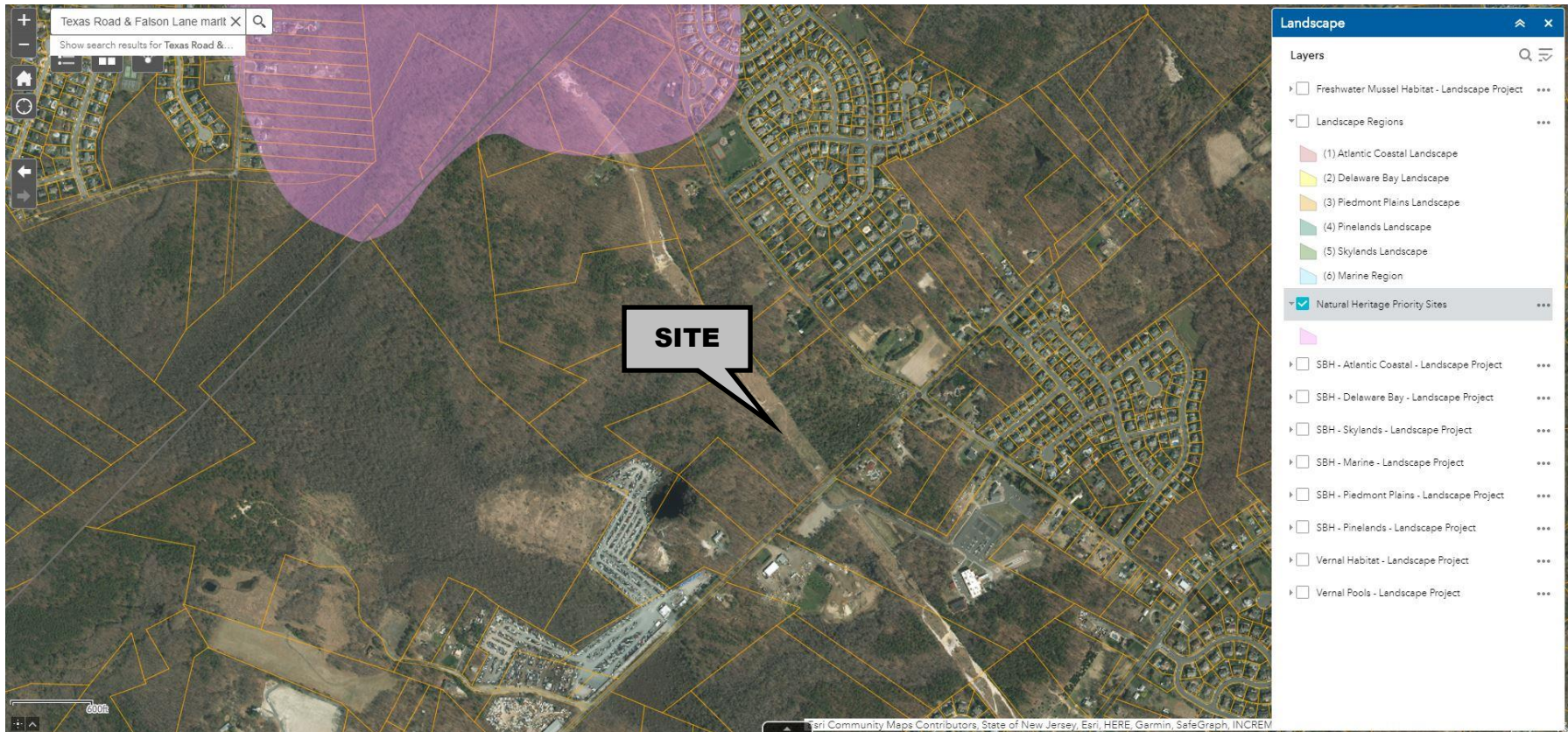
1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

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**L. NJDEP GIS MAPPING – NATURAL HERITAGE  
PRIORITY SITES MAP**

## NJDEP GeoWeb – Natural Heritage Priority Map



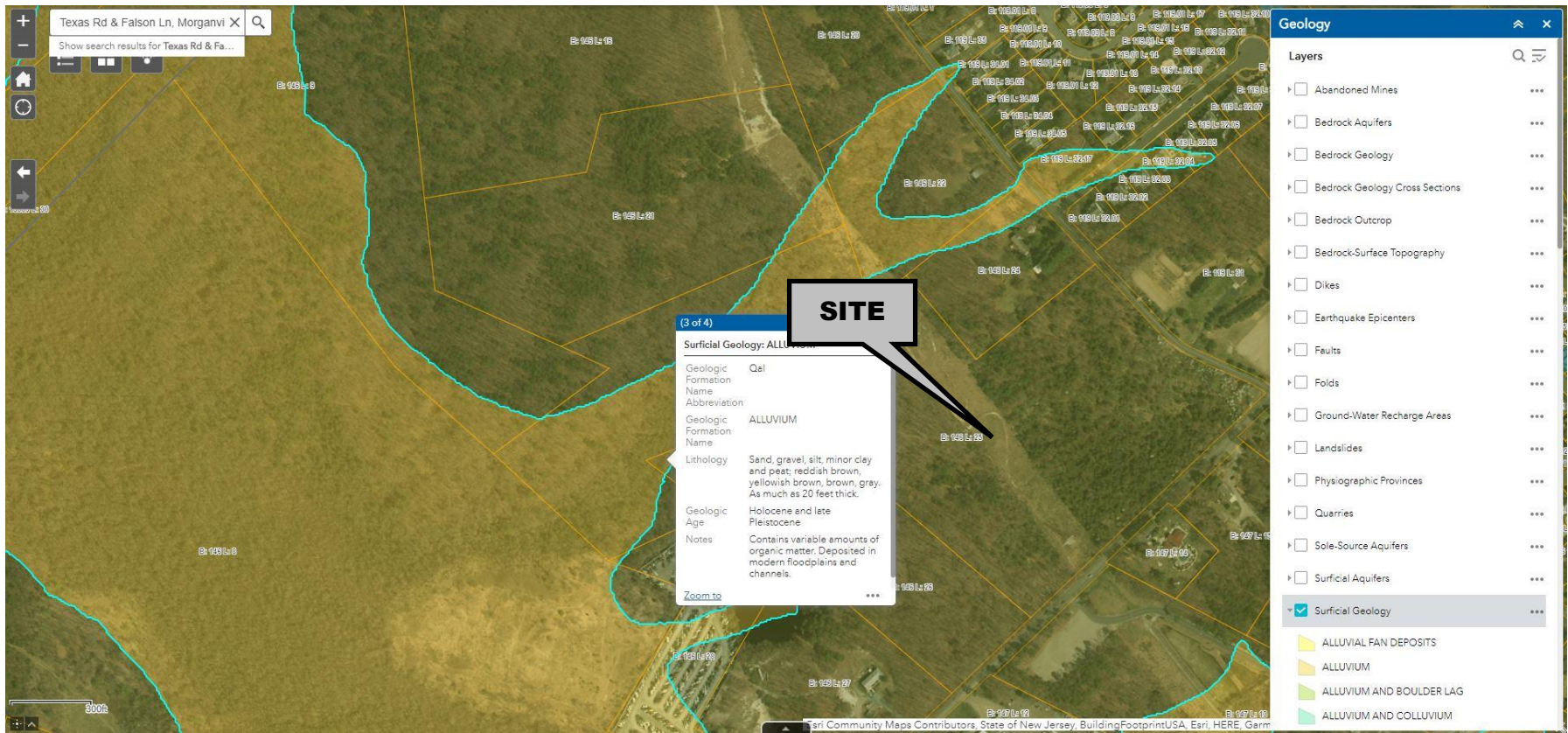
1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

