ENVIRONMENTAL IMPACT STATEMENT

For

RPM Development, LLC
Proposed Residential Development

Block 2001, Lots 3, 60-66 & 68

2495 Brunswick Pike (AKA Alt Route 1)

Township of Lawrence, Mercer County, NJ

Prepared by:

DYNAMIC ENGINEERING

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April 2020

DEC# 1279-99-010

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APPENDIX

I. INTRODUCTION

This Environmental Impact Statement has been prepared in accordance with the requirements of The Township of Lawrence Land Use and Development Ordinance, Section §812 in support of the Site Plan for the proposed development on Lots 3, 60-66 & 68 in Block 2001, in the Township of Lawrence, Mercer County, New Jersey. The purpose of this report is to evaluate the effects of the proposed development to the subject property and within the surrounding environment. This report addresses existing site conditions, proposed site improvements, and evaluation of the project with respect to the Township of Lawrence Land Use Ordinance and existing natural resources.

The Report references general and specific characteristics of the subject development to further define how the proposed improvements will not negatively impact the existing natural resources within the Township of Lawrence.

II. PROJECT DESCRIPTION

The subject site is specifically identified as Lot 3, 60-66 & 68 in Block 2001 as shown on the official Tax Maps of the Township of Lawrence, Mercer County, New Jersey. The portion of the site that will be subdivided and developed consists of 3.92 Acres (170,590 SF) in the northern portion of the overall site. The northern portion of the lot was historically developed with a parking area and a man-made drainage ditch, and currently consists of mostly open space. The applicant proposes nine residential buildings with a gross total floor area of 87,283 SF in this area. Associated site improvements include lighting, landscaping, grading, stormwater management facilities, walkways, driveways, utilities, parking and associated items. The southern portion of the lot is currently developed with the Lawrence Shopping Center and associated loading and parking areas, which will remain unchanged. According to the Official Zoning Map for the Township of Lawrence, the property is located within the HC (Highway Commercial) and R-4 (Residential) Zones.

The property is bordered to the north by Texas Avenue with residential uses beyond, to the east and south by commercial uses with Brunswick Pike beyond, and to the west by wetlands with residential uses beyond.

III. DEMOGRAPHICS

According to Census Reporter, the Township of Lawrence has an area of approximately 21.7 square miles has a population of approximately 32,794 people. The median age is 40.4 and the median household income is $103,327. Approximately 67% of housing is owner occupied, and 33% is renter occupied.

IV. MASTER PLAN COMPATIBILITY

The proposed development has been designed to be compatible with the Township of Lawrence Master Plan, as well as with the Master Plans of adjacent municipalities, Mercer County Master Plan, Mercer/Somerset/Middlesex regional planning guide and State Development and Redevelopment Plan. The

Township of Lawrence Master Plan's goals for residential development encourages the continued development of Lawrence as a low density residential community. However, the Master Plan outlines higher density residential land uses as a future land use category. Therefore, the proposed development is in line with the future goals of the Township of Lawrence.

V. SITE DESCRIPTION AND INVENTORY

A. TYPES OF SOILS

Based on the NRCS Web Soil Survey for Mercer County, the soil types native to the site include:

SOIL TYPE	SOIL TYPE NAME	HYDRAULIC SOIL GROUP
UdstB	Udorthents, stratified substratum, 0 to 8 percent slopes	D

These soils are also consistent with central New Jersey character and pose no problem to anticipated construction efforts.

B. TOPOGRAPHY

The existing topographic conditions vary throughout the subject parcel generally slopes from elevation 69 FT to elevation 57 FT (NAVD88). The site generally slopes towards the drainage swale that is located in the center of the property. Additionally, smaller portions of the site slope west towards the wetlands located on the western portion of the site and slope south towards the existing shopping center building.

A Grading Plan was developed for the proposed site improvements with consideration to the existing drainage patterns. The plan was designed to ensure runoff from the proposed development could be directed to stormwater management facilities in order to address the applicable sections of N.J.A.C. 7:8.

It is not anticipated that the topography and slopes throughout the site will have adverse impacts to the surrounding area. Soil erosion and sediment control measures shall be put into place in accordance with the New Jersey Standards for Soil Erosion and Sediment Control in order to stabilize steeper slopes.

C. GEOLOGY

The site is located in the Piedmont Physiographic Province as mapped by the NJDEP Geological Survey. These lands can be characterized as "typical" of central New Jersey geology with very gentle undulations. The Piedmont is a productive aquifer and contains important groundwater reservoirs. The majority of the site is

located within the Stockton bedrock formation, which includes sandstone, mudstone, silty mudstone, argillaceous siltstone and shale. The remaining portion of the site is located within the Gneiss granofels and Migmatite bedrock formation, which includes heterogeneous felsic, intermediate and mafic rocks, graphitic schist and minor marble.

D. VEGETATION

The existing vegetation located on-site is typical of a central New Jersey metropolitan condition. The approved limits of disturbance will be field located and the tree removal effort will only affect those trees and plant life within the approved limits. Any trees beyond the established limits will be preserved.

E. WILDLIFE

The existing wildlife located on-site are typical of a central New Jersey metropolitan condition. According to NJDEP GeoWeb Mapping, there are no documented occurrences of threatened or endangered species located onsite. Any wildlife species dependent on the existing vegetation for cover and food source will merely relocate to the next appropriate wooded setting. The proposed development will result in only minimal wildlife relocation.