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**M. SURFICIAL GEOLOGY MAPS (NJDEP GEOWEB  
NJ GEOLOGY)**

## NJDEP GeoWeb – Surficial Geology Map



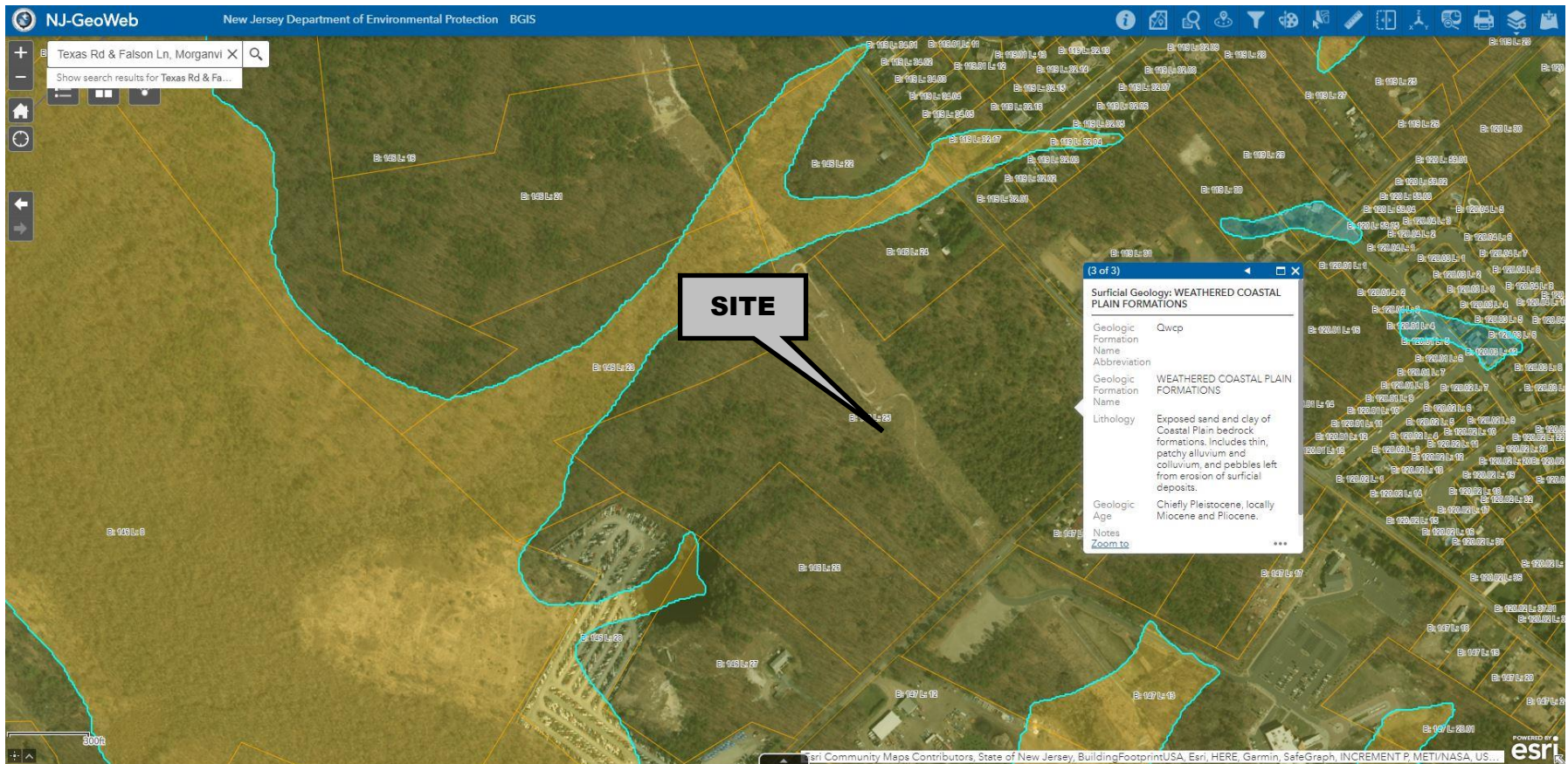
1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

245 Main Street, Suite 110, Chester, NJ 07930 T. 908-879-9229  
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## NJDEP GeoWeb – Surficial Geology Map



1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

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**N. USGS MAP WITH SITE IDENTIFIED**

**USGS MAP**  
South Amboy Quad



1904 Main Street, Lake Como, NJ 07719 T. 732-974-0198

245 Main Street, Suite 110, Chester, NJ 07930 T. 908-879-9229  
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714 S. Greenville Avenue, Suite 100, Allen, TX 75002 T. 972-534-2100

**O. CME ASSOCIATES WILL SERVE LETTER**

W. REED GUSCIORA  
MAYOR



Trenton Water Works  
Department of Water and Sewer  
P.O. Box 528, Trenton, NJ 08604-0528  
609-989-3208 FAX: 609-989-3943

DAVID C. SMITH, P.E.  
ACTING DIRECTOR, WATER & SEWER

January 16, 2020

Steven R. Cattani, P.E.  
Dynamic Engineering  
1904 Main Street  
Lake Como, NJ 07719

**RE:** 58 Thomas Rhodes Industrial Drive, Block 1520, lot 33, Hamilton Township, Mercer County, New Jersey.

Dear Mr. Cattani:

Our review of the above referenced subject reveals that safe and proper water service is available from an existing 10" water main in Thomas Rhodes Industrial Drive adjacent to the proposed project site. A copy of the Trenton Water Works' (TWW) distribution system map for the subject area is enclosed for your reference.

It is the responsibility of the engineer designing the project to determine if the proposed water service off of the existing 10" water main will provide sufficient volume and pressure to meet required demands of the proposed project. If fire sprinkler system is needed for this project then plans for the installation of fire line and/or domestic service shall be sent to the TWW Engineering Office for Backflow Preventer (BFP) and meter installation review. The TWW requires AWWA approved BFP with lead free detector check meter. This meter shall be a Sensus SR with an ECR register and touch pad device for outside reading. If fire flow test information is needed, the design engineer shall perform the flow test by using his or her own gauges in the presence of a TWW representative. The schedule of flow test to witness can be set up by calling TWW at (609) 989-3212.

A letter from the design engineer of the fire sprinkler system shall be provided to the TWW that the system has been designed in accordance with approved design drawing and prevailing standards. In addition, the letter shall state the hydraulic data of the TWW's water system used in the design calculation with flow test data including name of the person who witness the flow test from TWW. The tapping locations and detail for the water services shall be submitted for the TWW review. The fireline and domestic services installation shall be per TWW's requirements after the job is approved by TWW. It is also the responsibility of the owner/developer to verify from Engineering Department of Hamilton Township that the road is not under a street opening moratorium at the time of the construction.

The water service application shall be filled out with Billing Office of TWW to establish fire line

**RE:** 58 Thomas Rhodes Industrial Drive, Block 1520, lot 33, Hamilton Township, Mercer County, New Jersey.  
Page 2 of 2

and domestic services account. The Billing Office is located at 333 Cortland Street, Trenton, NJ 08638.

If you have any questions, you may contact Jose Cotto, Water Repairer II, by calling (609) 989-3444.

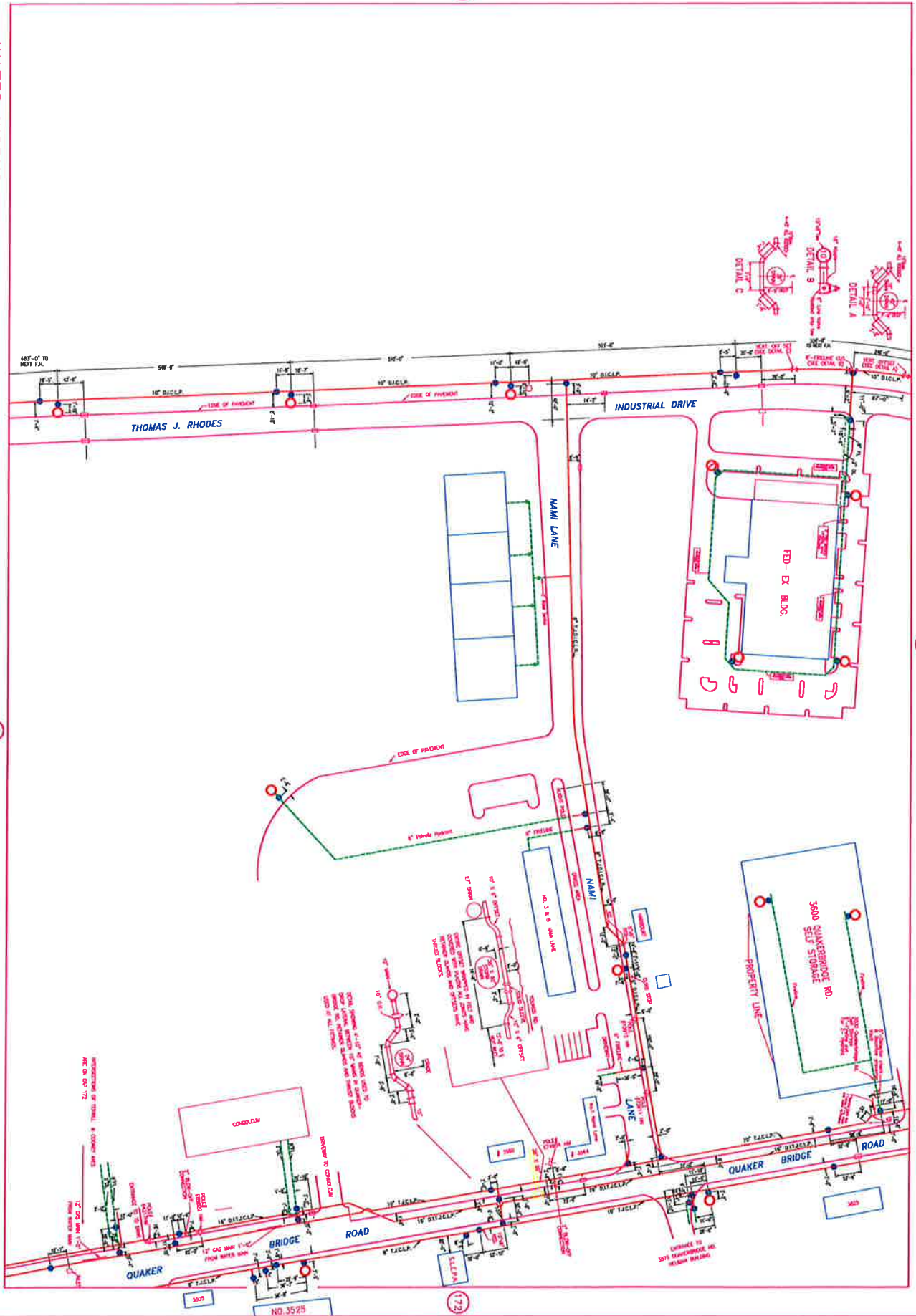
Sincerely,



Dilip Patel, P.E.  
Supervising Engineer

encl: 1

cc: David Smith, P.E.  
Jose Cotto



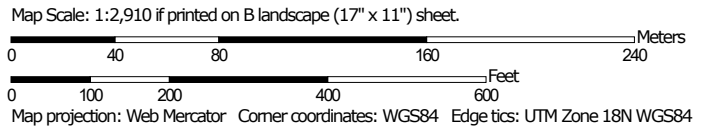
## **P. NRCS HYDROLOGICAL SOIL GROUP**



Soil Map—Monmouth County, New Jersey  
(Pallu Soils Map)



Soil Map may not be valid at this scale.



## 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: Monmouth County, New Jersey  
Survey Area Data: Version 14, Jun 1, 2020