F. SURFACE WATER

The natural drainage pattern of the existing site will not be significantly altered as Grading Plan was developed for the proposed site improvements with consideration to the existing drainage patterns. The plan was designed to ensure runoff from the proposed development could be directed to stormwater management facilities in order to address the applicable sections of N.J.A.C. 7:8. Flood plains and wetlands have been delineated on the enclosed site plan drawings. There are freshwater wetlands on the western portion of the site and associated transitions areas which will not be disturbed as part of this development. There is also an existing man-made drainage ditch which traverses the site from the northwest to the southeast corner of the site. A portion of this man-made drainage ditch will be piped under proposed conditions.

G. SUBSURFACE WATER

The proposed development does not include the construction of private or community wells. There are no well head protection areas located within 500 feet of the site. The seasonal high groundwater ranges from elevation 54.7 FT to elevation 58.1 FT (NAVD88) on-site. The proposed detention basin will be constructed using RCP pipes and will be wrapped with impermeable liner so as to not impact the underlying seasonal high water table.

H. CULTURAL RESOURCES

According to NJDEP GeoWeb Mapping, there are no historic properties located within the immediate vicinity of the site, therefore a cultural resources survey was not performed.

I. HISTORIC RESOURCES

As previously stated, per NJDEP Geoweb Mapping there are no historic properties located within the immediate vicinity of the site.

J. EXISTING DEVELOPMENT FEATURES

The southern portion of the lot is currently developed with the Lawrence Shopping Center and associated loading and parking areas. As previously mentioned, it is proposed to subdivide this area off of the subject parcel. The northern portion of the lot was historically developed with a parking area and a man-made drainage ditch, and currently consists of mostly open space. The property is bordered to the north by Texas Avenue with residential uses beyond, to the east and south by commercial uses with Brunswick Pike beyond, and to the west by wetlands with residential uses beyond.

J. MISCELLANEOUS

The existing air quality surrounding the site is typical of a New Jersey commercial/residential setting. There are existing hazardous air pollutants (HAP's) which are a byproduct of cars, heavy duty trucks, buses, other highway vehicles, and industry. These machines produce particulate matter through exhaust and processing. Near the site, there are pollutants by the name of Ozone and PM2.5. The Air Quality Index (AQI) of Mercer County was recorded at 35. The AQI is based on a value of 100 where 100 would be exceeding the standard health limit. Therefore, the pollutants measured are significantly less than the allowable level of 100. AQI readings in the Township of Lawrence can be expected to be similar to those recorded in surrounding areas and throughout Mercer County. The Air Quality Monitoring Report can be found in the appendix of this report.

Existing noise levels on-site can be characterized as typical of a central New Jersey commercial/residential zone. Most noise emanates from passenger vehicles along adjacent roadways at peak times. This should be considered normal for the use and temporary in nature. 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 bans with center frequencies between 31.5 and 8,000 Hz.

VI. AREA AND REGIONAL DESCRIPTION

The property is bordered to the north by Texas Avenue with residential uses beyond, to the east and south by commercial uses with Brunswick Pike beyond, and to the west by wetlands with residential uses beyond. According to the Official Zoning Map for the Township of Lawrence, the property is located within the HC (Highway Commercial) and R-4 (Residential) Zones, where residential apartments are not a permitted use.

The existing site generally slopes towards the drainage swale that is located in the center of the property. The majority of stormwater onsite is tributary to this swale, which is ultimately tributary to the trench drain located on the northeastern portion of the property. The existing stormwater conveyance system within Texas Avenue is also tributary to the drainage swale onsite.

The development is proposed to be accessed from a proposed bifurcated driveway along Texas Avenue. Drive aisles within the proposed development will create full circulation throughout the site.

Each proposed residential building will have its own domestic water service, all of which will connect to the existing 12" water main located in Texas Avenue. Service availability has been confirmed for the proposed development by Trenton Water Works.

The area surrounding the subject parcel includes a large amount of residential uses, as well as commercial uses along higher volume roadways. A residential apartment building is located just to the west of the subject parcel. The proposed residential development is compatible with the nature of the surrounding area and as a buffer between the existing lower density residential uses and commercial uses.

VII. ENVIRONMENTAL PERFORMANCE CONTROLS

The proposed development will utilize the proper measures to ensure proper sewage disposal, water supply measures, energy conservation measures and noise reduction. These measures include, but are not limited to, the use of soil erosion and sediment control measures such as silt fences and stabilized construction entrances, the use of portable bathrooms and following government regulations on allowable hours of construction.

A. SEWERAGE DISPOSAL TECHINIQUES

The proposed sanitary sewer service will be provided to the proposed three-story buildings via a 6" PVC lateral service connection at a 1.04% minimum slope and to the proposed duplexes via a 4" PVC lateral service connection at a 2.08% minimum slope. Both service laterals will ultimately connect to the existing 8" clay main within Texas Avenue via a new sanitary manhole. Service capacity has been confirmed by Ewing-Lawrence Sewerage Authority.

B. WATER SUPPLY AND WATER CONSERVATION PROPOSALS

Each proposed building will have its own domestic water service, all of which will connect to the existing 12" water main located in Texas Avenue. Service availability has been confirmed for the proposed development by Trenton Water Works.

C. ENERGY CONSERVATION MEASURES

The proposed parking lot and building mounted lighting will utilize led light poles which are more energy efficient than high pressure sodium light poles.

D. NOISE REDUCTION TECHNIQUES

Existing noise levels on-site can be characterized as typical of a central New Jersey commercial/residential zone. Most noise emanates from passenger vehicles along adjacent roadways at peak times. This should be considered normal for the use and temporary in nature. 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.

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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 bans with center frequencies between 31.5 and 8,000 Hz.

VIII. IMPACT

Minor impacts on air quality, water capacity, noise and natural resources are anticipated as a result of the construction and operation of the proposed project. The short term effects of the construction process are out-weighed by the long-term economic benefits and potential for improved air quality, water quality, noise, and natural features.

The proposed development meets the goals of the Township Master Plan by promoting development along the municipal roadway for fiscal & community needs. The applicant has specifically chosen a subject parcel that is compatible with the surrounding uses.

A. FLOODING AND FLOOD PLAIN IMPACT

A portion of the subject property is located within a Flood Hazard Area. As such, the proposed development has been designed to comply with the applicable sections of N.J.A.C 7:13 Flood Hazard Area Control Act Rules. The proposed development will also provide an onsite flood storage area in the northern portion of the property to provide the proper amount of flood storage in compliance with N.J.A.C. 7:13.

B. IMPACT ON SURFACE WATER AND GROUNDWATER QUALITY

The proposed development will provide one (1) underground detention basin as well as one (1) StormFilter manufactured treatment device in order to provide 80% TSS removal in compliance with the water quality standards set forth in N.J.A.C. 7:8. In addition, the proposed development is located within the Metropolitan State Planning Area and was previously developed, therefore the proposed development does not have to meet the groundwater recharge requirements set forth in N.J.A.C. 7:8.

C. IMPACT ON THE CAPACITY TO SUPPLY GROUNDWATER

As previously discussed, the proposed development is located within the Metropolitan State Planning Area and was previously developed; therefore does not have to meet the groundwater recharge requirements set forth in N.J.A.C. 7:8.

D. SEWERAGE DISPOSAL IMPACTS

The proposed sanitary sewer service will be provided to the proposed three-story buildings via a 6" PVC lateral service connection at a 1.04% minimum slope and to the proposed duplexes via a 4" PVC lateral service connection at a 2.08% minimum slope. Both service laterals will ultimately connect to the existing 8" clay main within Texas Avenue via a new sanitary manhole. Service capacity has been confirmed by Ewing-Lawrence Sewerage Authority.

E. ALTERATION TO EXISTING VEGETATION AND ITS IMPACTS ON WILDLIFE HABITATS

The existing vegetation located on-site are typical of a central New Jersey metropolitan condition. The approved limits of disturbance will be field located and the tree removal effort will only affect those trees and plant life within the approved limits. Any trees beyond the established limits will be preserved.

According to NJDEP GeoWeb Mapping, there are no documented occurrences of threatened or endangered species located onsite. Any wildlife species dependent on the existing vegetation for cover and food source will merely relocate to the next appropriate wooded setting. Other than minimal wildlife relocation, the proposed development will have no detrimental impacts on any significant site flora or fauna.

F. DESTRUCTION OR DISTURBANCE OF CULTURAL RESOURCES

According to NJDEP GeoWeb Mapping, there are no historic properties located within the immediate vicinity of the site. Therefore, there will be no destruction or disturbance of cultural resources as a result of the proposed development.

G. NOISE LEVEL IMPACTS

Existing noise levels on-site can be characterized as typical of a central New Jersey residential zone. Most noise emanates from passenger vehicles along adjacent roadways at peak times. This should be considered normal for the use and temporary in nature. 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.

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The regulations also provide limits for sound pressures in the preferred octave bans with center frequencies between 31.5 and 8,000 Hz.

H. ENERGY UTILIZATION

The proposed parking lot and building mounted lighting will utilize led light poles which are more energy efficient than high pressure sodium light poles.

I. BLIGHTING OR IMPROVING EFFECTS ON NEIGHBORHOODS

The area surrounding the subject parcel includes a large amount of residential uses, as well as commercial uses along higher volume roadways. A residential apartment building is located just to the west of the subject parcel. The proposed residential development is compatible with the nature of the surrounding area and acts as a buffer between the existing lower density residential uses and commercial uses. The proposed development also proposes proper screening from adjacent properties as well as screening from the residential properties across Texas Avenue. The proposed development will not cause detriment to the surrounding neighborhoods, but will provide long-term economic benefits for the surrounding community.

IX. ALTERNATIVES

Although apartment buildings are non-permitted uses within the HC and R-4 districts, there are no alternative development scenarios which would completely avoid potential adverse impacts. The majority of the site is located within the HC district, which permits more intense uses than residential apartment buildings. Any type of permitted development will have a certain measure of impact associated with it.

[a]. The "No Project" or no-action alternative would result in leaving the existing property as is. No long-term economic or environmental benefit would result in leaving the property as its current use.

[b]. Alternative Costs and Social Impact – Even though the proposed use is not permitted in the zone, a multifamily residential development provides a better transition between the existing commercial development to the south of the proposed development and the single family dwellings located to the north of the proposed development. A commercial development in this area would have greater impacts on the adjacent residential uses. The only alternative is "no development" which would have no costs associated with that.

X. LICENSES, PERMITS AND OTHER APPROVALS REQUIRED BY LAW

The following is a list of all required approvals for the proposed development:

Township of Lawrence Zoning Board of Adjustment	Use Variance, Preliminary & Final Major Site Plan and Subdivision Approval
Mercer County Soil Conservation District	Soil Erosion and Sediment Control Plan Certification
Mercer County Planning Board	Site Plan & Subdivision Approval
Trenton Water Works	Preliminary and Final Water Connection Approval
Ewing Lawrence Sewerage Authority	Preliminary and Final Sewerage Construction Approval
Delaware & Raritan Canal Commission	Site Plan Approval
NJ Department of Environmental Protection	FHA Verification and Individual Permit
NJ Department of Environmental Protection	Freshwater Wetlands Letter of Interpretation
NJ Department of Environmental Protection	Treatment Works Approvals
NJ Department of Environmental Protection	Bureau of Water System Engineering