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

Date(s) aerial images were photographed: Jun 29, 2019—Jul 16, 2019

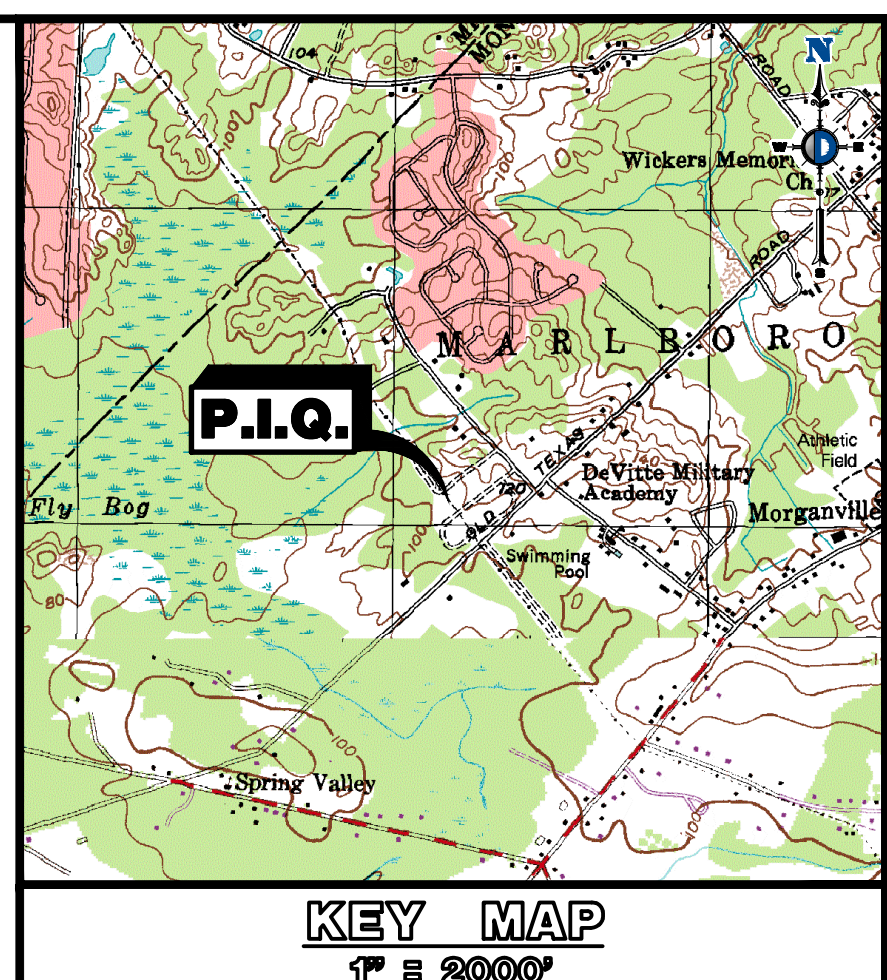
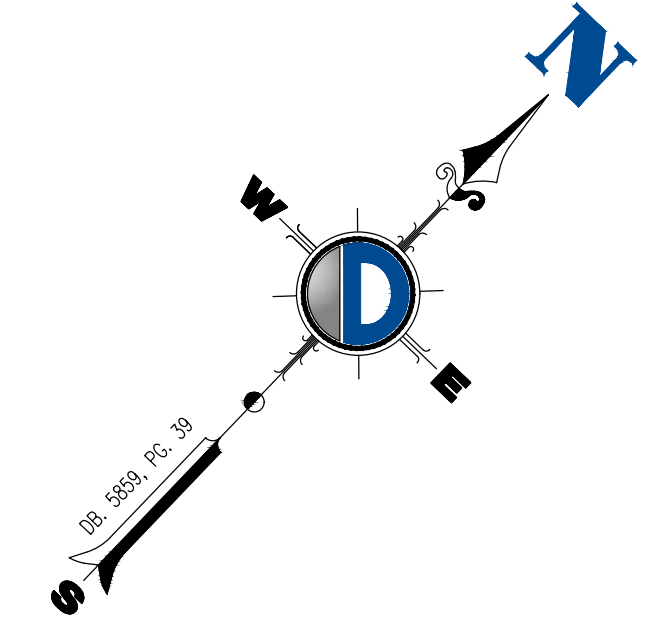
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AtsA	Atsion sand, 0 to 2 percent slopes, Northern Coastal Plain	2.0	5.5%
EveB	Evesboro sand, 0 to 5 percent slopes	0.5	1.4%
KemB	Keyport sandy loam, 2 to 5 percent slopes	11.1	30.7%
LakB	Lakehurst sand, 0 to 5 percent slopes	16.1	44.6%
LasB	Lakewood sand, 0 to 5 percent slopes	0.0	0.0%
LasC	Lakewood sand, 5 to 10 percent slopes	4.8	13.3%
MakAt	Manahawkin muck, 0 to 2 percent slopes, frequently flooded	0.1	0.4%
SacE	Sassafras sandy loam, 15 to 25 percent slopes	1.5	4.2%
<b>Totals for Area of Interest</b>		<b>36.2</b>	<b>100.0%</b>

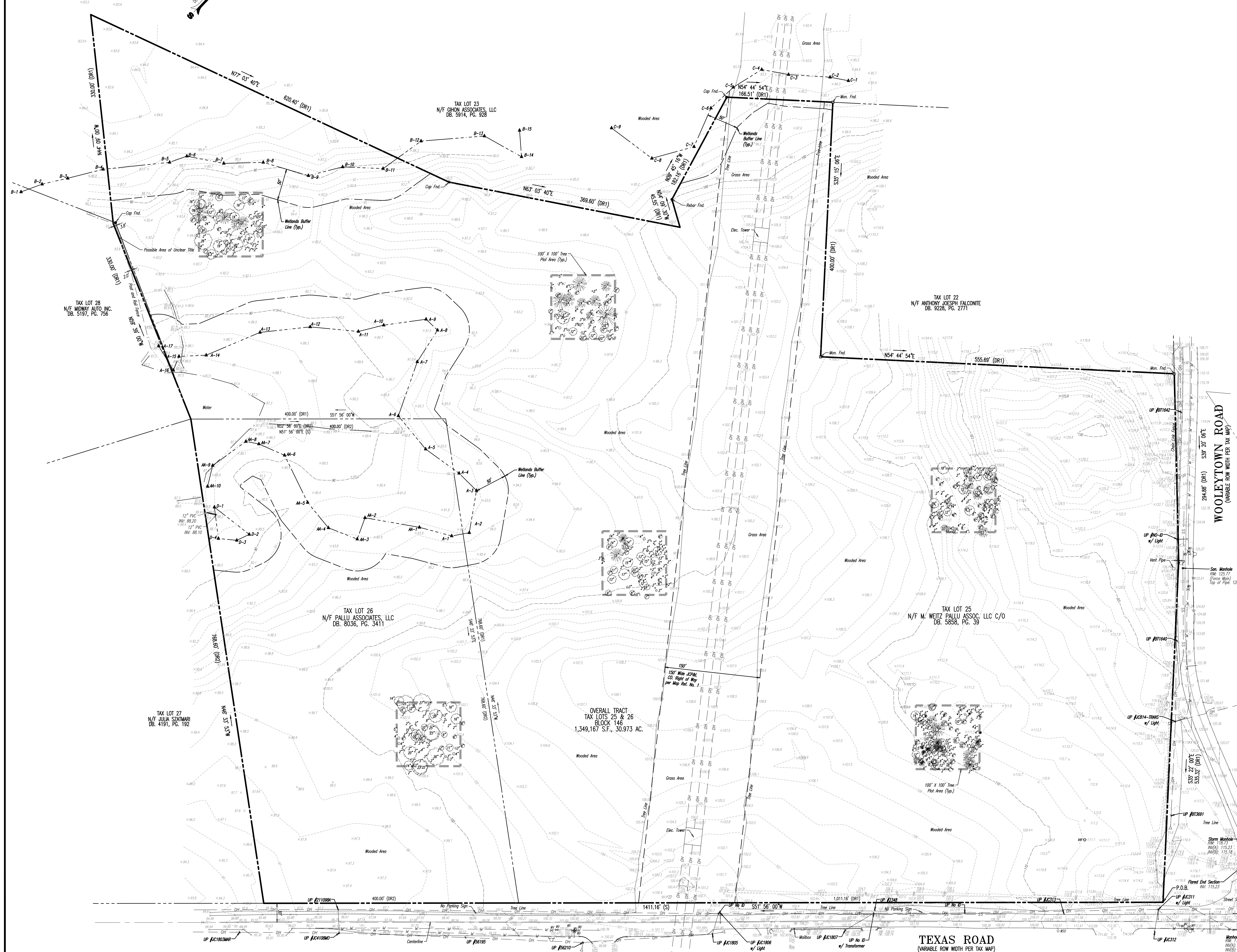
**Q. BOUNDARY & TOPOGRAPHIC SURVEY  
PREPARED BY DYNAMIC SURVEY, LLC, DATED  
JULY 31, 2020**

Printed: 07/31/20 3:28 PM, By: rguzman  
 File: \\spsc001\survey\DATA\USURVEY\PROJECTS\041 Pallu Associates, LLC\99-0015 Marlboro (Orig) Block 146.dwg, -----> 30x42 Survey  
 COPYRIGHT 2020 - DYNAMIC ENGINEERING CONSULTANTS, PC - ALL RIGHTS RESERVED