NJ Department of Environmental Protection	5G3 - Stormwater Construction General Authorization
NJ Department of Transportation	Letter of No Interest

XI. DOCUMENTATION

Below is a list of contacts and agencies we have contacted for information used within this report:

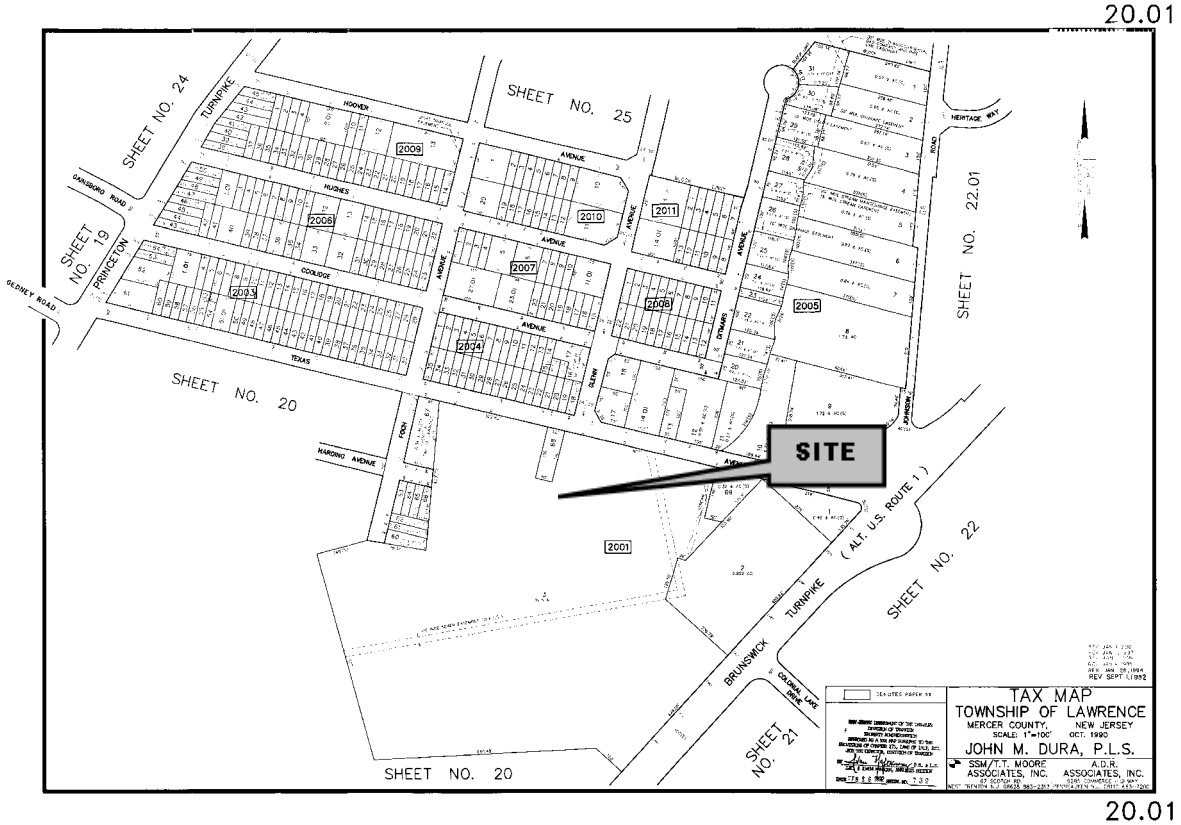
NJ GeoWeb	
Censusreport.org	
Trenton Water Works	Dilip Patel, PE, Supervising Engineer
Ewing-Lawrence Sewerage Authority	S. Robert Filler, Executive Director

APPENDIX

TOWNSHIP TAX MAP

DYNAMIC
ENGINEERING EARTH SURVEY TRAFFIC

Tax 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
790 Newtown Yardley Rd., Suite 425, Newtown, PA 18940 T. 267-685-0276

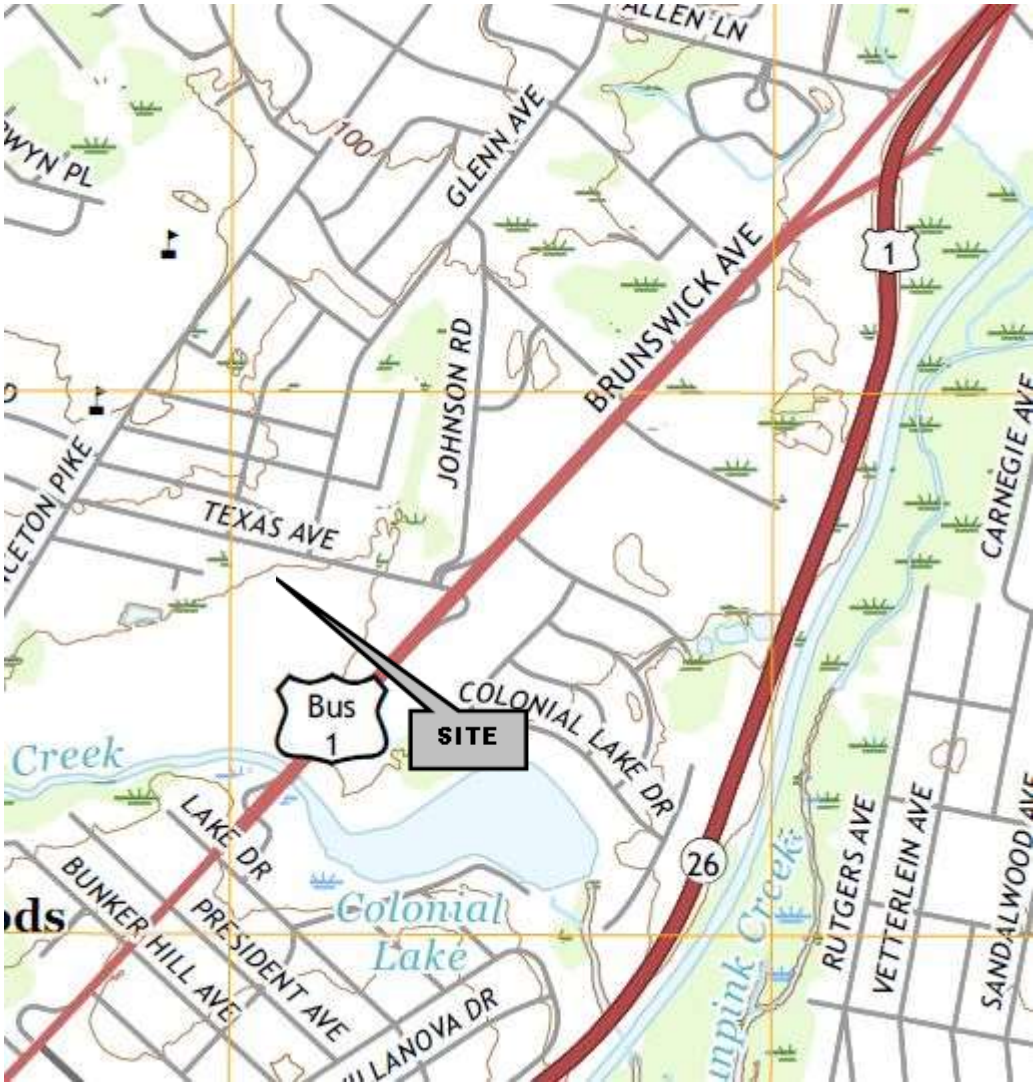
100 NE 5th Avenue, Suite B2, Delray Beach, FL 33483 T. 561-291-8570
14521 Old Katy Road, Suite 250, Houston, TX 77079 T. 281-789-6400
1301 Central Expressway S., Suite 210, Allen, TX 75013 T. 972-534-2100

USGS MAP

DYNAMIC
ENGINEERING EARTH SURVEY TRAFFIC

USGS Map

Princeton Quad



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AERIAL PHOTO MAP

DYNAMIC
ENGINEERING EARTH SURVEY TRAFFIC

Aerial Photo Map

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1301 Central Expressway S., Suite 210, Allen, TX 75013 T. 972-534-2100

NRCS SOILS MAP

Map Scale: 1:2,850 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

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 Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

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

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: Mercer County, New Jersey
Survey Area Data: Version 14, Sep 15, 2018

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

Date(s) aerial images were photographed: Jun 20, 2014—Jul 5, 2014

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
OthA	Othello silt loams, 0 to 2 percent slopes, northern coastal plain	C/D	2.8	12.9%
UdstB	Udorthents, stratified substratum, 0 to 8 percent slopes	D	18.8	87.1%
Totals for Area of Interest			**21.6**	**100.0%**

Description

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.

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.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

FEMA FLOOD INSURANCE RATE MAP (FIRM)

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was State Plane New Jersey FIPS 2900. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the New Jersey Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS). This information was derived from digital orthophotos produced at a scale of 1:2400 (1"=200') with a 1 foot pixel resolution from photography dated 2012.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For Information on available products associated with this FIRM, visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call **FEMA Map Information eXchange (FMIX)** at **1-877-FEMA-MAP** or visit the FEMA website at http://www.fema.gov/national-flood-insurance-program.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- New Jersey Flood Hazard Area Design Flood (NJFHADF)
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Limit of Moderate Wave Action
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4376000mN — 1000-meter Universal Transverse Mercator grid values, zone 18N
- 600000 FT — 5000-foot grid values: New Jersey State Plane coordinate system (FIPSZONE 2900), Transverse Mercator projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- ● M1.5 — River Mile

MAP REPOSITORIES
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
July 20, 2016

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0138F

FIRM

FLOOD INSURANCE RATE MAP

MERCER COUNTY, NEW JERSEY
(ALL JURISDICTIONS)

PANEL 138 OF 276
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
EWING, TOWNSHIP OF	345294	0138	F
HAMILTON, TOWNSHIP OF	340246	0138	F
LAWRENCE, TOWNSHIP OF	340250	0138	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
34021C0138F