**DYNAMIC SURVEY, LLC**  
 SURVEY • TRAFFIC

REV.	DATE	COMMENTS



- GENERAL NOTES**
- THE LOT AND BLOCK NUMBERS SHOWN ARE BASED ON THE TAX MAP OF THE TOWNSHIP OF MARLBORO, MONMOUTH COUNTY, NEW JERSEY, SHEET NO. 25.
  - HORIZONTAL DATUM - BASED ON DEED BOOK 5858, PAGE 39.
  - VERTICAL DATUM - NAVD 83 (GEOID 12A) BASED ON GPS FIELD OBSERVATIONS PERFORMED BY DYNAMIC SURVEY ON MAY 19, 2020, UTILIZING THE LEICA RXR CORE NETWORK.
  - FIELD WORK PERFORMED BY DYNAMIC SURVEY MAY 19, 2020 THROUGH JUNE 12, 2020.
  - SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONDITIONS THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT. PROPERTY IS SUBJECT TO SUBSURFACE CONDITIONS AND/OR ENCROACHMENTS NOT DISCLOSED BY PUBLIC RECORD, IF ANY.
  - DYNAMIC SURVEY MAKES NO GUARANTEES THAT ALL UTILITIES ARE SHOWN AND ANY LOCATIONS SHOWN ARE APPROXIMATE BASED ON AVAILABLE RECORDS. OTHERWISE, ALL UTILITY LOCATIONS MUST BE VERIFIED WITH THE PROPER UTILITY COMPANIES PRIOR TO ADDITIONAL DESIGN, EXCAVATION OR CONSTRUCTION. CONTACT UTILITIES TOLL FREE 1-800-272-1000.
  - NOT ALL LOT LINES OUTSIDE THE BOUNDARY OF THE SUBJECT PROPERTY SHOWN HEREON HAVE BEEN FIELD SURVEYED AND ARE SHOWN AS A GRAPHICAL REPRESENTATION OF EXISTING LOT LINES BASED ON DEED, FLEED MAPS AND TAX MAP INFORMATION.
  - WETLANDS INFORMATION SHOWN HEREON WAS FIELD DELINEATED BY DURDIS ENVIRONMENTAL CONSULTANTS ON 9/27/2018.
  - NO ATTEMPT WAS MADE OR LIABILITY IS ASSIGNED TO DETERMINE IF ANY PORTION OF THIS PROPERTY IS CLAIMED BY THE STATE OF NEW JERSEY AS TIDELANDS.
  - THE OFFSETS SHOWN ON THIS PLAN SHALL NOT BE USED AS THE BASIS FOR THE CONSTRUCTION OF FENCES OR ANY OTHER PERMANENT STRUCTURES.
  - THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT, OTHER DOCUMENTS OF RECORD MAY EXIST THAT WOULD AFFECT THIS PARCEL.
  - SUBJECT TO ROAD RIGHT-OF-WAY, ALL EASEMENTS, ORDINANCES, COVENANTS, AGREEMENTS AND/OR RESTRICTIONS OF RECORD, PERTINENT DOCUMENTS OF RECORD REVIEWED AND CONSIDERED AS A PART OF THIS SURVEY ARE NOT HEREON. OTHER DOCUMENTS OF RECORD MAY EXIST THAT WOULD AFFECT THIS PARCEL.
  - NOT ALL TREES ARE SHOWN HEREON. PER CONTRACTUAL AGREEMENT TREE PLANT AREAS, SHOWN HEREON WOULD BE TREES 2 INCHES OR GREATER IN DIAMETER AT 4' HIGH.

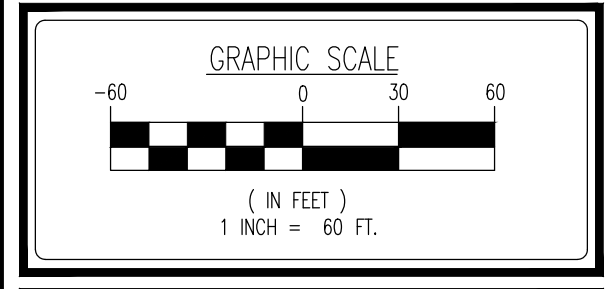
- MAP REFERENCES**
- A PLAN ENTITLED LOT 25, BLOCK 146, MARLBORO TOWNSHIP, MONMOUTH COUNTY, NEW JERSEY, WETLANDS LOCATION PLAN, PREPARED BY CREST ENGINEERING SERVICES, INC., DATED 5/19/97 AND REVISED THROUGH 6/27/1997.

- DEED REFERENCES**
- DEED BOOK 5858, PAGE 39 - LOT 25
  - DEED BOOK 8036, PAGE 3411 - LOT 26
  - DEED BOOK 9141, PAGE 7285 - LOT 24

- SUBJECT TO**
- JERSEY EASEMENT LISTED WITHIN DEED BOOK 8767, PAGE 2056 REGARDING UTILITY POLE EASEMENT SHOWN HEREON.

**SURVEY LEGEND:**

(MR)	MAP REFERENCE	(DR)	DEED REFERENCE	(ST)	SURVEY	(BOS)	BOTTOM OF STRUCTURE	(TOS)	TOP OF STRUCTURE	(AA)	ALSO KNOWN AS	(FNA)	FORMERLY KNOWN AS	(C/L)	CENTERLINE



**DYNAMIC SURVEY, LLC**  
 BOUNDARY & TOPOGRAPHIC SURVEY • FINAL SURVEYS  
 HYDROGRAPHIC SURVEY • CONSTRUCTION STAKEOUT  
 ALTA/NSR LAND TITLE • FOUNDATION LOCATION

1904 Main Street, Lake Como, NJ 07719  
 T: 732.749.8780 | F: 732.974.3521

Offices conveniently located at:  
 Lake Como, New Jersey • 732.749.8780  
 Cherry Hill, New Jersey • 856.681.9229  
 Newark, New Jersey • 973.751.2200  
 Springfield, New Jersey • 973.662.0800  
 Newton, Pennsylvania • 717.865.0076  
 Glen Ridge, New Jersey • 973.984.0000  
 Houston, Texas • 713.381.0800  
 South Plainfield, New Jersey • 973.684.0000  
 Denver, South Dakota • 605.997.9000

www.dynamiccc.com

**PROJECT: PALLU ASSOCIATES**

BLOCK 146, LOTS 25 & 26  
 TEXAS ROAD AND FAULCON LANE  
 TOWNSHIP OF MARLBORO, MONMOUTH COUNTY, NEW JERSEY

**CRAIG BLACK**

PROFESSIONAL ENGINEER &  
 LAND SURVEYOR  
 NEW JERSEY LICENSE NO. 24680425400

Only copies of the original survey with an original land surveyor's embossed seal and signature that this certification was prepared in accordance with the existing rules of practice adopted by the New Jersey State Board of Professional Engineers and Land Surveyors. Certification indicates that the survey was performed by the person whose certification is prepared, and on his behalf to the title company, governmental agency and lending institution. These certifications are not transferable to additional institutions or subsequent owners. Unaudited copies or additions to a certification bearing a former land surveyor's seal is illegal and punishable by law. Property subject to documents of record.