EFFECTIVE DATE
JULY 20, 2016

Federal Emergency Management Agency

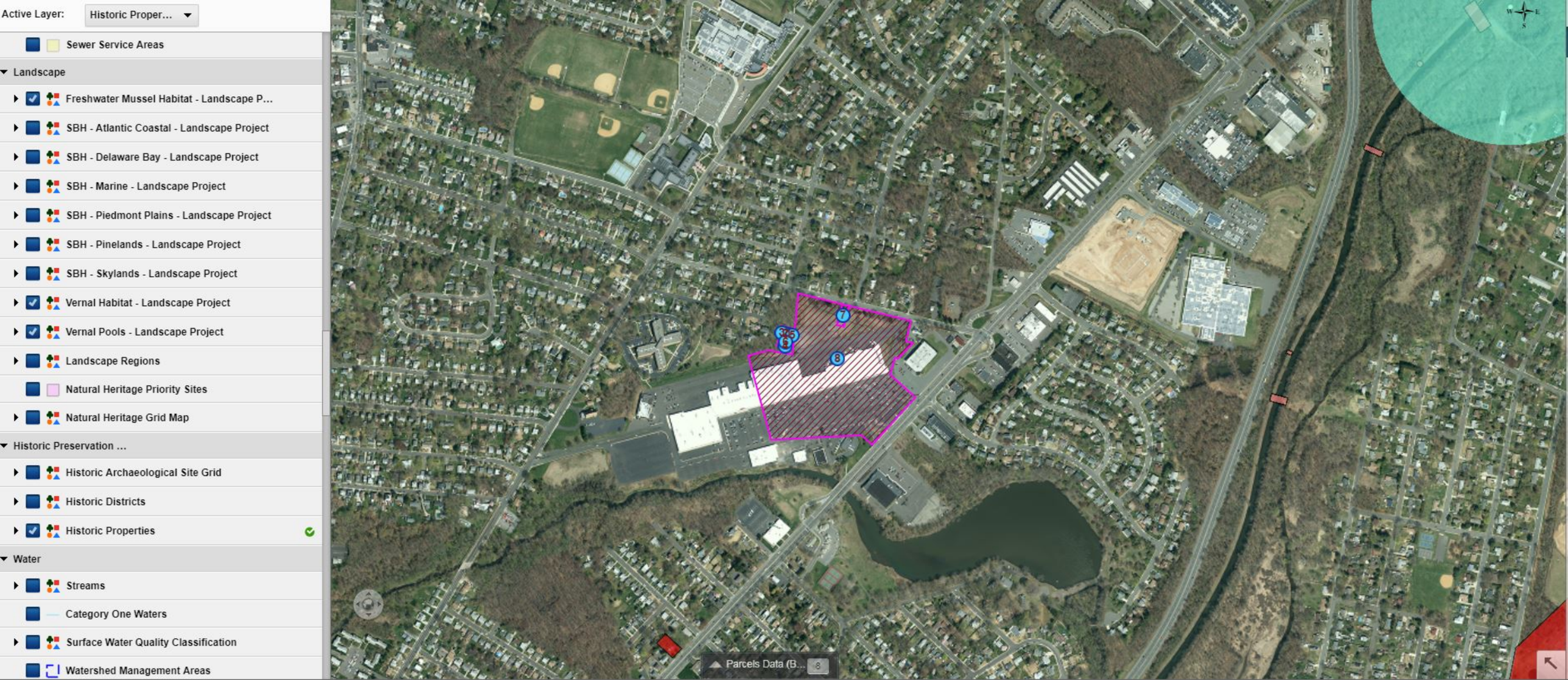
AIR QUALITY MONITORING REPORT

Lawrence Twp, NJ

Rider University Reporting Area

Monitors Near Me | Recent Trends

NJDEP GEOWEB HISTORIC PROPERTIES MAP


Active Layer:
Historic Proper...
Sewer Service Areas
Landscape
Freshwater Mussel Habitat - Landscape P...
SBH - Atlantic Coastal - Landscape Project
SBH - Delaware Bay - Landscape Project
SBH - Marine - Landscape Project
SBH - Piedmont Plains - Landscape Project
SBH - Pinelands - Landscape Project
SBH - Skylands - Landscape Project
Vernal Habitat - Landscape Project
Vernal Pools - Landscape Project
Landscape Regions
Natural Heritage Priority Sites
Natural Heritage Grid Map
Historic Preservation ...
Historic Archaeological Site Grid
Historic Districts
Historic Properties
Water
Streams
Category One Waters
Surface Water Quality Classification
Watershed Management Areas
Parcels Data (B...
7
8

WETLAND SUMMARY LETTER

D1027.078
April 17, 2020

Luiza Guazzelli
Dynamic Engineering
1904 Main Street
Lake Como, NJ 07719
VIA EMAIL

Re: Wetland Summary
Block 2001 * Lots 2, 3, 60-66, 68 and 69
Lawrence Township, Mercer County, New Jersey

Dear Ms. Guazzelli,

As per your request, a freshwater wetland delineation letter summary has been prepared for land within the referenced site designated as Block 2001 Lots 2, 3, 60 to 66, 68 and 69 located within Lawrence Township, Mercer County, New Jersey. Our office has inspected the aforementioned property for wetlands and environmental constraints due to the proximity of wetlands. Property boundaries were not observed, only estimated in the field. Based upon a site inspection conducted on April 26, 2019, the site is composed primarily of developed and disturbed uplands.

The methodology utilized to delineate wetlands on the site is the Three Parameter Approach set forth in the manual entitled *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*, published under the Federal Interagency Committee for Wetland Delineation (FICWD), 1989, Army Corp. of Engineers Regional Wetland Supplements, and the most current U.S. Department of Agriculture Natural Resource Conservation Service *Field Indicators of Hydric Soil* manual. Three parameters were evaluated to determine wetland limits, including hydrology, vegetation and soils. Two (2) narrow wetland drainage features were delineated on the site, the limits of which are presented on the survey prepared by Dynamic Survey, LLC. A forested wetland complex was delineated along the western property boundary, and extends off-site to the west of the site.

DuBois and Associates, LLC (DuBois) reviewed Landscape Project version 3.3 data for threatened/endangered wildlife species potential on and in the immediate vicinity of the site. The site and adjacent mapped wetlands located in the Piedmont Plains Region are not mapped as Rank 3, 4 or 5 critical habitat. It is therefore the determination of DuBois that the wetlands to the west should be classified as Intermediate Resource Value with an associated 50-foot transition area. The drainage features on the site should be classified as drainage ditch and swale features of Ordinary Resource Value wetlands with no associated buffer. Final verification of wetland and buffer limits is subject to a Letter of Interpretation – Line Verification from the New Jersey Department of Environmental Protection (NJDEP).

Should you have any questions or require additional information, please do not hesitate to contact this office.

Sincerely,

Amy Jones, PWS
Sr. Biologist/Project Manager

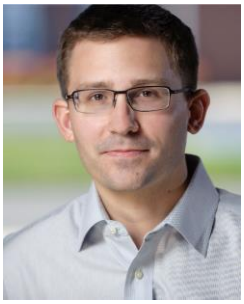
Doc: 0417D027WETLTR078

190 North Main Street · Manahawkin · New Jersey · 08050
Phone: 609-488-2857 or 609-488-2859
Website: www.denviro.com

STATEMENT OF QUALIFICATIONS OF REPORT PREPARER

Thomas J. Muller, PE

Principal



Thomas Muller is a Licensed Professional Engineer and Principal at Dynamic Engineering at their Lake Como, NJ office. Mr. Muller joined the firm in 2011 as a Design Engineer. He provides practical experience with commercial, residential, and industrial land development projects. His primary experience extends throughout the State of New Jersey and New York. Included within his areas of expertise are site grading and earthwork, stormwater management, water quality design, project management, and NJDEP permitting inclusive of Coastal Areas, Treatment Works Approvals, Freshwater Wetlands, and Flood Hazard Areas.

Mr. Muller is dedicated to insuring that clients are satisfied with the management of their projects by maintaining open communication and ensuring timeliness of project milestones. He approaches each project to tailor to his client's needs and goals. Mr. Muller believes that it is important that clients are informed about the land development process so that they make knowledgeable decisions. He also makes certain that his clients are aware of the regulatory process and risks associated with each step of the development project.

Mr. Muller serves on Dynamic Engineering's Stormwater Design and Environmental Permitting Leadership Committees. He has been recognized by the NJDEP for his unique stormwater management and environmental engineering designs. He has also served as the lead engineer on several complex and environmentally sensitive projects including a 900,000+ square foot industrial building in Edison, NJ and 900+ unit residential subdivision in Lakewood, NJ.

During his career, Mr. Muller has provided consulting services for numerous corporate and developer-driven projects including Amazon, Shell Oil, Exxon Mobil, 7-Eleven, Wawa, Dunkin Donuts, Dollar General, White Castle, Seagis Property Group, Ignite Restaurant Group, Chefs International, Lightbridge Academy, Public Schools, Marty's Place Senior Dog Sanctuary, Golf Courses, and many more.

Licenses:

- New Jersey Professional Engineer License

Education:

- Rutgers University, Masters of Science in Civil Engineering, 2014
- Rutgers University, Bachelor of Science in Civil Engineering, 2011

Agency Experience:

- NJDEP, Flood Hazard Areas
- NJDEP, Freshwater Wetlands
- NJDEP, Treatment Works Approval
- NJDEP, Waterfront Development
- NJDEP, Coastal Area Facilities Review (CAFRA)
- New Jersey Meadowlands Commission
- New Jersey Pinelands Commission
- New Jersey Soil Conservation Districts
- New Jersey County Planning Boards
- Delaware & Raritan Canal Commission
- County and Local Health Departments
- County and Local Environmental Commissions

Expert Testimony:

Mr. Muller has been accepted and testified as a Professional Engineer before various Planning and Zoning Boards throughout New Jersey.

Employment History:

- 2016-2017 Dynamic Engineering Consultants, PC
  Principal
- 2015-2016 Dynamic Engineering Consultants, PC
  Project Manager
- 2011-2015 Dynamic Engineering Consultants, PC
  Design Engineer
- 2010-2011 J. Fletcher Creamer and Son
  Project Engineer

Professional Affiliations:

- International Council of Shopping Centers (ICSC)
- Chi Epsilon, Engineering Honor Society
- Shore Builders Association
- American Society of Civil Engineers (ASCE)
- National Society of Professional Engineers (NSPE)

TOWNSHIP OF LAWRENCE ENVIRONMENTAL IMPACT STATEMENT ORDINANCE (§812)

C. No subdivision plat shall be accepted for filing by the county recording officer until it has been approved by the Board of Jurisdiction as indicated on the instrument by the signature of the Chairman or Chairwoman and Secretary of the Board of Jurisdiction or a certificate issued in lieu of action by the Board in accordance with *N.J.S.A.* 40:55D-47, -50, -56, -61, -67 or -76. If the County Recording Officer records any plat without such approval, such recording shall be deemed null and void, and upon request of the municipality, the plat shall be expunged from the official records.

D. It shall be the duty of the County Recording Officer to notify the Planning Board in writing within 7 days of the filing of any plat, identifying such instrument by its title, date of filing, and official number.

§ 812 Environmental Impact Statement.

Environmental Impact Statements, when required, shall include the following information:

A. When Required. The impact on the environment generated by land development projects necessitate a comprehensive analysis of the variety of problems that may result and the actions that can be taken to minimize these problems. It is further recognized that the level of detail required for various types of applications will vary depending on the size of the project, the nature of the site and the location of the project. Therefore, having determined that flexibility is needed in preparing the environment impact statement, the requirements for such a document pertaining to different types of development applications are listed below:

1. 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 submission of an environmental impact statement.

2. Any variance application to the Zoning Board of Adjustment not involving a site plan or subdivision application shall not require an environmental impact statement unless specifically requested by the Board. The Board may request an environmental impact statement where there exist significant critical areas or suspected environmental hazard on the site in question. The Zoning Board of Adjustment or its designee shall inform the applicant regarding the scope of the information that may be required.

3. Any minor subdivision and/or minor site plan applications to the Board shall not require an environmental impact statement unless specifically requested by the Board. The Board may request an environmental impact statement where there exist significant critical areas or suspected environmental hazard on the site in question. The Board or its designee shall inform the applicant regarding any information that may be required.