**TITLE: BOUNDARY & TOPOGRAPHIC SURVEY**

PROJECT: 2841-99-0015  
 SCALE: 1"=60'  
 DATE: 07/31/2020

SHEET NO: **1** OF 1

**R. WMUA RESOLUTION FOR WQMP DATED  
MARCH 24, 2020**

**TREE PRESERVATION & WOODLAND MANAGEMENT NOTES**

- A. PRE-CONSTRUCTION PHASE: THE PERIOD OF TIME BETWEEN PLAN APPROVAL AND THE BEGINNING OF CLEARING AND GRADING. AT THIS TIME THE INITIAL STEPS OF THE PROTECTION PLAN LISTED BELOW MUST BE PUT IN PLACE. THEY MUST BE COMPLETED BEFORE THE PLANNING DEPARTMENT ENFORCEMENT AND MONITORING STAFF WILL BEGIN THE START OF CLEARING AND GRADING. AFTER THE LIMITS OF DISTURBANCE HAVE BEEN STAKED AND FLAGGED, BUT BEFORE ANY CLEARING OR GRADING BEGINS, THE APPLICANT MUST REQUEST A PRE-CONSTRUCTION MEETING AT THE CONSTRUCTION SITE. THE ATTENDANCE AT THIS MEETING SHOULD INCLUDE:
- THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER;
  - THE ON-SITE (SUBCONTRACTOR) FOREMAN, OR SUPERINTENDENT IN CHARGE OF LAND DISTURBING, CLEARING, SEDIMENT CONTROL AND GRADING WORK;
  - THE TREE PROFESSIONAL CONTRACTED BY THE DEVELOPER (IF APPLICABLE); AND
  - THE APPROPRIATE LOCAL INSPECTORS.
- THE PURPOSE OF THE MEETING WILL BE TO FIELD VERIFY THE LIMITS OF CLEARING SPECIFIED ON THE APPROVED PLAN, AUTHORIZE NECESSARY ADJUSTMENTS AND AUTHORIZE INSTALLATION OF PROTECTION DEVICES. ENFORCEMENT STAFF WILL ALSO DISCUSS THE VALUE AND IMPORTANCE OF THE PRESERVATION AREAS AND OBTAIN RESPONSIBILITIES AND THE POSSIBILITY OF VIOLATIONS PENALTIES. AN ADDITIONAL INSPECTION MAY BE REQUIRED AFTER INSTALLATION OF THE PROTECTED DEVICES AND/OR AFTER INITIAL CLEARING (IF SELECTIVE CLEARING IS PLANNED) BEFORE CONSTRUCTION IS AUTHORIZED TO BEGIN.
- B. STRESS REDUCTION MEASURES: TREES ALONG THE EDGE OF WOODED RETENTION AREAS AND SPECIMEN TREES WHICH ARE EITHER PART OF THE WOODED RETENTION AREA OR WHICH STAND ALONE ARE SUBJECT TO VARIOUS STRESSES DURING DEVELOPMENT. THESE TREES MUST BE EVALUATED BY A QUALIFIED TREE CARE PROFESSIONAL TO DETERMINE IF THEY WILL EXPERIENCE ANY OF THE FOLLOWING IMPACTS DURING ANY PHASE OF THE CONSTRUCTION PROCESS:
- DAMAGE TO THE CRITICAL ZONE (GREATER THAN 30% OF THE CRZ DISTURBED): GRADE CHANGES, UTILITY INSTALLATION, EXCAVATION, SOIL COMPACTION;
  - ALTERED NATURAL CONDITIONS: HYDROLOGY CHANGES, REMOVAL OF SURROUNDING TREES;
  - DAMAGING CONSTRUCTION ACTIVITIES: BLASTING, VIBRATIONS FROM EQUIPMENT;
  - EXTREME WEATHER CONDITIONS: TEMPERATURE AND MOISTURE EXTREMES.
- THE APPLICANT MUST PROVIDE A LIST OF RECOMMENDED STRESS REDUCTION MEASURES FOR EACH SPECIMEN TREE. THESE MEASURES MUST BE TAKEN AS FAR IN ADVANCE OF CONSTRUCTION IN ORDER TO BETTER THE TREE'S CHANCES OF SURVIVAL. APPROPRIATE MEASURES COULD INCLUDE:
- ROOT PRUNING - PRUNE BEFORE CONSTRUCTION USING PROPER EQUIPMENT TO ENSURE A CLEAN CUT. EXPOSED ROOTS SHOULD BE COVERED IMMEDIATELY WITH TOPSOIL, PEAT MOSS OR OTHER SUITABLE MATERIAL.
  - CROWN REDUCTION OR PRUNING - REMOVE NO MORE THAN 1/3 OF THE CROWN USING ACCEPTABLE PRUNING STANDARDS AT THE SPECIFIED TIMES OF THE YEAR.
  - WATERING - DESIGN A WATERING SYSTEM AS DIRECTED BY A TREE CARE PROFESSIONAL.
  - FERTILIZING - APPLY A LOW NITROGEN, SLOW RELEASE FERTILIZER IN LATE FALL OR EARLY SPRING.
  - MULCHING - MULCH MAY BE APPLIED AT A MAXIMUM OF FOUR TO SIX INCHES (MINIMUM OF 2 INCHES).
- C. INSTALLATION OF PROTECTION DEVICES: CONSTRUCTION ACTIVITIES CANNOT TAKE PLACE IN A WOODED RETENTION AREA. THIS INCLUDES SITING OR CONSTRUCTION OF UTILITY LINES, ACCESS ROADS, STAGING AREAS, STORAGE AREAS, TEMPORARY PARKING, STORMWATER MANAGEMENT FACILITIES, IMPROVED SURFACES AND LIMITS OF GRADING. RETENTION AREAS WHICH ARE LOST DUE TO THESE TYPES OF IMPACTS MUST BE COMPENSATED BY OTHER RETENTION AREAS AND MAY SUBJECT THE APPLICANT TO THE NON-COMPLIANCE PENALTIES.
- PROTECTION DEVICES MUST BE HIGHLY VISIBLE AT LEAST A FEET HIGH, AND PLACED TOTALLY OUTSIDE OF THE RETENTION AREA. THEY ARE TO BE PUT IN PLACE PRIOR TO ANY LAND CLEARING OR GRADING AND SHALL BE MAINTAINED DURING THE ENTIRE CONSTRUCTION PHASE INCLUDING FINE GRADING AND FINAL SEEDING. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PROTECTION DEVICES SHALL BE ALLOWED WITHIN THE PROTECTED AREAS. NONE OF THESE DEVICES SHALL BE IN ANY WAY ANCHORED OR ATTACHED TO THE TREES TO BE SAVED.
- SHORT-TERM PROTECTION DEVICES MAY INCLUDE THE FOLLOWING (OR OTHERS APPROVED BY STAFF):
- CHAIN-LINK FENCE;
  - SNOW FENCING;
  - ORANGE PLASTIC FENCING;
  - SIGNAGE;
  - FILTER CLOTH;
  - STRAW BALE DIKE;
  - PERIMETER DIKE OR SWALE;
  - JERSEY BARRIERS
- THESE MATERIALS SHOULD BE TAKEN WHEN A SIGNIFICANT PORTION OF THE CRITICAL ROOT ZONE OF A SPECIMEN TREE OR RETENTION EDGE IS IMPACTED BY CONSTRUCTION SUCH THAT WITHOUT THESE MEASURES THE TREES WILL DIE. THESE DEVICES INCLUDE:
- ROOT AERATION SYSTEMS;
  - RETAINING WALLS;
  - RAISED SIDEWALKS;
  - PIER AND PANEL WALLS;
  - TUNNELING
- D. CONSTRUCTION PHASE: DURING THE LIFE OF THE PROJECT, ENFORCEMENT STAFF WILL PERFORM PERIODIC INSPECTIONS. THESE INSPECTIONS SHALL TYPICALLY TAKE PLACE DURING AND JUST AFTER THE CLEARING HAS TAKEN PLACE, AFTER MAJOR STORM EVENTS, DURING AND AFTER TREES HAVE BEEN NEARLY PLANTED AND IN RESPONSE TO COMPLAINTS FROM CITIZENS OR OTHERS. ENFORCEMENT STAFF WILL GIVE WRITTEN NOTICE OF ANY PROBLEMS TO THE PROJECT MANAGER WHO WILL BE EXPECTED TO CORRECT THEM IN A TIMELY MANNER. RECOMMENDATIONS FROM A QUALIFIED TREE CARE PROFESSIONAL MAY BE REQUIRED IF INSPECTION STAFF DETERMINE THAT IT IS NECESSARY. FAILURE TO RESPOND APPROPRIATELY TO WRITTEN NOTICE WILL CAUSE THE SITE TO BE PLACED IN NON-COMPLIANCE AND PENALTIES SHALL BE APPLIED.
- PROBLEMS CAUSED BY CONSTRUCTION IMPACTS MAY INCLUDE:
- DEAD, DYING OR HAZARDOUS TREES OR TREE LIMBS;
  - PROTECTIVE BARRIERS NEED REPAIR OR REPLACEMENT;
  - STORAGE OF MATERIAL, STOCKPILES OR TRASH IN RETENTION AREAS;
  - EXCESSIVE FLOODING OR SITUATION OF THE RETENTION AREAS;
  - OVER-CLEARING
- WOODLANDS MANAGEMENT
- THE APPLICANT WILL POST A PERFORMANCE BOND AND MAINTENANCE BOND (IF REQUIRED) TO COVER THE COST OF THE REMOVAL OF DEAD AND HAZARDOUS TREES ASSOCIATED WITH THE NEW TREE LINE DUE TO DEBRIS FROM ASSOCIATED CONSTRUCTION ACTIVITIES (SOIL COMPACTION, RETAINING WALL CONSTRUCTION, GRADING, ETC.).

**TOTAL ACRES OF WOODLANDS DISTURBED: 6.81 AC**

**LEGEND**

- AREA OF WOODS TO BE REMOVED (296,407 SF, 6.81 AC)
- AREA OF WOODS TO REMAIN (4,396 SF, 0.10 AC)

TOWNSHIP APPLICATION NO. 20-01-006

REVIEWED BY:

TOWNSHIP PLANNER \_\_\_\_\_ DATE \_\_\_\_\_

TOWNSHIP ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

**THIS PLAN SET IS FOR PERMITTING PURPOSES ONLY AND MAY NOT BE USED FOR CONSTRUCTION**

**DYNAMIC ENGINEERING**

LAND DEVELOPMENT CONSULTING • PERMITTING • GEOTECHNICAL • ENVIRONMENTAL • SURVEY • PLANNING & ZONING

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Newtown, PA 18840  
T: 287.885.0318  
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www.dynanotec.com

TITLE: **TREE PRESERVATION & WOODLAND MANAGEMENT PLAN**

PROJECT: **58 THOMAS J. RHODES INDUSTRIAL DR LLC PROPOSED WAREHOUSE**

BLOCK 1520.01 LOT 53  
THOMAS RHODES J. INDUSTRIAL DRIVE  
TOWNSHIP OF HAMILTON, MERCER COUNTY, NEW JERSEY

JOB No: 2738-99-003 DATE: 01/29/2020

DRAWN BY: AJW SCALE: (H) 1"=40' (V)

DESIGNED BY: SRC SHEET No:

CHECKED BY: SRC

CHECKED BY: -

**STEVEN R. CATTANI** **JUSTIN A. GEONNOTTI**

PROFESSIONAL ENGINEER NEW JERSEY LICENSE No. 40014

PROFESSIONAL ENGINEER

**15**

OF 28

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FOR STATE-SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

Rev. # 1

**TREE REMOVAL/REPLACEMENT CALCULATIONS:**

A. ACCORDING TO §550-117 OF THE TOWNSHIP OF HAMILTON LAND USE ORDINANCE, TREES SHALL BE REPLANTED USING ONE OF THE FOLLOWING FORMULAS, WHICHEVER IS GREATER:

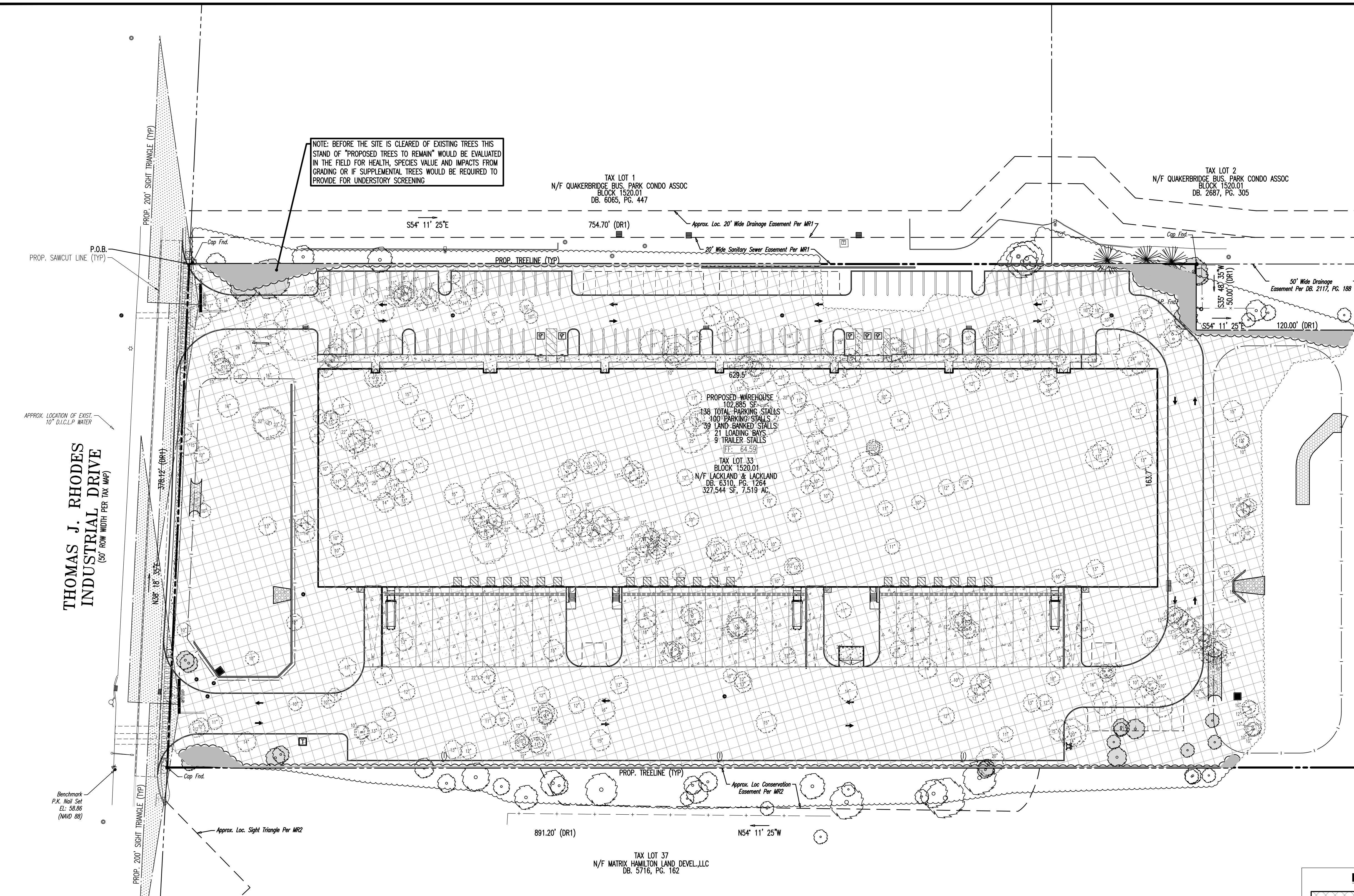
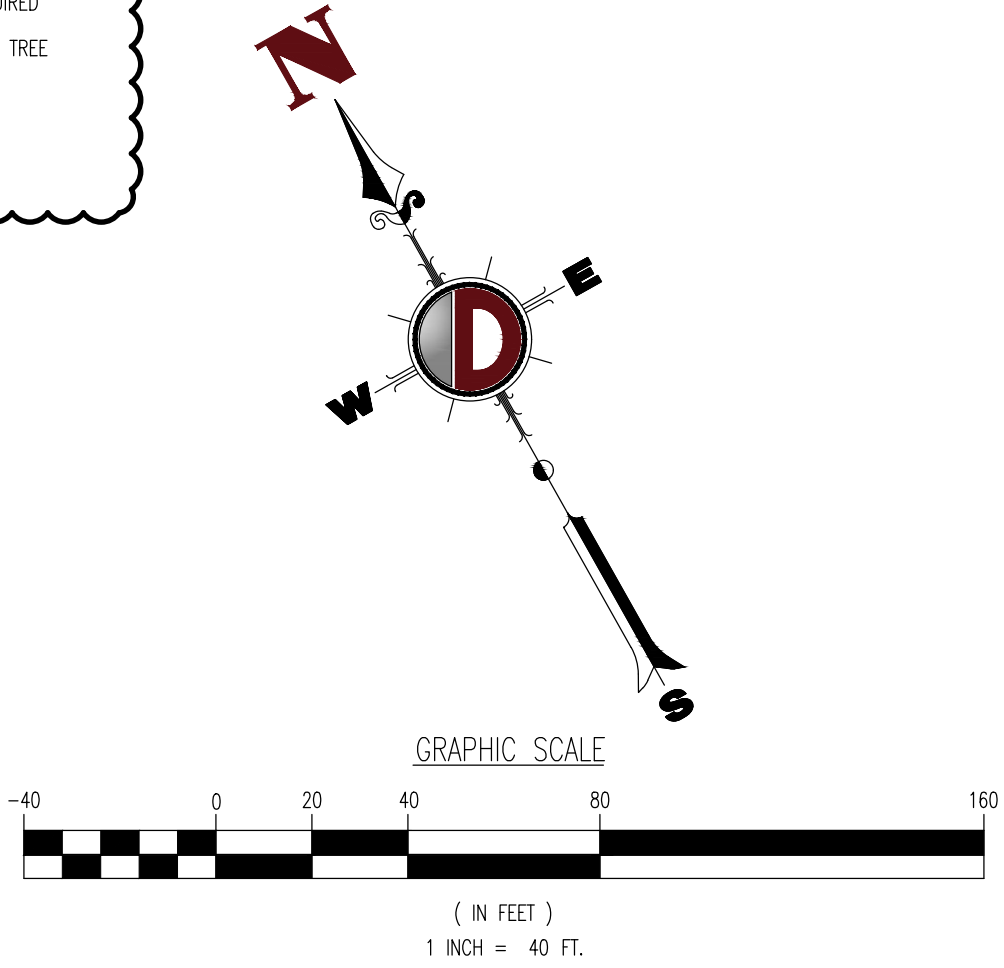
- 1) 100 DECIDUOUS TREES X (ONE (1) ACRE OF WOODLANDS LOST); THEREFORE, (100 TREES) X (6.80 ACRES LOST) = 680 DECIDUOUS TREES REQUIRED
- 2) FOUR (4) DECIDUOUS TREES PER LOT; THEREFORE, (4 TREES) X (1 LOTS) = 4 DECIDUOUS TREES REQUIRED
- 3) THEREFORE, 680 DECIDUOUS TREES ARE REQUIRED.

B. LARGE-GROWING CONIFERS (MIN. 8 FEET) MAY BE SUBSTITUTED AT A RATIO OF 3 CONIFERS FOR EVERY 1 DECIDUOUS TREE REQUIRED, NO MORE THAN 40% OF THE REPLANTING MAY BE CONIFERS.

C. NUMBER OF PROPOSED REPLACEMENT TREES:

- 1) 196 DECIDUOUS TREES PROPOSED
- 80 EVERGREEN TREES PROPOSED (EQUVALENT TO 30 DECIDUOUS TREES)
- 226 DECIDUOUS TREES PROPOSED
- 454 DECIDUOUS TREES DEFICIENT (WATER)

TREE SIZE	SURVEYED NO. OF TREES WITHIN THE PLOT AREA	TREES TO REMAIN
10"	104	5
11"	35	0
12"	64	5
13"	52	3
14"	31	5
15"	32	0
16"	15	0
17"	12	1
18"	2	0
19"	3	1
20"	7	1
21"	2	0
22"	7	0
23"	4	0
24"	6	2
25"	4	0
26"	6	0
27"	2	0
28"	2	1
31"	1	0
46"	1	0
TOTAL:	392	24
PROPOSED:	230	



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**S. REPORT OF GEOTECHNICAL AND  
STORMWATER BASIN AREA INVESTIGATION  
PREPARED BY DYNAMIC EARTH, LLC DATED  
NOVEMBER 9, 2020 (SEPARATE COVER)**



**T. STORMWATER MANAGEMENT,  
GROUNDWATER RECHARGE & WATER QUALITY  
ANALYSIS PREPARED BY DYNAMIC  
ENGINEERING CONSULTANTS, PC DATED  
NOVEMBER 2020 (SEPARATE COVER)**

**U. PRELIMINARY AND FINAL SITE PLANS  
PREPARED BY DYNAMIC ENGINEERING  
CONSULTANTS, PC DATED NOVEMBER 9, 2020  
(SEPARATE COVER)**