4. All preliminary major subdivision and preliminary major site plan applications shall be accompanied by an environmental impact statement.

5. Notwithstanding the categories of development that are excluded from the requirement to submit an Environmental Impact Statement, the Board of Jurisdiction may require the submission of information that may be included in the document

that is reasonably necessary to make an informed decision.

B. Submission Format. When an environmental impact statement is required, the applicant shall retain one or more competent professionals to perform the necessary work. All applicable material on file in the Department of Community Development pertinent to local conditions shall be consulted. Any additional material pertinent to the evaluation of regional impacts shall also be considered. 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 addressing the following areas and utilizing the following format:

1. Project description. 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, how they are to be considered and the uses intended.

2. Demographics. The resident population, working population, and visitor population shall be estimated.

3. Master plan compatibility. The compatibility or incompatibility of the proposed project shall be described in relation to the following documents:

   a. Municipal master plan, especially the land use and open space elements.

   b. Master plan of adjacent municipalities.

   c. Mercer County master plan.

   d. Mercer/Somerset/Middlesex or other regional planning guides.

   e. State Development and Redevelopment Plan.

   f. Other pertinent planning documents.

C. Site description and inventory. An inventory shall be provided of environmental conditions on the site which shall include the following items: Types of Soils. When septic effluent disposal or private well, whether individual or community, is proposed, a description of each soil type located on the site from the Soil Survey of Mercer County - Soil Conservation Service shall be provided. If available, percolation data shall be submitted. Where proposed land improvements would involve severe limitations for the development of buildings or roads, then soil information shall be submitted for the entire site.

   b. Topography. Describe the topographic conditions of the site, with specific delineation of any lands with slopes exceeding 12%.

   c. Geology. When septic effluent disposal or private well, whether individual or community, is proposed, a description of each geologic formation shall be provided. Depth to bedrock shall be delineated where it would interfere with proposed land improvements.

   d. Vegetation. A description of the existing vegetation on the site. The location of tree masses shall be depicted. Where woodlands are delineated, the forest type shall be indicated.

e. Wildlife. Unique or rare wildlife habitats shall be identified. Where applicable, other data assembled regarding wildlife activity on the site shall also be mapped or described.

f. Surface water. When the natural drainage pattern will be significantly altered, an analysis shall be conducted which will investigate flow, depth, capacity and water quality of the receiving waters. Flood plains and wetlands shall be delineated.

g. Subsurface water. Where private or community wells are proposed, a description of subsurface water conditions shall be provided on the depth to ground water and the water supply capabilities of the site. Where existing conditions warrant, detailed information regarding existing wells within 500 feet of the site relative to depth, capacity and water quality shall be described.

h. Cultural resources. A Stage 1A cultural resources survey shall be undertaken pursuant to State of New Jersey Executive Order No. 53, as it may be amended or superseded. A Stage 1B cultural resource survey shall be conducted should the Stage 1A review provide any indication of the presence of cultural resources.

i. Historic resources. The historic resources that would be affected by the proposed development shall be discussed in accordance with the criteria in Article XI.

j. Existing development features. A description of any existing improvements shall be provided.

k. Miscellaneous. When warranted, an analysis shall be conducted of existing air quality and noise levels as prescribed by the New Jersey Department of Environmental Protection.

1. Area and regional description. Provide a description of the surrounding environs. Describe the existing land use pattern. When required, describe in detail the existing infrastructure with respect to the drainage and transportation network as well as any central sewerage and water supply facilities. Include an appropriate regional analysis relative to the proposed project.

2. Environmental performance controls. Describe in detail the measures to be employed during the construction and operation phases which will minimize or eliminate negative impacts on and off site that could result from the proposed project. Of specific interest are:

   a. Sewage disposal techniques.

   b. Water supply and water conservation proposals.

   c. Energy conservation measures.

   d. Noise reduction techniques.

3. Impact. Discuss both the negative and positive and off-tract impacts. Indicate those negative impacts that are unavoidable. The specific concerns that shall be

considered include, but are not limited to, the following:

a. Flooding and flood plain impact.

b. Impact on surface water and groundwater quality.

c. Impact on the capacity to supply groundwater.

d. Sewage disposal impacts.

e. Alteration to existing vegetation and its impact on wildlife and wildlife habitats.

f. Destruction or disturbance of cultural resources.

g. Noise level impacts.

h. Energy utilization.

i. Blighting or improving effects on neighborhoods.

8. Alternatives. Alternatives to the arrangement of the proposed development shall be discussed. The board of jurisdiction shall reserve the right to require alternative arrangements of land, buildings, and infrastructure to determine a design of lesser impact.

9. 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 construction and operation of the proposed project. This list shall include, but will not be limited to, approvals required by the municipality, as well as agencies of the county, State and Federal governments. Where approvals have been granted, copies of said approvals shall be attached. Where approvals are pending, a note shall be made to that effect.

10. Documentation. All publications, file reports, manuscripts or other written sources of information related to the project, the project site and the municipality which were consulted and employed in compilation of the environmental impact statement shall be listed. A list of all agencies and individuals from whom pertinent information was obtained orally or by letter shall be listed separately. Dates and locations of all meetings shall be specified.

11. Disposition. The Board shall not approve a submission unless it determines and finds that the proposed development:

a. Will not result in appreciable harmful effects to the environment;

b. Has been designed and conceived with a view toward the protection of regional sources; and

c. Will not place a disproportionate or excessive demand upon the total resources available for such proposal and for any future proposals.

§ 813 Community Impact Statement.

Community Impact Statements, when required, shall conform to the following provisions: