

STONEFIELD

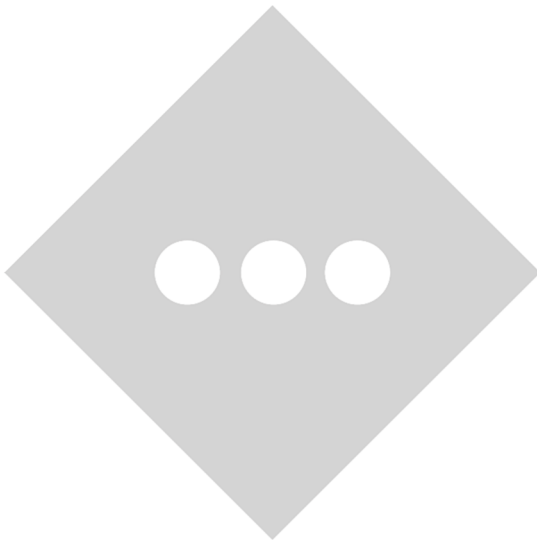
ENVIRONMENTAL IMPACT STATEMENT

**PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
BLOCK 155, LOTS 40.02, 42.01, & 42.02
100 – 300 EXECUTIVE DRIVE
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY**

**PREPARED FOR:
GREEN ESSEX PARTNERS URBAN RENEWAL ENTITY, LLC**

**PREPARED BY:
STONEFIELD ENGINEERING & DESIGN, LLC
584 BROADWAY, SUITE 310
NEW YORK, NEW YORK**

**REPORT DATE:
MAY 21, 2020**





**ZACHARY E. CHAPLIN, PE
NEW JERSEY PROFESSIONAL ENGINEER LICENSE # 53605**

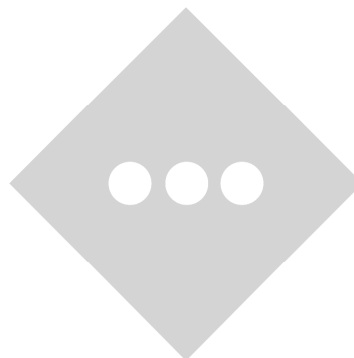
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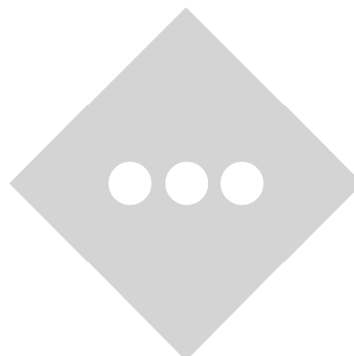
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1.0 PROJECT DESCRIPTION

Green Essex Partners Urban Renewal, LLC is proposing to redevelop Block 155, Lots 40.02, 42.01, & 42.02, commonly known as 100 – 300 Executive Drive West Orange, New Jersey and herein referred to as the “project site”, to accommodate three multi-family residential buildings (425 units total), a parking garage (570 spaces), an amenity area for residents, and a dog park that will be dedicated to the Township and available for public use. Additional improvements include off-street parking lots, stormwater management improvements, lighting, and landscaping. The properties neighboring the project site include single family residences to the south, a shopping center to the east, a commercial office building to the west, and Interstate 280 to the north. The total project area is 797,407 SF (18.31 acres). Project Figures can be found in Appendix A of this Report.

The project site is located off Rooney Circle and is serviced by a private road known as Executive Drive. The project site has been historically developed with office buildings since the 1980's. The existing development will be removed entirely as part of the proposed redevelopment, with the exception of the office building located at 300 Executive Drive. The proposed residential buildings contain a total of 425 dwelling units.

This Environmental Impact Statement has been prepared per Township requirements to investigate the existing conditions of the property, evaluate the potential impacts of the proposed redevelopment, and discuss the measures to mitigate environmental impacts, if any.

2.0 RELATIONSHIP TO LOCAL AND REGIONAL GUIDANCE DOCUMENTS

2.1 WEST ORANGE MASTER PLAN

The main policy of the West Orange Master Plan is to encourage appropriate residential development while maintaining the existing scale of the community and protecting natural features and environmental resources. There is an emphasis on sustainability and walkability throughout West Orange. The Master Plan also outlines the goal of improving connectivity within the Township, specifically between residential and commercial areas. The proposed development complies and meshes well with the existing Township Master Plan and the four Master Plan Principles which are outlined below:

2.1.1 ENCOURAGE APPROPRIATE RESIDENTIAL DEVELOPMENT

The Master Plan emphasizes the importance of appropriate residential development and how it is balanced with open space. The proposed use for the project site complies with all residential density requirements outlined in the Redevelopment Plan (Appendix D) and building coverage in order to ensure that the Township of West Orange

maintains their desired balance between residential development and preserving open space within the Township. The Planning Board agrees that certain multifamily residential buildings are more appropriate than traditional single-family detached dwellings in certain developed areas such as the proposed project site. As residents living within the proposed multifamily residential buildings will have access to a shuttle service, the proposed use will remain a part of the West Orange community and not be an isolated location.

2.1.2 PROPERLY LOCATE PUBLIC, COMMERCIAL, INDUSTRIAL, RESIDENTIAL AND SERVICE USES

The need to locate residential uses at certain sites and locations throughout the Township of West Orange that are suitable for their use environmentally, economically, and geographically was outlined as one of the core principles of the West Orange Master Plan. The Township of West Orange identified such an area and specifically created the Essex Green-Executive Drive Redevelopment Plan for the intended use of the project site, multifamily residential buildings. The Township identified and located an area that was best suited to be redeveloped into a multifamily residential area with a neighboring shopping center and municipal use area.

2.1.3 PROTECT NATURAL FEATURES AND ENVIRONMENTAL RESOURCES

The Master Plan has an emphasis on protecting the natural features and environmental features including, but not limited to, floodplains, wetlands, woodlands, steep slopes, ridgelines, and areas valuable as scenic, historical, cultural, or recreational resources. The proposed project implements several sustainability techniques to ensure the natural and environmental features are protected on site. In addition, the project will comply with NJ SESC Manual requirements and will be approved by both NJDEP and HEPSCD. The Township will remain apprised of the NJDEP and HEPSCD permitting status as the project moves forward.

2.1.4 MAINTAIN THE EXISTING SCALE OF THE COMMUNITY

The Township of West Orange has made clear that maintaining the community scale by limiting the intensity of the commercial/retail, industrial, and residential development within the Township to ensure compatibility with the already existing neighborhood character is a priority in the Master Plan. The proposed project and multifamily residential buildings are designed in a way to maintain that balance and meets the residential density requirements outlined within the Redevelopment Plan (Appendix D), ensuring that the Township of West Orange is not developing too quickly and growing larger than desired or outlined in the Master Plan.

3.0 SITE DESCRIPTION AND INVENTORY

3.1 SOILS

Soil mapping was obtained from the National Resource Conservation Service (NRCS) for the project site and immediate area. The project site is underlain by two major soil groups: silty loam within the historically undisturbed open space to the east of Mutton Hollow Road and urban fill / borrow material within the areas of existing development. Overall, the soils drain poorly, and runoff flows overland directly to the unnamed tributary. The table below provides a summary of the soils found on site. Additional information regarding the NRCS soil mapping can be found in Appendix B.

TABLE 1: ON-SITE SOIL GROUPS

Soil Unit Code	Soil Description	Approximate Project Coverage	Drainage Class	Hydrologic Soil Group
YaohEh	Yalesville, Holyoke Complex, 35 to 60 percent slopes	21.7%	Somewhat poorly drained	C
BogBc	Boonton Loam, 0 to 8 percent slopes	5.7%	Somewhat poorly drained	C
URBONB	Urban Land, Boonton Substratum, 0 to 8 percent slopes	50.6%	Somewhat poorly drained	D*

* URBONB does not have a pre-determined hydraulic soil group due to high variability in the historic fill material utilized. As such, these soils are analyzed as HSG D under pre-existing and post-development conditions.

3.2 TOPOGRAPHY

The existing topography of the site generally slopes from east to west with about a 75 FT grade change across the development area. The majority of the area within the northeast portion to the site drains to an existing ditch and retention pond which is ultimately tributary to the unnamed ditch which straddles the northerly property line. The area south of the central ditch and retention pond, generally drains to on-site conveyance systems, which are tributary to the northerly ditch. Grades on site generally range from 5% to 10% within the previously developed areas / open space and increases in slope as it approaches the ditch or perimeter areas, eventually reaching a 1:1 slope.

The proposed topography of the site will generally remain similar to the existing conditions. However due to the need for more residentially friendly and ADA accessible slopes, retaining walls and split-level buildings will be implemented throughout the development to make up for the changes in grade.

3.3 GEOLOGY

The project location is located within the Piedmont Physiographic Province of New Jersey, within the Brunswick Group. The project area is underlain by the Lower Triassic Aged, Orange Mountain Basalt which consists of basalt, fine grained to aphanitic, dark greenish gray, composed mostly of calcic plagioclase and augite. A total of seventeen (17) exploration borings were performed on site to obtain bedrock elevation information on site. The location of the borings and findings as well as bedrock contour plans can be found in the Geotechnical Report that was prepared by JZN Engineering.

3.4 VEGETATION

Portions of the project site are heavily vegetated and/or wooded, making up 44.90% (358,367 SF) of the site land cover. The vegetation is distributed across the entirety of the site but generally concentrated around the on-site open channels (one bisecting the site from east to west and another straddling the northerly property line). There is currently a total of 582 trees on site of varying species and ages spread throughout the site. Of those 582 trees, 142 of them are currently considered dead or dying due to being afflicted by the Emerald Ash Bore disease.

3.5 SURFACE WATER

The project site has two unnamed ditches, one of which traverses the center of the project site from east to west while the other straddles the northerly property line. Through a Flood Hazard Area Applicability Determination, it has been confirmed that both ditches are regulated and subject to a 50 FT riparian zone. Both have been classified as State Open Waterways and portions of the central ditch have been characterized as freshwater wetlands with a 50 FT transition area per a Letter of Interpretation from the NJDEP. The northerly ditch has also been classified as wetland but is an ordinary resource wetland with no associated transition area. The limits of these areas and associated buffer (where applicable) are shown on the Preliminary and Final Major Site Plans prepared by Stonefield Engineering, LLC in conjunction with this statement.

3.6 SUBSURFACE WATER

No groundwater was encountered in the geotechnical borings performed on site.

3.7 UNIQUE, SCENIC, AND / OR HISTORIC FEATURES

There are no portions of the site which would be considered to have unique, scenic, and/or historic qualities. The site currently contains two office buildings with separate parking lots.

3.8 EXISTING DEVELOPMENT FEATURES

Access to the site is provided via the private road, Executive Drive, that runs through the subject property and connects the proposed multifamily residential buildings and parking garage to the existing and to remain office building located at 300 Executive Drive and Rooney Circle to the north of the property. Existing power lines are directly adjacent to the south of the property but are not impacted by the development.

4.0 AREA AND REGIONAL DESCRIPTION

The project site is located off Rooney Circle and currently has three office buildings on site, only one of which is to remain. The land uses of the surrounding properties are residential and commercial. To the north of the project site is Essex Freeway (Interstate 280). To the east of the project site is an additional office building and a shopping center comprised of a ShopRite, AMC Dine-In Movie Theatre, TGI Fridays, and several other restaurants and outlet stores. Immediately adjacent to the property to the south and west are power lines with single family residential dwellings and the Essex Green Villas Condominium beyond them.

Existing stormwater management and drainage patterns are outlined in the Stormwater Management Report prepared by Stonefield Engineering & Design, LLC. All stormwater improvements will be reviewed and approved by the municipal engineer and the NJDEP in order to ensure that there will be no negative impacts downstream of the development. A Sanitary Analysis Exhibit (Appendix C) and Utility Plan (included in the Preliminary & Final Major Site Plan) have also been prepared to assess the capacity of the surrounding sanitary sewer network and its ability to service the proposed development.

5.0 IMPACT

5.1 SOIL EROSION AND SEDIMENTATION

A Soil Erosion & Sediment Control Plan has been prepared in accordance with the latest edition of the Standards for Soil Erosion and Sediment Control in New Jersey. This plan can be found within the Preliminary & Final Major Site Plans prepared by Stonefield Engineering & Design, LLC. Proposed temporary measures during construction include diversion swales, sediment basins, silt fencing, stabilized construction entrances, inlet filters, hay bales, street sweeping, and temporary seeding for soil stabilization in order to prevent any harmful environmental impacts on site, in the immediate area surrounding the project site, or downstream of the site. All plans must be reviewed and approved by the HEPSCD prior to commencement of construction.

5.2 FLOODING AND FLOODPLAIN DISRUPTION

The proposed redevelopment will disturb land within environmentally regulated areas (riparian zone, freshwater wetland ditch, freshwater wetland transition area, state open waters). These portions of the development will be reviewed and approved by the NJDEP prior to construction. This will include a flood study and additional plans and reports to be submitted to the Department in order to prove that no adverse impacts to the surrounding properties and areas downstream of the project site will occur.

5.3 DEGRADATION OF SURFACE WATER QUALITY

The proposed development will decrease the quantity of impervious groundcover on site. Therefore, water quality will naturally be enhanced as a result of the development.

5.4 GROUNDWATER POLLUTION

NJDEP and municipal guidelines will be observed in order to ensure the maintenance of groundwater quality. As the development proposes to reduce the amount of impervious coverage, water quality is naturally enhanced. Therefore, no negative impacts to groundwater are anticipated.

5.5 SEWAGE DISPOSAL

A Utility Plan has been included in the Preliminary & Final Major Site Plans prepared by Stonefield Engineering, LLC which provides an estimation of sewer flow calculations based on NJDEP standards. The Utility Plan outlines the sewer sanitary connection for the proposed multifamily residential buildings to the existing sanitary main on the southwesterly side of the property. Additionally, a Sanitary Analysis Exhibit predicting the downstream impact of the proposed use on the existing sanitary system in the residential neighborhood can be found in Appendix C. According to NJDEP projections of sewer flow, it has been determined that the existing pipe network will have capacity for the proposed development. Therefore, no adverse impacts are anticipated to the Township sewer system as a result of this development.

5.6 SOLID WASTE AND RECYCLABLES

All solid waste and trash is proposed to be collected internally of the three multifamily residential buildings. A solid waste disposal plan has been provided by the applicant.

5.7 LAND CLEARING

Due to the size and scope of the proposed project a number of existing trees and vegetation will be removed. A total of 397 existing trees will be removed with 185 existing trees set to remain. Of the 397 existing trees that are set to be removed, 142 of those trees are considered dead or dying due to being afflicted by the emerald ash bore disease. At the instruction of the Township Arborist, these 142 trees will be culled during construction in order to prevent the spread of this disease and protect the remaining trees in the area. A comprehensive Landscaping Plan, by a licensed landscape architect, has been included in the Preliminary & Final Major Site Plan prepared by Stonefield Engineering & Design. The plan proposes the planting of 288 trees of various species and a variety of shrubs and grasses. These plantings have been chosen to match the topography, climate, and environment to create a thriving, visually pleasing area.

5.8 DISRUPTION OF WILDLIFE HABITATS

As noted above, the ditches that traverse the site are classified both as State Open Waterways and wetlands. Any disturbance proposed within or adjacent to these areas will be minimized in order to maintain their value as ecologically sensitive habitats. Also, any areas within the proposed disturbance that can be will be revegetated with appropriate natural and endemic plantings advised by the landscape architect. Finally, all disturbance within these areas will be reviewed and permitted by the NJDEP, and no construction on site will begin without its approval.

5.9 IMPACTS TO SCENIC AND HISTORIC FEATURES

As there are no scenic or historic features on site, and therefore no negative impacts are anticipated.

5.10 AIR QUALITY DEGRADATION

The air quality of the project site and the immediately surrounding area is not anticipated to decrease or degrade in relation to the proposed development.

5.11 NOISE LEVELS

Noise levels are not anticipated to increase from existing conditions as the proposed development is residential in nature. In addition, the distance and natural buffers in the form of trees and other vegetation between the proposed development and neighboring properties is such that any noise levels will be screened.

5.12 ENERGY UTILIZATION

In order to reduce energy utilization, green building standards will be implemented. These measures will include electric car charging stations, energy star appliances and fixtures, and Dark Sky compliant LED light fixtures. These newer standards for energy efficiency should provide a measurable boost to the site relative to the older office buildings that exist today.

5.13 NEIGHBORHOOD IMPACTS

The proposed development is not anticipated to have any adverse effects on the existing surrounding neighborhood or sense of community within West Orange. The multi-family development poses an addition to the neighborhood that will blend well with the adjacent single-family residences and commercial shopping center. Further, the area to be dedicated and developed as a dog park provides the neighborhood with an additional park.

5.14 EFFECT ON PUBLIC SERVICES

Due to the change from office buildings to three multifamily residential buildings, it is anticipated that the need for public services will increase in the area surrounding the project site. The development will be coordinated with and reviewed by the fire department and police departments to ensure the accessibility and safety of the site.

5.15 TRAFFIC IMPACTS

The proposed development will provide sufficient parking, meeting the parking requirements as laid out in the Redevelopment Plan and RSIS. A shuttle will be provided to lessen traffic impacts on the surrounding area by reducing the quantity of cars coming and going from the site. A Traffic Engineering Evaluation has been provided by Bowman Consulting to address the traffic concerns resulting from the development.

5.16 HEALTH, SAFETY, AND WELFARE OF EXISTING RESIDENTS

It is not anticipated that the health, safety, and welfare of existing residents of West Orange will be impacted in any way with the addition of the three multifamily residential buildings. All necessary and required safety measures will be implemented during construction.

5.17 REGIONAL DEVELOPMENT POLICIES

All regional development policies will be adhered to during the approval and construction processes for the proposed development.

6.0 RECOMMENDATION TO MITIGATE ADVERSE ENVIRONMENTAL IMPACT

6.1 DRAINAGE PLANS

The proposed development has an extensive stormwater management plan which complies with all applicable stormwater management regulations and standards. Some of the sustainable elements proposed include the reduction of impervious surfaces, bio-swales within the parking area, rain gardens, and an underground detention basin to reduce peak flow rates. As demonstrated in the Stormwater Management Report, the increase in runoff flow rate and volume generated by the proposed redevelopment will be satisfactorily mitigated by the introduction of underground detention basins and the on-site stormwater conveyance system. Runoff water quality will be naturally enhanced due to the decrease in impervious surfaces.

6.2 SEWAGE DISPOSAL TECHNIQUES

The proposed development involves the removal of the existing on-site sanitary sewer system and in its place a new gravity system designed to meet the latest local and State requirements. A regional sanitary sewer study was performed by Stonefield Engineering & Design, to calculate the current usage downstream of the proposed development. Based on the analysis, it has been determined that no adverse impacts are anticipated as a result of the proposed development. Additionally, a will serve letter has been received by the Joint Meeting of Essex & Union Counties, as the local sewer lines are tributary to this treatment facility.

6.3 WATER SUPPLY AND WATER CONSERVATION PROPOSALS

The proposed development has an anticipated water demand of 79,929 gallons per day. Service of the development has been confirmed by New Jersey American Water. It should be noted that a Bureau of Water System Engineering (BWSE) permit will be required from the NJDEP due to the domestic demand over 12,000 gpd or 30 residential units. Additionally, the proposed development will incorporate water use efficient and energy star appliances and fixtures, as water conservations proposals.

6.4 SITE DESIGN TECHNIQUES

The project site has two unnamed ditches, one which traverses the center of the project site and the other straddles the northerly property line. Through a Flood Hazard Area Applicability Determination, it has been confirmed that both ditches are regulated and subject to a 50FT riparian buffer. Additionally, two freshwater wetland / State Open Water areas are located immediately adjacent to both ditches per a Letter of Interpretation

from NJDEP; the easterly portion of wetlands is subject to a 50FT transition area buffer. The other has been classified as an ordinary resource wetland with no associated transition area. To preserve these areas, the proposed development has been designed around the unnamed ditch and pond, with no permanent features proposed within, except for one road crossing.

The landscape is designed primarily with native plants in drifts and clusters as they might naturally occur in their environment. Several intimate courtyards and lawn spaces have been provided along with a series of plantings forming a natural border that blends the more structured landscape with the existing forest and wetlands on site. The project introduces over 200 trees which over time will form a new canopy over the site. The design also avoids a large forested area on site that will be preserved and replanted with native trees and shrubs in order to avoid the takeover of unwanted invasive species. Rain gardens have been designed in several locations to assist in ground water infiltration while also providing aesthetically pleasing backdrop for the new development. The majority of landscape is designed to be low maintenance and highly draught tolerant.

6.5 ENERGY CONSERVATION MEASURES

The proposed development will provide six electric charging stations for vehicles, energy star appliances and fixtures within the buildings, and LED light fixtures in an effort to conserve energy.

6.6 NOISE REDUCTION TECHNIQUES

No significant change to air quality is anticipated as part of the proposed development. The residential nature of the development is a similar noise generator to the existing offices in the surrounding area, with the primary impactor of vehicle traffic. The development will comply with all NJDEP requirements for noise as applicable. The development area is naturally buffered as well via woods and steep slopes to reduce noise.

6.7 CONSTRUCTION SCHEDULE

The Applicant will abide by all local, State, and Federal laws for the construction of the project. As the project is in a relatively isolated area with a dead-end private road and substantial buffering around the perimeter of the property, no adverse impacts are anticipated to the nearby community. To mitigate any potential impacts of the construction to the immediate neighbor of the development, the Applicant will work with the owner of 300 Executive Drive to ensure minimum disruption of cross access and utility service.

6.8 MISCELLANEOUS IMPROVEMENTS AND OFF-SITE PUBLIC IMPROVEMENTS

As part of the proposed development, the Applicant will build a dog park, which will be dedicated to the Township. Additionally, new sidewalk is proposed along Executive Drive to connect to Rooney Circle and the Essex Green Development.

7.0 ALTERNATIVES

7.1 NO BUILD

Under existing conditions, the site contains approximately 174,546 square feet of office space. In the no build condition, the existing buildings, parking areas, and supporting improvements would remain as-is. Over the past decade, occupancy rates of the office buildings have decreased. This is consistent with the trend in the office market over the past decade, in which suburban office space vacancy rates are approaching 30% in New Jersey. Ultimately, maintaining the existing use will result in a property that is underutilized at best and obsolete at worst, as a result of the changing office landscape.

In addition, the redevelopment will result in the reduction of 8,909 SF of impervious areas. In the no build condition, the property would not receive the benefits of a reduction in impervious coverage and an increase in vegetated areas on the subject property.

7.2 REDEVELOPMENT AS PERMITTED USE

As described above, the permitted office uses are not in keeping with the current trends in suburban development. Other permitted uses in the OB-I District include one family, detached dwellings, municipal buildings, golf courses, and other similar uses. The Redevelopment Plan was prepared by the Township to promote the development of multi-family residential buildings.

8.0 LICENSES, PERMITS, AND APPROVALS REQUIRED

The following licenses, permits, and approvals are anticipated in conjunction with this application:

- Township of West Orange
 - Preliminary & Final Major Site Plan Approval
 - Minor Subdivision Approval
 - Building Permit
- Essex County

- Site Plan and Subdivision Approval
- Hudson Essex Passaic Soil Conservation District
 - Soil Erosion and Sediment Control Plan Certification
- New Jersey Department of Environmental Protection
 - NJDEPS General Permit for Construction Activities (5G3)
 - NJDEP Flood Hazard Area Verification
 - NJDEP Flood Hazard Area Individual Permit
 - NJDEP Treatment Works Approval
 - NJDEP Water Main (BWSE) Permit

At the time of this Statement, all approvals are still pending.

9.0 REFERENCES

1. Revised General Ordinances of the Township of West Orange, last amended June 20, 2016
<https://www.westorange.org/DocumentCenter/View/550/Twp-of-WO-Zoning-Ordinance-Final-Revised--Adopted-6-26-2012?bidId=>
2. Essex Green-Executive Drive Redevelopment Plan, last amended May 1, 2019
Appendix D of this Statement
3. 2019 Master Plan Update – Reexamination Report and Plan Element Amendments, last amended December 2019
<https://www.westorange.org/DocumentCenter/View/6080/West-Orange-MP-Reexam---v10-Dec-2019-002>
4. New Jersey Administrative Code Title 7, Chapter 8 Stormwater Management, last amended June 20, 2016
https://www.nj.gov/dep/rules/rules/njac7_8.pdf
5. New Jersey Stormwater Best Management Practices Manual, last revised November 2018
https://www.njstormwater.org/bmp_manual2.htm

APPENDIX A

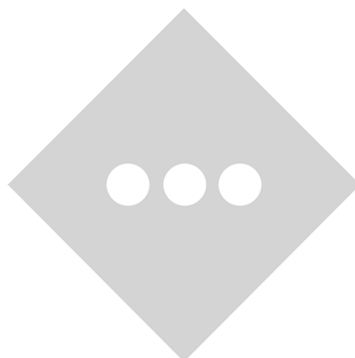
PROJECT FIGURES

INVENTORY

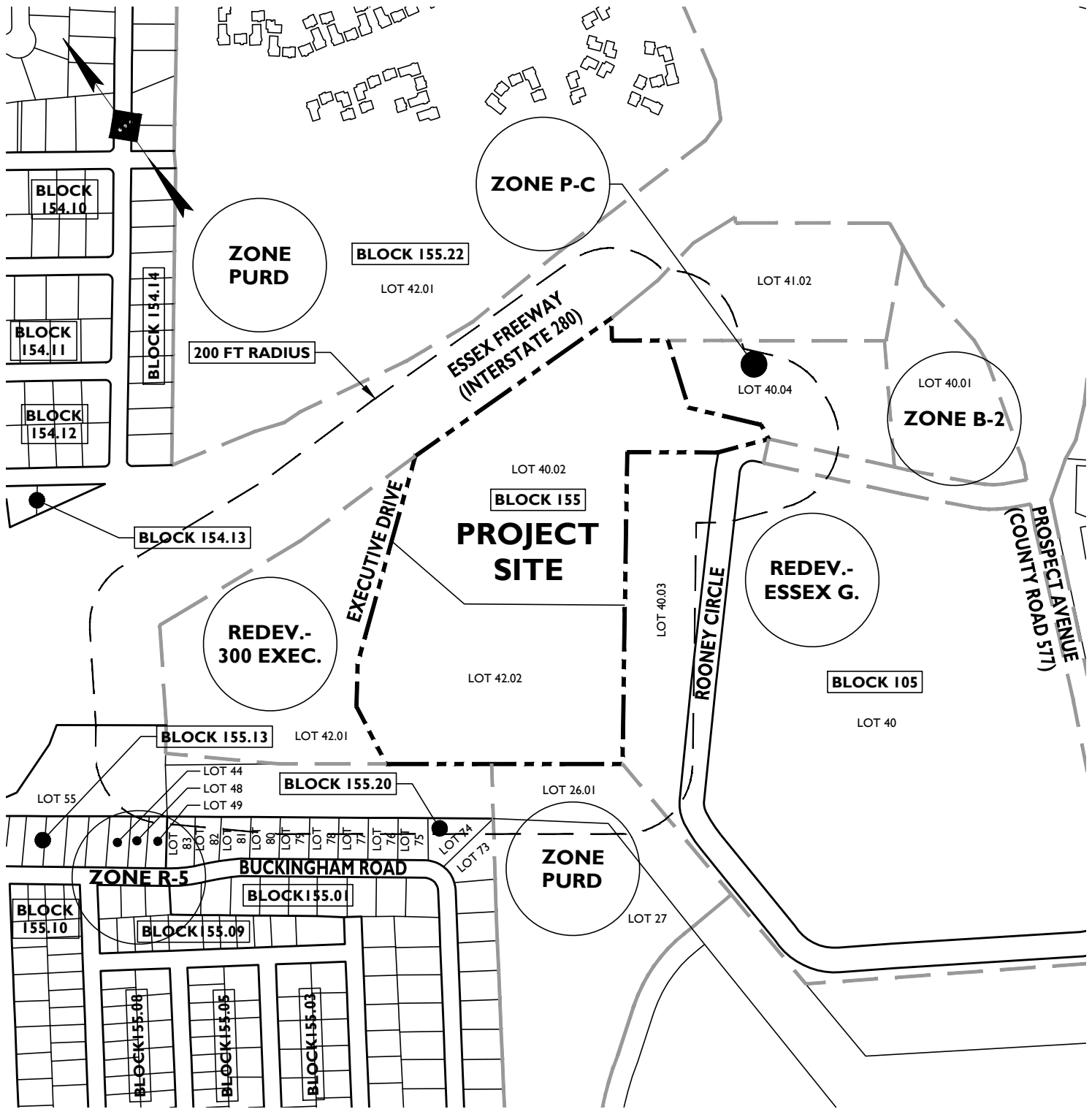
TAX & ZONING MAP

AERIAL MAP

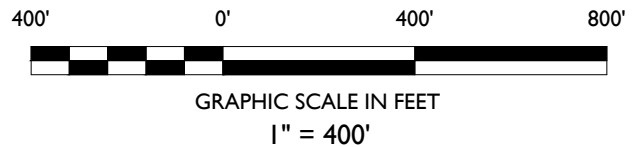
USGS MAP



T:\2017\T-17554 BNE Real Estate Group - 100-200 Executive Drive, West Orange, NJ\CADD\Exhibit 2020-02-12 (LTR) Project Maps.dwg



TAX & ZONING MAP



SOURCE: TOWNSHIP OF WEST ORANGE TAX MAPS SHEETS 34, 85, 86, 86, 88, & 89;
TOWNSHIP OF WEST ORANGE ZONING MAP.

BNE REAL ESTATE GROUP

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT

BLOCK 155, LOTS 40.02 & 42.02
100 - 200 EXECUTIVE DRIVE
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

DRAWN BY:

DD

CHECKED BY:

ZEC

DATE:

02/12/2020

SCALE:

1" = 400'

PROJECT ID:

T-17554



STONEFIELD
engineering & design

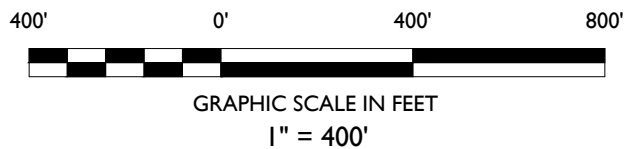
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Phone 201.340.4468 · Fax 201.340.4472



STATE PLANE COORDINATES
OF PROJECT SITE CENTROID:
X: 558,952
Y: 714,885

AERIAL MAP



SOURCE: GOOGLE EARTH PRO

BNE REAL ESTATE GROUP

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT

BLOCK 155, LOTS 40.02 & 42.02
100 - 200 EXECUTIVE DRIVE
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

DRAWN BY:

DD

CHECKED BY:

ZEC

DATE:

02/12/2020

SCALE:

1" = 400'

PROJECT ID:

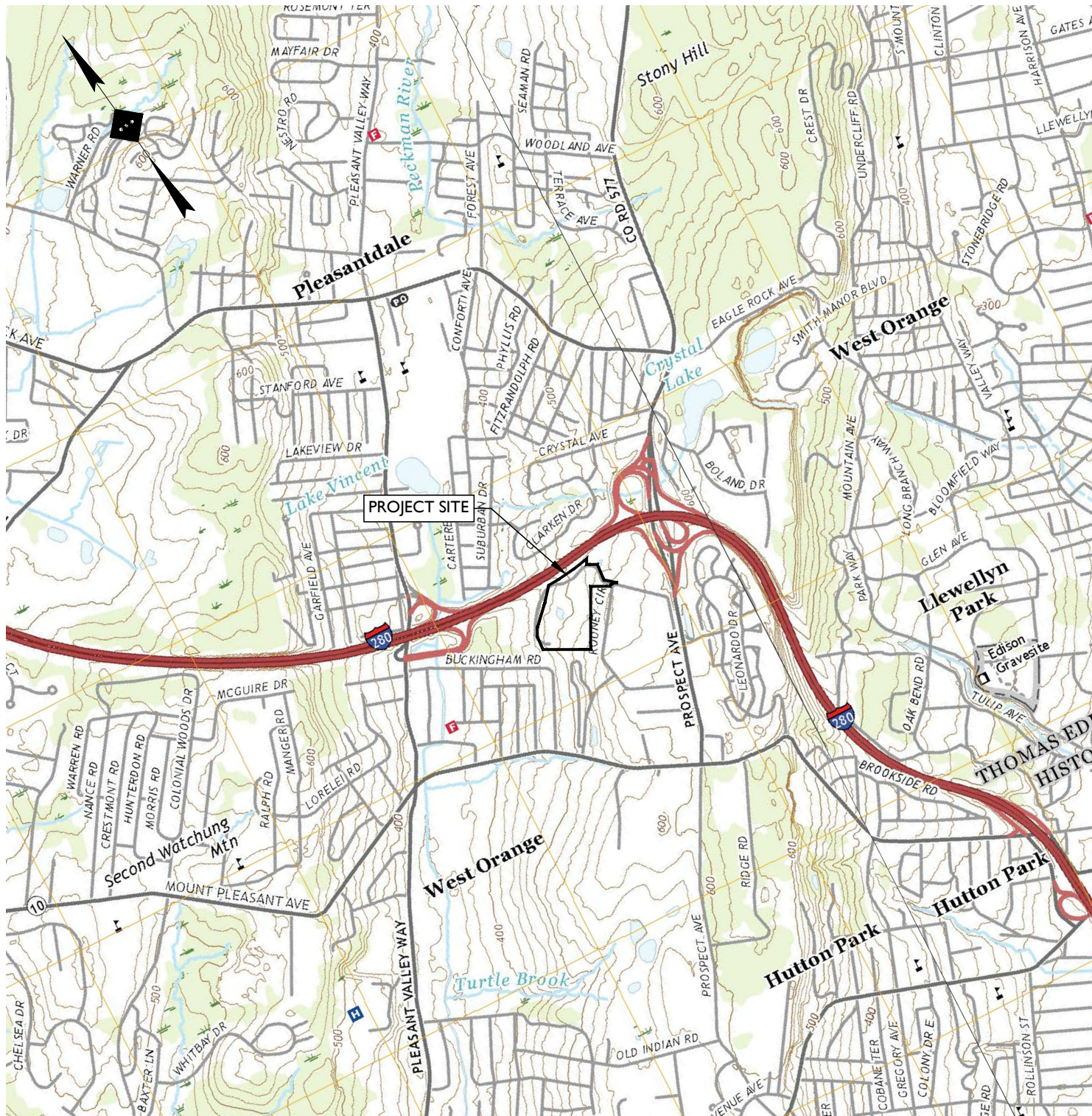
T-17554



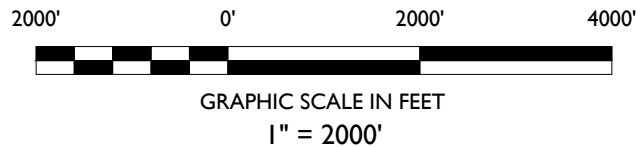
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USGS MAP



SOURCE: UNITED STATES GEOLOGICAL SURVEY MAP, CALDWELL & ORANGE QUADRANGLES, DATED 2016

BNE REAL ESTATE GROUP

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT

BLOCK 155, LOTS 40.02 & 42.02
100 - 200 EXECUTIVE DRIVE
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

DRAWN BY:	DD
CHECKED BY:	ZEC
DATE:	02/12/2020
SCALE:	1" = 2000'
PROJECT ID:	T-17554



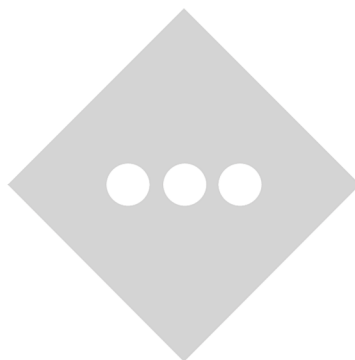
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APPENDIX B

NRCS COUNTY SOIL SURVEY





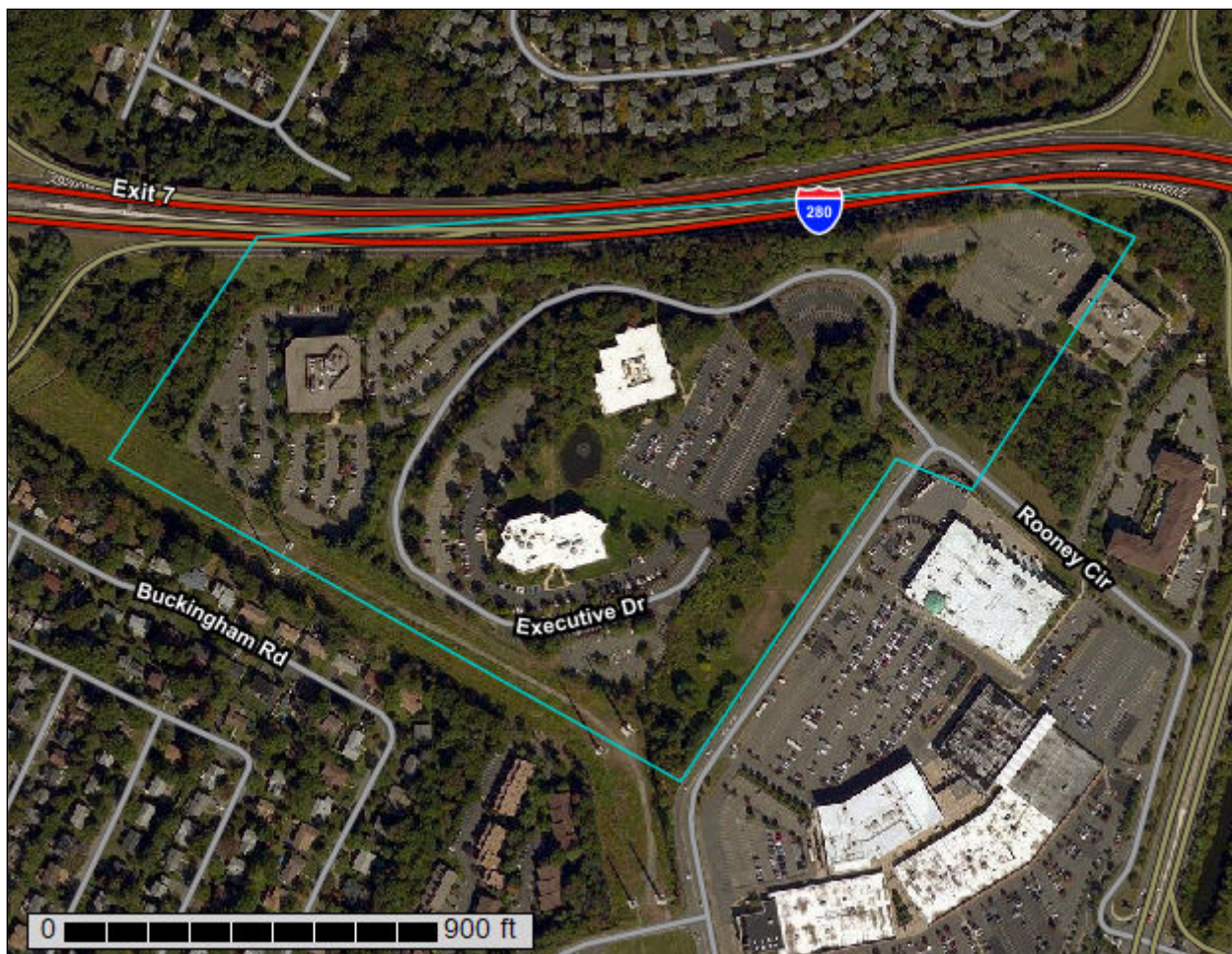
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for **Essex County, New Jersey**



Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

Custom Soil Resource Report

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

Soil Map

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

Custom Soil Resource Report Soil Map



MAP 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 1:12,000.

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: Essex County, New Jersey
Survey Area Data: Version 15, Sep 16, 2019

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

Date(s) aerial images were photographed: Aug 25, 2014—Sep 27, 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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BogBc	Boonton loam, 0 to 8 percent slopes, extremely stony	18.4	39.7%
BouB	Boonton - Urban land, Boonton substratum complex, 0 to 8 percent slopes	2.5	5.4%
DunB	Dunellen sandy loam, 3 to 8 percent slopes	0.3	0.6%
URBONB	Urban land, Boonton substratum, 0 to 8 percent slopes	22.1	47.8%
YaohEh	Yalesville - Holyoke complex, 35 to 60 percent slopes, very rocky	3.0	6.5%
Totals for Area of Interest		46.3	100.0%

Map Unit Descriptions

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

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

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

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Essex County, New Jersey

BogBc—Boonton loam, 0 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: b128
Elevation: 50 to 500 feet
Mean annual precipitation: 30 to 64 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 131 to 178 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Boonton, Extremely Stony

Setting

Landform: Ground moraines
Landform position (three-dimensional): Upper third of mountainflank, center third of mountainflank
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy basal till derived from basalt

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oa - 1 to 3 inches: highly decomposed plant material
A - 3 to 5 inches: loam
BA - 5 to 8 inches: silt loam
BE - 8 to 17 inches: silt loam
Bt - 17 to 30 inches: silt loam
Btx1 - 30 to 40 inches: gravelly fine sandy loam
Btx2 - 40 to 47 inches: fine sandy loam
CBt1 - 47 to 58 inches: loamy sand
CBt2 - 58 to 72 inches: loamy sand

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 10.0 percent
Depth to restrictive feature: 20 to 36 inches to fragipan
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s

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Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Boonton, moderately well drained, extremely stony

Percent of map unit: 10 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Head slope, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Haledon, extremely stony

Percent of map unit: 5 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope, head slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

BouB—Boonton - Urban land, Boonton substratum complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: b12f
Elevation: 50 to 500 feet
Mean annual precipitation: 30 to 64 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 131 to 178 days
Farmland classification: Not prime farmland

Map Unit Composition

Boonton and similar soils: 50 percent
Urban land, boonton substratum: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boonton

Setting

Landform: Ground moraines
Landform position (three-dimensional): Upper third of mountainflank, center third of mountainflank
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy basal till derived from basalt

Typical profile

A - 0 to 5 inches: loam
BA - 5 to 8 inches: silt loam
BE - 8 to 17 inches: silt loam
Bt - 17 to 30 inches: silt loam
Btx1 - 30 to 40 inches: gravelly fine sandy loam
Btx2 - 40 to 47 inches: fine sandy loam
CBt1 - 47 to 58 inches: loamy sand
CBt2 - 58 to 72 inches: loamy sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 20 to 36 inches to fragipan
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Urban Land, Boonton Substratum

Setting

Landform: Ground moraines
Landform position (three-dimensional): Lower third of mountainflank, upper third of mountainflank, center third of mountainflank
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material

Typical profile

H1 - 0 to 12 inches: material
H2 - 12 to 47 inches: silt loam
2CBt1 - 47 to 58 inches: loamy sand
2CBt2 - 58 to 72 inches: loamy sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Udorthents, boonton substratum

Percent of map unit: 10 percent
Landform: Ground moraines
Landform position (three-dimensional): Lower third of mountainflank, upper third of mountainflank, center third of mountainflank

Custom Soil Resource Report

Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

DunB—Dunellen sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: njzd
Elevation: 50 to 2,000 feet
Mean annual precipitation: 30 to 64 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 131 to 178 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Dunellen

Setting

Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy outwash derived from sandstone

Typical profile

A1 - 0 to 8 inches: sandy loam
A2 - 8 to 14 inches: sandy loam
BA - 14 to 20 inches: sandy loam
Bt - 20 to 31 inches: sandy loam
C - 31 to 42 inches: sandy loam
2C - 42 to 70 inches: loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e

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Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Tunkhannock

Percent of map unit: 10 percent
Landform: Deltas, kames, outwash terraces
Landform position (three-dimensional): Riser, rise
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Udorthents, dunellen substratum

Percent of map unit: 5 percent
Landform: Outwash plains
Landform position (three-dimensional): Lower third of mountainflank
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

URBONB—Urban land, Boonton substratum, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: w9cn
Elevation: 50 to 500 feet
Mean annual precipitation: 30 to 64 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 131 to 178 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Urban Land, Boonton Substratum

Setting

Landform: Ground moraines
Landform position (three-dimensional): Lower third of mountainflank
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material

Typical profile

H1 - 0 to 12 inches: material
H2 - 12 to 47 inches: silt loam
2CBt1 - 47 to 58 inches: loamy sand
2CBt2 - 58 to 72 inches: loamy sand

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: Unranked

Minor Components

Boonton

Percent of map unit: 5 percent

Landform: Ground moraines

Landform position (three-dimensional): Upper third of mountainflank, center third of mountainflank

Down-slope shape: Convex

Across-slope shape: Linear

Hydric soil rating: No

Udorthents, boonton substratum

Percent of map unit: 5 percent

Landform: Ground moraines

Landform position (three-dimensional): Lower third of mountainflank, upper third of mountainflank, center third of mountainflank

Down-slope shape: Convex

Across-slope shape: Linear

Hydric soil rating: No

YaohEh—Yalesville - Holyoke complex, 35 to 60 percent slopes, very rocky

Map Unit Setting

National map unit symbol: w9g0

Elevation: 50 to 500 feet

Mean annual precipitation: 30 to 64 inches

Mean annual air temperature: 46 to 79 degrees F

Frost-free period: 131 to 178 days

Farmland classification: Not prime farmland

Map Unit Composition

Yalesville, very rocky, and similar soils: 50 percent

Holyoke, very rocky, and similar soils: 30 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yalesville, Very Rocky

Setting

Landform: Ground moraines

Landform position (three-dimensional): Mountaintop

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Coarse-loamy till derived from basalt

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 5 inches: loam
Bw1 - 5 to 19 inches: fine sandy loam
Bw2 - 19 to 31 inches: fine sandy loam
BC - 31 to 32 inches: fine sandy loam
R - 32 to 80 inches: bedrock

Properties and qualities

Slope: 35 to 60 percent
Percent of area covered with surface fragments: 10.0 percent
Depth to restrictive feature: 20 to 39 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Holyoke, Very Rocky

Setting

Landform: Ground moraines, hills, ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountaintop
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Loamy till derived from basalt

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oa - 1 to 3 inches: highly decomposed plant material
A - 3 to 5 inches: loam
Bw1 - 5 to 14 inches: loam
Bw2 - 14 to 18 inches: loam
R - 18 to 80 inches: bedrock

Properties and qualities

Slope: 35 to 60 percent
Percent of area covered with surface fragments: 10.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Custom Soil Resource Report

Available water storage in profile: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Boonton, very rocky

Percent of map unit: 10 percent

Landform: Ground moraines

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Upper third of mountainflank, center third of mountainflank

Down-slope shape: Convex

Across-slope shape: Linear

Hydric soil rating: No

Rock outcrop

Percent of map unit: 10 percent

Landform: Ridges

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Linear

Hydric soil rating: Unranked

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Custom Soil Resource Report

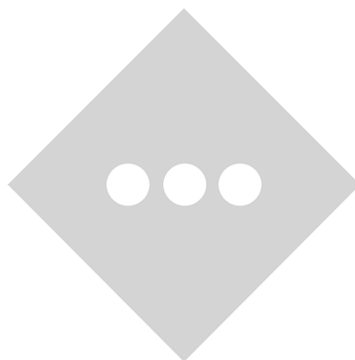
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APPENDIX C

SANITARY ANALYSIS EXHIBIT



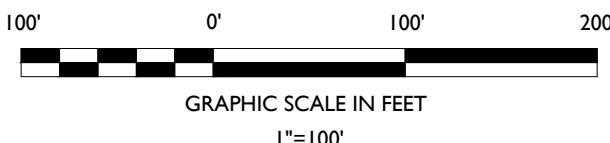
T:\2017\T-17554 BNE REAL ESTATE GROUP - 100-200 EXECUTIVE DRIVE, WEST ORANGE, NJ\CAD\BHM\2017\144\01 SANITARY ANALYSIS EXHIBIT.DWG



SYMBOL	DESCRIPTION
	SUBJECT SITE PROPERTY LINE
	PARCEL LOT LINE
	SANITARY MAIN
	SANITARY STRUCTURE

PLAN REFERENCE MATERIALS:

- THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS INCLUDING, BUT NOT LIMITED TO:
 - NJGIN COUNTY PARCEL MAPS, DATED 2015
 - TOWNSHIP OF WEST ORANGE SEWER MAPS
 - AERIAL MAP OBTAINED FROM GOOGLE EARTH PRO, DATED 4/19/2016.
- ALL REFERENCE MATERIAL LISTED ABOVE SHALL BE CONSIDERED A PART OF THIS PLAN SET AND ALL INFORMATION CONTAINED WITHIN THESE MATERIALS SHALL BE UTILIZED IN CONJUNCTION WITH THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A COPY OF EACH REFERENCE AND REVIEW IT THOROUGHLY PRIOR TO THE START OF CONSTRUCTION.



PROJECT:	BNE West Orange	Last Revised	4/3/2018
PERFORMED BY:	DD	PERFORMED BY:	ZC
		PERFORMED BY:	T-17554
NIDEP SANITARY SEWER PROJECTED FLOW			
USE TYPE	UNIT TYPE	GPD PER UNIT	UNITS
Residences: 1 Bedroom Unit	Dwelling	150	200
Residences: 2 Bedroom Unit	Dwelling	225	225
Miscellaneous: Office Building	Square Footage	0.1	377,593
Total:		118,384	GPD

LINE #	UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	UPSTREAM INVERT	DOWNSTREAM INVERT	PIPE SIZE (IN)	PIPE LENGTH (FT)	SLOPE (%)	TRIBUTARY RESIDENTIAL UNITS	RESIDENTIAL FLOWRATE (GPD)	PROJECT AREA FLOW RATE (GPD)	UPSTREAM FLOWRATE (GPD)	TOTAL TRIBUTARY FLOWRATE (GPD)	TWICE TOTAL TRIBUTARY FLOWRATE (GPD)	PIPE CAPACITY (GPD)	50% PIPE CAPACITY (GPD)	NORMAL FLOW AT 100% PIPE CAPACITY (%)	TWICE FLOW AT 100% PIPE CAPACITY	TWICE FLOW AT 50% PIPE CAPACITY	3x AT 100% PIPE CAPACITY	4x FLOW AT 100% PIPE CAPACITY	
1	S-2	S-1	366.67	360.42	8	233	2.7%	8	2,400	0	2,400	5,700	11,400	1,36	681,944	440,972	1%	1%	3%	2%	3%
2	S-3	S-2	374.95	366.67	8	243	3.4%	11	3,300	0	3,300	3,300	6,600	1,54	774,011	497,005	0%	1%	1%	1%	1%
3	S-4	S-4	366.30	360.42	8	350	2.4%	6	2,400	0	2,400	16,984	33,968	1,28	625,844	412,922	21%	41%	82%	51%	82%
4	S-5	S-4	368.68	366.30	8	350	0.7%	3	900	0	900	4,500	9,000	699	444,652	222,024	1%	2%	4%	3%	4%
5	S-6	S-5	371.44	368.68	8	322	0.9%	5	1,500	0	1,500	2,700	5,400	677	498,547	249,273	1%	1%	3%	2%	3%
6	S-7	S-6	373.01	371.44	8	172	0.5%	2	600	0	600	2,100	4,200	608	382,462	191,231	1%	1%	2%	1%	2%
7	S-8	S-7	373.20	373.01	8	328	0.5%	5	1,500	0	1,500	3,500	7,000	659	380,771	190,386	0%	1%	2%	1%	2%
8	S-9	S-4	373.00	360.30	8	250	2.7%	8	2,400	0	2,400	16,084	32,168	1,36	681,949	440,772	18%	37%	74%	46%	74%
9	S-10	S-9	377.20	373.00	8	350	1.7%	3	900	0	900	30,900	61,800	1,09	706,225	353,113	4%	9%	18%	11%	18%
10	S-11	S-10	381.50	377.20	8	210	2.0%	8	2,400	0	2,400	6,000	12,000	1,18	741,543	380,771	1%	2%	3%	2%	3%
11	S-12	S-11	385.66	381.50	8	208	2.0%	7	2,100	0	2,100	4,200	8,400	1,18	741,543	380,771	1%	1%	2%	1%	2%
12	S-13	S-12	387.78	385.66	8	186	2.0%	2	600	0	600	2,100	4,200	1,18	740,855	380,413	0%	1%	1%	1%	1%
13	S-14	S-13	394.08	387.78	8	140	4.5%	5	1,500	0	1,500	1,500	3,000	1,77	1,142,314	571,157	0%	0%	1%	0%	1%
14	S-15	S-14	392.30	392.30	8	250	8.0%	4	1,200	0	1,200	23,400	46,800	2,04	1,193,930	595,935	2%	4%	7%	4%	7%
15	S-16	S-15	392.30	392.30	8	250	0.4%	7	2,100	0	2,100	15,000	30,000	651	345,512	172,756	2%	5%	9%	4%	9%
16	S-17	S-16	394.80	392.30	8	250	0.4%	8	2,400	0	2,400	5,700	11,400	665	417,114	208,557	1%	3%	5%	3%	5%
17	S-18	S-17	402.80	394.80	8	400	2.0%	11	3,300	0	3,300	3,300	6,600	1,18	741,543	380,771	2%	1%	2%	1%	2%
18	S-19	S-18	413.30	392.30	8	250	8.4%	1	1,500	0	1,500	14,400	28,800	241	1,540,499	780,249	1%	2%	4%	2%	4%
19	S-20	S-19	414.87	413.30	8	153	0.5%	6	1,800	0	1,800	6,000	12,000	659	381,901	190,950	3%	3%	6%	4%	6%
20	S-21	S-20	415.83	414.87	8	350	0.5%	6	1,800	0	1,800	6,000	12,000	659	380,771	190,386	1%	2%	4%	1%	4%
21	S-22	S-21	417.07	415.83	8	240	0.5%	8	2,400	0	2,400	2,400	4,800	659	380,771	190,386	1%	1%	3%	2%	3%
22	S-23	S-22	442.30	417.07	8	250	11.5%	2	600	0	600	6,000	12,000	2,84	1,834,037	917,019	0%	1%	2%	1%	2%
23	S-24	S-23	443.48	442.30	8	236	0.5%	7	2,100	0	2,100	12,000	24,000	1,20	520,000	260,000	2%	3%	7%	4%	7%
24	S-25	S-24	444.66	443.48	8	235	0.5%	6	1,800	0	1,800	4,200	8,400	659	381,907	190,954	1%	2%	4%	3%	4%
25	S-26	S-25	445.05	444.66	8	78	0.5%	2	600	0	600	600	1,200	659	380,771	190,386	1%	1%	3%	2%	3%
26	S-27	S-26	445.75	445.05	8	175	0.5%	6	1,800	0	1,800	1,800	3,600	659	381,889	191,444	0%	1%	2%	1%	2%
27	S-28	S-27	386.05	377.00	8	225	5.8%	7	2,100	0	2,100	12,784	25,568	2,01	1,246,860	623,430	10%	20%	40%	25%	40%
28	S-29	S-28	386.80	386.05	8	155	0.5%	4	1,200	0	1,200	12,684	25,368	659	381,998	190,999	23%	23%	46%	18%	46%
29	S-30	S-29	387.24	386.80	8	82	0.5%	2	600	0	600	12,644	25,288	1,09	380,771	190,386	31%	62%	131%	83%	131%
30	S-31	S-30	387.54	387.24	8	60	0.5%	0	0	0	0	118,384	236,768	659	380,771	190,386	31%	62%	124%	78%	124%
31	S-32	S-31	388.79	387.54	8	250	0.1%	0	0	0	0	118,384	236,768	659	380,771	190,386	31%	62%	124%	78%	124%
32	S-33	S-32	388.97	388.79	8	145	0.5%	3	900	0	900	7,350	14,700	750	382,082	191,041	2%	4%	8%	5%	8%
33	S-34	S-33	389.08	388.97	8	121	0.5%	5	1,500	0	1,500	5,500	11,000	659	381,452	190,726	3%	3%	7%	4%	7%
34	S-35	S-34	389.80	389.08	8	178	0.5%	5	1,500	0	1,500	5,100	10,200	659	382,948	191,474	1%	3%	6%	3%	6%
35	S-36	S-35	391.13	389.80	8	230	0.5%	4	1,200	0	1,200	3,500	7,000	659	380,771	190,386	1%	2%	4%	2%	4%
36	S-37	S-36	392.28	391.13	8	229	0.5%	8	2,400	0	2,400	4,800	9,600	659	381,402	190,701	1%	1%	3%	2%	3%

NOTE: ALL FLOW VALUES ARE BASED ON N.J.A.C. TITLE 7, CHAPTER 14A, SUBCHAPTER 23.3 "PROJECTED FLOW CRITERIA"

STONEFIELD
engineering & design

PROJECT: BNE West Orange
PERFORMED BY: DD
DATE: 04/03/2018
ISSUE: 2
DESCRIPTION: PER ENGINEER'S COMMENTS
ISSUED FOR REVIEW: DD

NOT APPROVED FOR CONSTRUCTION

STONEFIELD
engineering & design

Rutherford, NJ • Long Island City, NY • Royal Oak, MI
www.stonefieldeng.com
Headquarters: 92 Park Avenue, Rutherford, NJ 07070
Phone 201.340.4468 • Fax 201.340.4472

EXHIBIT

BNE REAL ESTATE GROUP
PROPOSED MULTI-TENANT
RESIDENTIAL DEVELOPMENT
BLOCK 40.03, LOT 155, BLOCK 41.02, LOT 155,
BLOCK 42.02, LOT 155, BLOCK 43.02, LOT 155,
100-200 EXECUTIVE DRIVE
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

JEFFREY A. MARTELL, P.E.
NEW JERSEY LICENSE No. 47290
LICENSED PROFESSIONAL ENGINEER

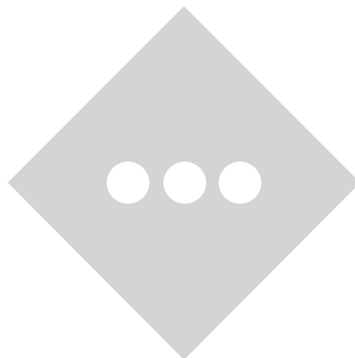
STONEFIELD
engineering & design

SCALE: 1" = 100' PROJECT ID: T-17554

TITLE: TRIBUTARY SANITARY SEWER SYSTEM ANALYSIS EXHIBIT

DRAWING: I OF I

APPENDIX D
ESSEX GREEN-EXECUTIVE DRIVE
REDEVELOPMENT PLAN



TOWNSHIP OF WEST ORANGE



ESSEX GREEN-EXECUTIVE DRIVE REDEVELOPMENT PLAN

MAY 1, 2019



Prepared By:

Heyer, Gruel & Associates

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Heyer, Gruel & Associates
Community Planning Consultants
236 Broad Street
Red Bank, NJ 07701
732-741-2900

The original of this report was signed and
sealed in accordance with N.J.S.A. 45:14A-12.

Susan S. Gruel, P.P. #1955

John Barree, AICP, P.P. #6270, LEED Green Associate

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INTRODUCTION AND PROCESS

The Essex Green-Executive Drive Redevelopment Area consists of five parcels totaling approximately 62 acres in area including Block 155, Lots 40.02, 40.03, 41.02, 42.02, and Block 155.2, Lot 40 (the "Area"). Three of these parcels Block 155 Lots 40.02, 41.02, and 42.02 are developed with office buildings built between 1971 and 1984. Collectively these properties are known as the Executive Drive Area.

The Essex Green portion of the redevelopment area consists of two parcels located southeast of the Executive Drive Area: Block 155, Lot 40.03, a vacant lot, and Block 155.21, Lot 40, which houses the Essex Green Shopping Center. The shopping center was built in 1957 and was renovated in 1991. Currently, an application is pending before the Township's Zoning Board to renovate portions of the shopping center and construct some new pad site buildings on the property.

On September 19, 2017, the Township Council adopted resolutions 212-17 and 213-17 to direct the West Orange Township Planning Board to investigate these properties to determine if the area qualifies as a non-condemnation area in need of redevelopment per the statutory criteria of the Local Redevelopment and Housing Law (LRHL) *N.J.S.A. 40A:12A, et seq.*

The Township's planner, Paul Grygiel, PP, AICP, of the firm Phillips Preiss, prepared a preliminary investigation report entitled, "Essex Green and Executive Drive Area in Need of Redevelopment Study", dated October 2017 (the "Study"). The Township Planning Board held public hearings on the Study on November 1, 2017, and December 6, 2017. On January 4, 2018, the Planning Board adopted Resolution 18-01, which recommended that the properties be designated as a non-condemnation area in need of redevelopment. The Township Council took action at its January 9, 2018 meeting, designating the Area as in need of redevelopment through resolution 17-18.

Heyer, Gruel and Associates was retained by the Township Council on June 12, 2018 to work with the Township Planning Board to prepare a Redevelopment Plan for the Area.

In September 2018, the Township Council adopted the "300 Executive Drive Redevelopment Plan", which proposed standards for the modernization of the office building on Block 155, Lot 42.01. This Plan is the next step in the process of comprehensively redeveloping the Area.

The Plan contains the elements required by the LRHL, sets forth goals and objectives for the area, and provides use and design standards to govern the redevelopment of the Area in a manner consistent with the Township's goals and objectives.



STATUTORY REQUIREMENTS

The Local Redevelopment and Housing Law (N.J.S.A. 40A:12A-1, et seq.), requires that a redevelopment plan include an outline for the planning, development, redevelopment or rehabilitation of the project area sufficient to indicate:

1. Its relationship to definite local objectives as to appropriate land uses, density of population and improved traffic and public transportation, public utilities, recreational and community facilities and other public improvements;
2. Proposed land uses and building requirements in the project area;
3. Adequate provision for the temporary and permanent relocation as necessary of residents in the project area including an estimate of the extent to which decent, safe and sanitary dwelling units affordable to displaced residents will be available to them in the existing local housing market;
4. An identification of any property within the redevelopment area proposed to be acquired in accordance with the redevelopment plan;
5. Any significant relationship of the redevelopment plan to:
 - a. The Master Plans of contiguous municipalities;
 - b. The Master Plan of the County in which the municipality is located; and
 - c. The State Development and Redevelopment Plan adopted pursuant to the "State Planning Act" P.L. 1985, C398 (C52:18A-196 et al.).
6. As of the date of the adoption of the resolution finding the area to be in need of redevelopment, an inventory of all housing units affordable to low and moderate income households, as defined pursuant to section 4 of P.L. 1985 c.222 (C.52:27D-304), that are to be removed as a result of implementation of the redevelopment plan, whether as a result of subsidies or market conditions listed by affordability level, number of bedrooms, and tenure.
7. A plan for the provision, through new construction or substantial rehabilitation of one comparable, affordable replacement housing unit for each affordable housing unit that has been occupied at any time within the last 18 months, that is subject to affordability controls and that is identified as to be removed as a result of implementation of the redevelopment plan.

This redevelopment plan includes each of these required sections, as applicable, serving as a guide for the redevelopment of the Essex Green-Executive Drive Redevelopment Area in the Township of West Orange.

EXISTING CONDITIONS

Location and Description

The Area consists of five tax parcels in West Orange Township: Block 155, Lot 40.02; Block 155, Lot 40.03; Block 155, 41.02; Block 155, 42.02; and Block 155.21, Lot 40. Current property records indicate that Block 155 Lots 40.02, 41.02, and 42.02 are owned by West Orange Executive Park, and Block 155, Lot 40.03 and Block 155.21, Lot 40 are owned by CLFP Essex Green LLC. The parcels total approximately 62 acres in land area.

The Area is bound by I-280 to the north; Prospect Avenue and Block 155, 40.01 to the east; Block 155 Lots 26.01 and 26.02 to the south; and Block 155 lot 42.01 (300 Executive Drive) to the west. The I-280 and Prospect Avenue interchange provides regional highway access near the Area.

Like much of West Orange Township, the Area is encumbered by steep slopes. 100 and 200 Executive Drive are positioned midway up the hills that define the topography of the Area. Essex Green and Rooney Circle are located at higher ground near Prospect Avenue.

Regional Context

The Township is in central Essex County and is bisected by the Interstate 280 corridor, which runs east to west. The Garden State Parkway is several miles to the east and is the major north-south highway in the region.

The Township is bordered by several municipalities. Livingston, Roseland, and Essex Fells are located to the west, Verona and Montclair are located to the north, the City of Orange is located to the east, and Millburn, Maplewood, and South Orange are located to the South.

The Township is developed with a mix of uses. Residential neighborhoods exist in a mix of densities with single-family homes, townhouse developments, condominium developments, and multi-family developments located in the Township.

Commercial development in the Township includes highway-oriented shopping centers, campus style office parks, and Main Street and neighborhood business districts. Public land and sensitive environmental features, particularly areas with steep slopes are also important to land use patterns in the Township. Turtleback Zoo, the Orange Reservoir, and Eagle Rock Reservation are some of the most prominent open space and recreation areas in the Township.

Existing Land Use

The Area is currently developed with office buildings, a shopping center, and surface parking lots. 100 and 200 Executive Drive (Block 155, Lots 40.02 and 42.02), and 10 Rooney Circle (Block 155, Lot 41.02), are occupied by Class C office buildings built between 1971 and 1984.

Block 155, Lot 40.03 is a vacant lot fronting on Rooney Circle. This lot features a narrow strip that runs along the length of Rooney Circle to Prospect Avenue.

Essex Green is a shopping center with an AMC Movie Theater, Shop Rite, Sears Outlet, and Panera, among other retail and restaurant establishments. An application is pending before the Township Zoning Board of Adjustment to permit modifications to the shopping center and the construction of a new drive-through use.

Block 155, Lot 26.02, located south of Essex Green is developed with an LA Fitness gym. A Courtyard by Marriot Hotel is located to the north of Essex Green at the intersection of Rooney Circle and Prospect Avenue. Block 115 Lot 140.04, located between Essex Green and the office building at 10 Rooney Circle, was approved for another hotel by the Zoning Board of Adjustment in 2011 and construction is nearly complete on that project.

Directly south of 100 and 200 Executive Drive are PSE&G transmission lines. A neighborhood of single-family residences

and the Essex Green Villa Condominium development are located south of the PSE&G transmission corridor.

The Villas at Eagle Ridge Townhome development is located across Prospect Avenue to the east.

Existing Zoning

The Area is located in two zoning districts. The properties that comprise the Executive Drive portion of the area (Block 155, Lots 40.02, 41.02, and 42.02) are in the OB-1 Office Buildings Zone, and the properties that are part of the Essex Green portion of the area (Block 155, Lot 40.03, and Block 155.21, Lot 40) are in the P-C Planned Commercial District.

OB-1 Office Building District

The following are the standards for the OB-1 District:

Permitted Principal Uses

- One-Family, Detached Dwelling
- Water Reservoir, Well Tower, Filter Bed
- Federal, State, County or Township Building
- Golf Course or Golf Course House
- Farm, Nursery, Greenhouse and Similar Uses
- Hospital
- Office Buildings

Permitted Accessory Uses

- Required Accessory Parking

- Signs

Permitted Conditional Uses

- Commercial Recreation
- Public School
- Private School
- Library
- Museum
- Park or Playground
- Public Utility Building or Structure
- Telephone Exchange
- Private Club, Other than a Golf Club
- House of Worship
- Nursing Home
- Long-term Care Residential Health Care Facility
- Congregate Care Facility
- Assisted Living
- Commercial Antenna
- Check Cashing Facility

OB-1 District Bulk Requirements

Bulk Standard	Requirement
Minimum lot area	10,000 SF
Minimum lot area / unit	6,000 SF
Minimum lot width	60 feet
Minimum front yard	30 feet
Minimum side yards	10 feet + 8 feet
Minimum rear yard	30 feet
Maximum building coverage	40%
Maximum lot coverage	50%

Additional Standards

- Retail sales or service permitted as an accessory use in the OB-1 District shall be an integral part of the permitted building, shall be limited to sales or services designed for the convenience of the employees, visitors and tenants of the permitted building and no goods, advertisements or other evidence of such sales or services shall be visible

from the street. Such use shall not consist of more than 15 percent of the total first floor area in the OB-1 District and shall be designated on the preliminary site plan.

- In the OB-1 District, one square foot of open space shall be provided for each square foot of building area except that no more than 40 percent of the lot in the OB-1 District may be covered by buildings or structures. Off-street parking areas are not permitted within open space areas, except for "overflow" parking spaces that are specifically approved by the Planning or Zoning Board and are constructed in a manner acceptable to the Township Engineer. Furthermore, no accessory structure of off-site parking area shall be located within the required front yard no closer than 25 feet to the side or rear property lines in the OB-1 District.

P-C Planned Commercial

The following are the standards for the P-C District:

Permitted Principal Uses

- Retail Store
- Personal service store or studio
- Restaurant
- Bar
- Motor vehicle fueling station
- Post Office

- Civic center, limited to assembly hall and non-commercial indoor recreation facilities
- Theater on lots of 8-acre minimum

Permitted Accessory Uses

- Required Accessory Parking
- Required Accessory truck loading spaces
- Private garage
- Signs

Permitted Conditional uses

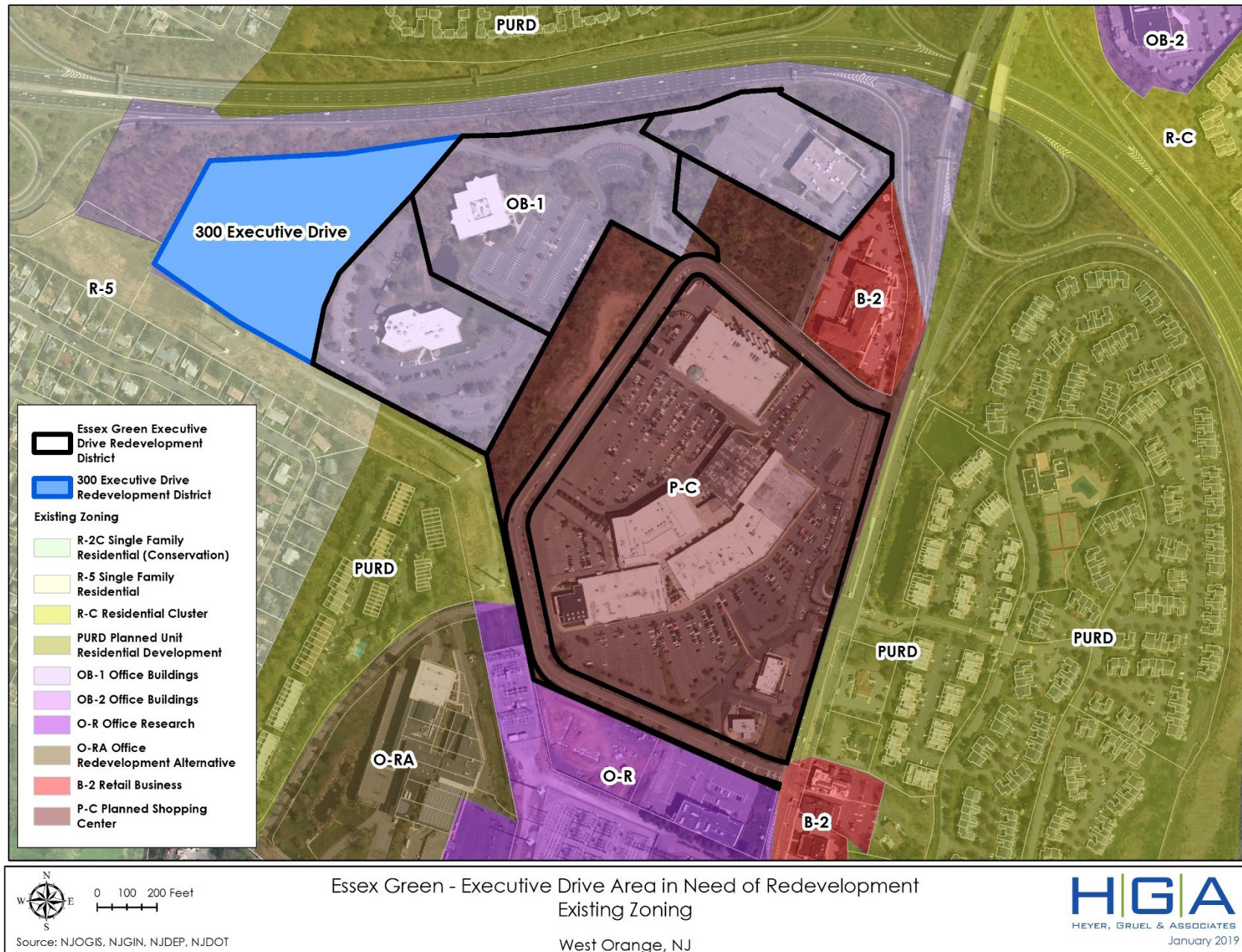
- Video or amusement arcade
- Commercial Antenna

Bulk Requirements

Bulk Standard	Requirement
Minimum lot area	8 Acres
Minimum lot area/unit	n/a
Minimum lot width	None
Minimum front yard	300 feet
Minimum side yard (corner)	100 feet
Minimum side yards	75 feet + 75 feet 100 feet adjacent to residence
Minimum rear yard	75 feet 100 feet adjacent to residence
Maximum building coverage	20%
Maximum lot coverage	75%
Minimum Space Between Buildings	150 feet
Maximum building height	2.5 stories/35 feet

Additional Standards

- Mixed Uses and multiple principal uses on one lot shall be permitted in the P-C District.
- In a P-C District, every building or group of buildings shall make adequate provisions for the proper disposal of wastes within a screened enclosure.
- Indoor Storage and Loading. In a P-C district, no visible display of waste, trash, scrap or material of any kind shall be permitted except that items offered for sale may be displayed in accordance with an overall plan to be included as part of the preliminary site plan, and in such districts, provisions shall be made for properly enclosed truck loading areas and bays located entirely within the structure.
- Shopping Centers. There shall be only one grouping of free-standing signs identifying various businesses within the center. Individual standing signs are prohibited.



REDEVELOPMENT CONTEXT

SUBURBAN OFFICE MARKET

For several decades, New Jersey's economy and employment base grew substantially through the construction of suburban office parks. The majority of these facilities, built during the 1980s and 1990s predate modern technological and infrastructure needs. Facilities of this vintage are often physically outdated and located in suburban communities near highway interchanges or along highway corridors.

The most recent Rutgers Regional Report, dated October 2017, written by James Hughes and Will Irving, outlines ongoing trends in the New Jersey economy. The report discusses the change over the last 10 to 15 years of increased development in the metropolitan cores and contraction in suburban areas. Demographic changes, consumer preferences, and the nature of many industries has changed and reduced the demand for suburban office corridors and their aging infrastructure. In order to stay competitive, office buildings that were built for a singular narrow focus need to become more flexible and attractive to the modern economy and its new generation of employees.¹

The existing office buildings located at 100 and 200 Executive Drive and 10 Rooney Circle were all built between 1971 and

1978, and are rated as Class C Office space, which is not well positioned to compete in the oversaturated office market described in the Rutgers report.

Office Building Class Definitions: Office space is grouped into three classes ranked A through C. The rating system looks at factors including rent, building finishes, system standards and efficiency, building amenities, location/accessibility, and market perception. The scale is a subjective system that is meant to rate the competitiveness and desirability of the space in question.

- Class A buildings have the highest rents, are geographically accessible, and have state of the art systems, modern amenities, and high-quality finishes. These are new or recently upgraded facilities.
- Class B buildings are generally fair to good for the area and have adequate building systems. The rents for these buildings are generally in the average range.
- Class C buildings are identified as merely functional space that can secure below average rents in the area.

(Source: BOMA International
www.boma.org/research/pages/building-class-definitions.aspx)

¹ "Rutgers Regional Report – Issue Paper No. 38 "New Jersey's Economic Roller Coaster" p.20-25
<https://rucore.libraries.rutgers.edu/rutgers-lib/54266/PDF/1/play/>

SHOPPING CENTER LAYOUT

In addition to the outdated office uses, the Essex Green shopping center was built in 1957 and was last renovated in 1991. As outlined in the Study, many of the retail units are outdated by today's retail standards, with particularly long and awkward layouts with two main entrances located at both ends of the units. The shopping center was also designed with a large, centrally located courtyard which is rarely utilized by pedestrians and store patrons. Many of the vacant units have outdated mechanical equipment and HVAC systems that are in need of replacement and renovation.

Moreover, the shopping center's loading system consists of one loading dock that connects to a network of tunnels in which the goods are unloaded and then distributed throughout the shopping center. Even though each retail unit has a basement to receive deliveries, most of the tenants do not use the central loading dock and instead take in deliveries in the front of the building where it is more convenient for trucks. However, the shopping center was not designed for tenants to take deliveries in the front of the units, creating potential conflicts between delivery trucks and pedestrians and passenger vehicles.

This current layout and delivery setup may be undesirable for potential tenants. While the shopping center does host some major tenants including Shop Rite, Sears Outlet, Total Wine and More, AMC Theatres, and Panera, the presence of vacant units,

poor site layout, and antiquated building facilities present long-term barriers to the economic success of the Essex Green shopping center.

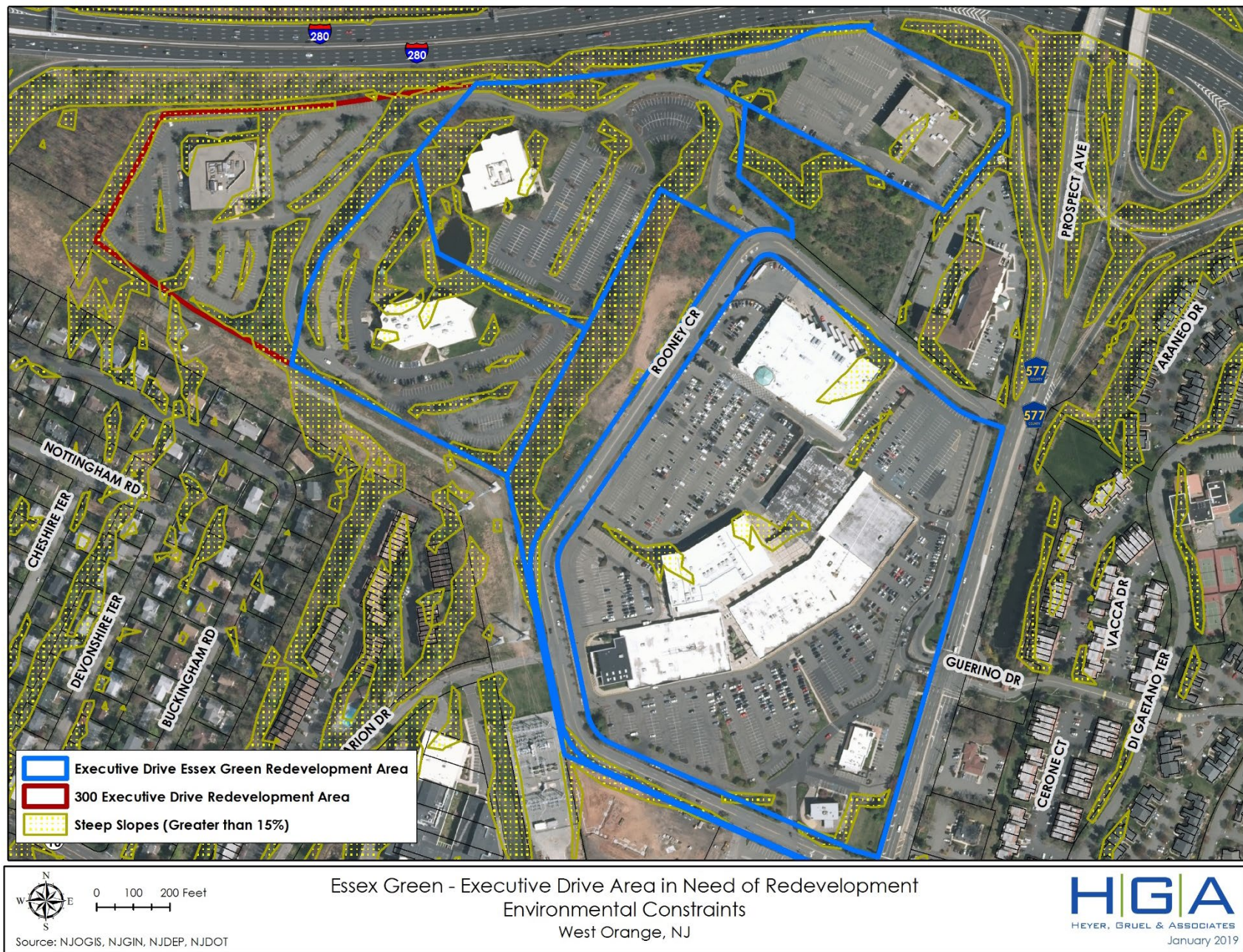


Essex Green Shopping Center June 29, 2018

STEEP SLOPES

The principal environmental constraint to development in the Area is the presence of steep slopes. With the exception of Block 155 Lot 40.03, the other sites have been previously developed and portions of those properties have been re-graded. The Township Land Use Regulations are explicit about seeking to minimize disturbance within steeply sloped areas. A goal of any redevelopment project undertaken as part of this Plan is to focus development within areas that have been previously disturbed and to avoid additional disturbance within the most steeply sloped portions of the Area. Protection of these sensitive environmental areas is an objective of the Township's planning documents that this Plan seeks to reinforce.

The figure on the following page shows areas that have slopes that have been calculated to be in excess of 15%. Future applications for site plan approval will be required to quantify the steeply sloped areas on site, indicate if disturbance is proposed, and attempt to limit and mitigate the impacts of any disturbance that is deemed necessary.



PLAN PRINCIPLES, GOALS, AND OBJECTIVES

PRINCIPLES

The Township seeks to utilize the tools offered through the LRHL to enter into a partnership with one or more designated redevelopers in order to successfully reimagine the Area as a mixed-use hub of activity that brings together residences, jobs, shopping, activities, and municipal services in an integrated setting.

GOALS

The overall goal of the Plan is to develop each of the component districts with a complementary blend of uses in a well-integrated manner.

The existing office buildings at 100 and 200 Executive Drive are anticipated to be redeveloped into a multifamily residential development, with a percentage of units set aside to meet a portion of the Township's affordable housing obligation. As part of the redevelopment of the Executive Drive portion of the Area, it is anticipated that a dog park will be constructed for public use.

The office building at 10 Rooney Circle is intended to remain in its current form, with modifications and upgrades as necessary, with the long-term goal of blending office space with a mix of municipal services within the building and on the site.

The Essex Green shopping center is in the process of being updated and modernized. The Plan encourages improvements to the shopping center and welcomes a mix of new tenants that will maximize the property's potential as a regional destination.

Finally, the Plan proposes developing Block 155, Lot 40.03 (currently vacant) into a mixed-use commercial and residential building that will be able to take advantage of the density of commercial uses, municipal services, and amenities in the Area.

OBJECTIVES

- Promote a mix of housing options accessible to households of all income levels through the construction of new multifamily units.
- Improve the viability and utilization of the land with a mix of multifamily housing, office, commercial, and municipal uses while also taking into account the environmental constraints of the site.
- Enhance Township services by providing new facilities into which departments may relocate or expand.
- Provide a public amenity in the form of a public dog park.
- Preserve and renovate existing retail and restaurant uses and encourage an influx of new tenants at the Essex Green Shopping Center to provide services, activities, and shopping to surrounding residential and office users.

- Provide internal pedestrian paths and sidewalks as a recreational amenity and a practical link between the office, residential, and retail components envisioned for the Area.
- Promote pedestrian safety through the application of complete streets principles and well-designed crossings and sidewalks.
- Encourage links to transit by capitalizing on the existing bus service and providing a flexible shuttle service.
- Reduce impervious coverage to allow for a reduction of stormwater runoff and increased groundwater recharge.
- Encourage sustainable development practices through incorporation of green infrastructure and other stormwater management BMPs.
- Promote sustainable and efficient energy usage through green building techniques.
- Focus on the protection and preservation of sensitive steep slopes and existing wooded areas to maximize the natural beauty of the site and prevent environmental degradation.

RELATIONSHIP OF THE PLAN TO TOWNSHIP LAND DEVELOPMENT REGULATIONS

This Plan shall constitute an overlay zoning district for the Area. At the time of development application, the developer may opt to utilize either the standards contained in this plan or the standards of the applicable underlying zoning district.

When utilizing the standards in this redevelopment plan, Township regulations affecting development that are in conflict are superseded by this Plan. Existing engineering standards, performance standards, and definitions shall apply. At the time of site plan application, Environmental Impact, Community Impact, and Traffic Impact Statements shall be required.

No deviations from the overlay standards may be granted which will result in permitting a use that is not a permitted use within this Redevelopment Plan. Any deviation from standards of this Plan that results in a "d" variance pursuant to N.J.S.A. 40:55D-70d shall be addressed as an amendment to the Plan rather than via variance relief through the Township's Zoning Board of Adjustment.

Any deviations from bulk and other specific standards shall require "c" variance relief. The Planning Board shall have the power to grant relief to the same extent as the Board may grant relief from bulk and dimensional requirements pursuant to N.J.S.A. 40:55D-70.c.

An application requesting a deviation from the requirements of this Redevelopment Plan shall provide public notice of such application in accordance with the public notice requirement set forth in N.J.S.A. 40:55D-12a.&b.

The Planning Board may grant exceptions or waivers from design standards for site plan or subdivision approval as may be reasonable and within the general purpose and intent of the provisions for site plan review and/or subdivision approval within the Plan. The Board may grant exceptions or waivers if it is determined that the literal enforcement of one or more provisions of the Plan is impracticable or would exact undue hardship because of peculiar conditions pertaining to the site. No deviations may be granted under the terms of this section unless such deviations can be granted without resulting in substantial detriment to the public good and will not substantially impair the intent and purpose of the Redevelopment Plan and Master Plan.

All development must be approved by the Planning Board and shall be submitted through the normal site plan and subdivision procedures as identified in the Township Ordinance and by N.J.S.A. 40:55D, et seq.

Final adoption of this Redevelopment Plan by the Township Council shall be considered an amendment to the Township Zoning Ordinance and Official Zoning Map.

LAND USE PLAN

The Plan proposes the following land use districts:

- Executive Drive Multifamily Residential
- Rooney Circle Mixed-Use
- 10 Rooney Circle Office / Municipal Use
- Essex Green Shopping Center

Each of the land use districts and their standards are described in detail in the following pages.

Standards Applicable to All Districts*Affordable Housing*

To further the Township's Master Plan goals, and to comply with the spirit of the Fair Housing Act and ongoing affordable housing settlement negotiations, all residential developments within the Redevelopment Area shall provide a set-aside of affordable housing units in accordance with the following standards and the administrative requirements outlined on page 40 of the Plan.

- 15% of rental units shall be affordable family rentals, with a bedroom mix and affordability mix consistent with those mandated by the Uniform Housing Affordability Controls (UHAC).
- 20% of for-sale units shall be affordable with a bedroom mix and affordability mix consistent with UHAC.

Minimum Parking Requirements

- Residential – All residential parking shall be provided in accordance with the Residential Site Improvement Standards (RSIS N.J.A.C. 5:21):

Townhouse	1 BR – 1.8 / dwelling unit (DU) 2 BR – 2.3 / DU 3 BR – 2.4 / DU
Low-Rise / Mid-Rise	1 BR – 1.8 / DU 2 BR – 2.0 / DU 3 BR – 2.1 / DU

- Non-Residential – Parking for non-residential uses shall be provided based on Parking Schedule II in Section 25-12.2.b of the Township Ordinance, unless otherwise indicated in this Plan.
- ADA accessible parking including van accessible spaces shall be provided in compliance with ADA standards.
- Shared parking arrangements between uses on properties within 250 feet of each other may be permitted, subject to the approval of the Township and the Planning Board.

Residential Unit Mix

- Studios, One-Bedroom, Two-Bedroom, and Three-Bedroom units shall be permitted. No unit shall have more than three bedrooms.

- The number of market rate three-bedroom units in any residential development shall not exceed 20% of the total number of market rate units in the development.

Minimum Residential Floor Area

- Studio / Efficiency – 500 square feet
- One Bedroom – 650 square feet
- Two Bedroom – 900 square feet
- Three Bedroom – 1,000 square feet



Executive Drive Multi-Family Residential District*Purpose:*

The purpose of the Executive Drive Multi-Family Residential District is to permit the redevelopment of the existing office buildings at 100 and 200 Executive Drive into a multi-family residential development. The district is approximately 18.3 acres in area. The envisioned development will consist of one or more types of multi-family housing in multiple buildings with an affordable set-aside. The redevelopment is also intended to include the provision of a public dog park as an amenity for the neighborhood and community at large.

Principal Permitted Uses

- Multifamily residential dwellings
- Townhouse residential dwellings
- Public Dog Park

Permitted Accessory Uses

- Parking, including parking structures
- Signage
- Uses customarily incidental to the principal use

Bulk Standards

Minimum Lot Area	80,000 SF
Minimum Setback to Block 155, Lot 26.01 (PSE&G Property)	15 feet
Min. Setback to Block 155, Lot 40.03	15 feet
Min. Setback to Block 155 Lot 40.04	75 feet

Min. Setback to all other lots / rights-of-way	0 feet
Maximum Building Height	Four (4) Habitable Stories (Parking structures and Garages are excluded from the calculation of habitable stories, but in no case may any parking structure exceed the height of the principal structure to which it is adjacent or attached)*
Maximum Residential Gross Density (Entire District)	24 Units per Acre
Maximum Lot (Impervious) Coverage	65%**

*Architectural features such as pitched roofs, gables, domes, steeples, etc. shall be permitted. Projections for roof equipment shall be permitted provided they are screened with a solid or decorative shield and do not exceed fifteen (15') feet in height above the roof deck.

**Where permeable paving systems are proposed, subject to the approval of the Township Engineer, the areas with permeable paving shall be calculated as 75% impervious. For instance, a parking area and plaza paved with a permeable paving system that equals 20% of the lot area shall be calculated as 15% impervious coverage for purposes of the maximum coverage calculation as it pertains to these district standards.

Additional Standards

- Area for a public dog park shall be provided within the district, either as a standalone lot or as part of a development site. The lot area devoted to the dog park, inclusive of parking, landscaping, buffer areas, and surrounding natural features, shall consist of a minimum of 80,000 square feet and shall be constructed by the redeveloper at its sole cost and expense. The design of the dog park shall be reviewed and approved by the Township Council.
 - A subdivision may be necessary to create a lot for the development of the dog park.
 - The dog park shall include sufficient areas to accommodate large and small dogs.
 - The dog park area shall include a minimum of fifty (50) parking spaces.
- Applications for development shall provide topographic data, the location of existing trees, and demonstrate compliance with the Township's Steep Slope and Natural Features Ordinance (Section 25-28) and the Tree Protection and Removal Ordinance (Section 25-27).
- The existing retention basin shall be upgraded and improved to provide an on-site amenity in addition to its function as a storm water management structure.

*Dog Park in Essex County Brookdale Park*

- Amenities including but not limited to one or more community rooms, fitness centers, pools, and outdoor seating areas shall be provided for the use and enjoyment of the residents. At the time of site plan application, details regarding the amenity package shall be presented for review.
- A 15 foot buffer area consisting of a mix of deciduous and evergreen plantings and a six (6') foot tall solid fence shall be provided along the property line adjacent to Block 155, Lot 26.01.
- Structured parking shall be designed using compatible or complementary materials to the principal building(s).

All voids in the structures shall be screened using architectural elements, green screens, scrims or other features so that lights and vehicles are not individually visible.

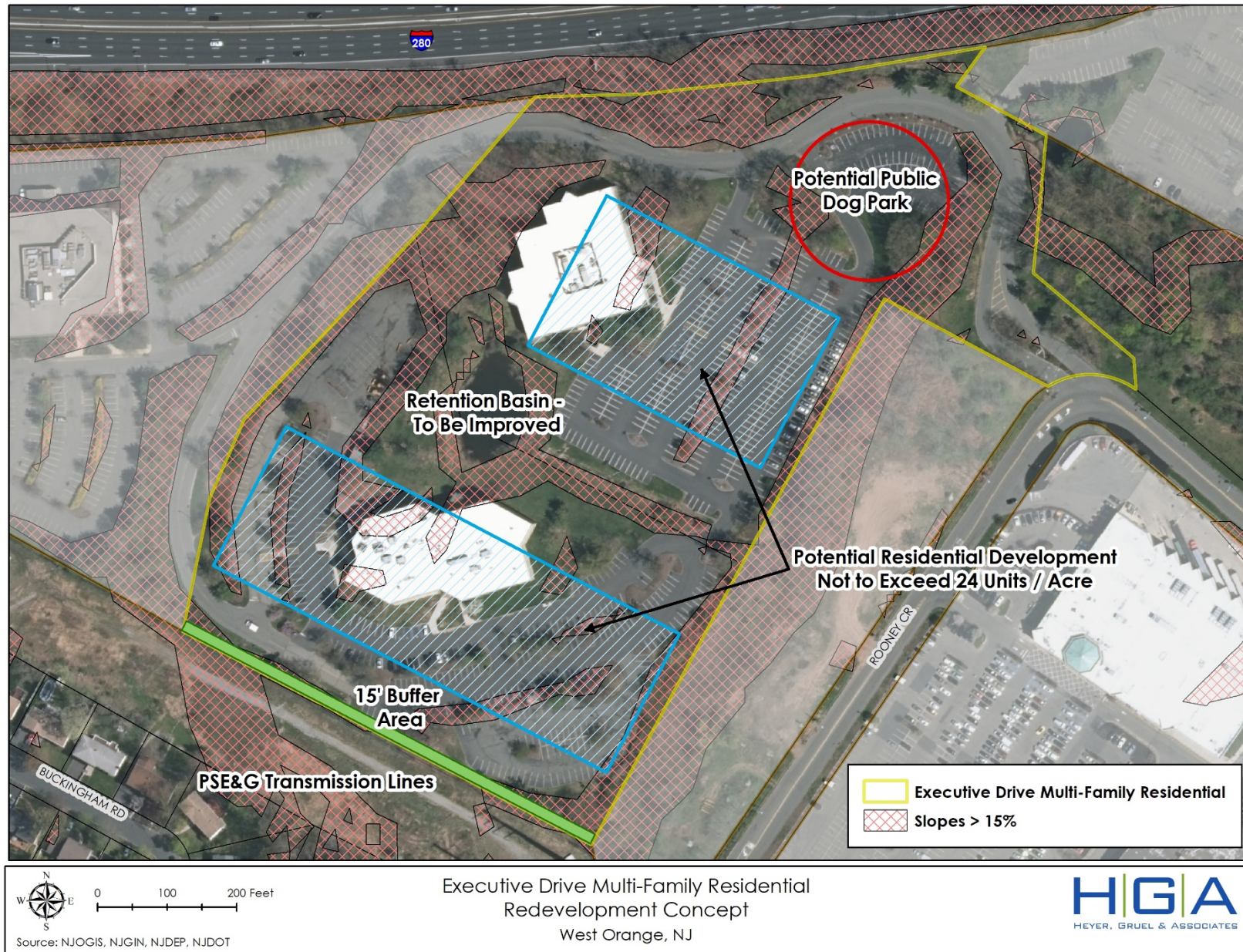
- The internal circulation for the district is shared with the adjacent 300 Executive Drive and 10 Rooney Circle properties. Modifications to the driveways and internal circulation system may be necessary. The existing access easements shall be preserved and/or updated as needed.
- The West Orange Jitney shuttle service provides a commuter link to the Orange, Mountain, and South Orange Train Stations. As part of the redevelopment of the site the Redeveloper shall work with the Township to supplement or expand the Jitney service if necessary. In addition, a shuttle from within the development to the Essex Green Bus Stop shall be provided to coordinate with the Jitney and to provide access to the shopping center and bus at other times of the day.



West Orange Jitney Shuttle Bus

Concept

The figure on page 22 provides a rough conceptual layout of the potential redevelopment scenario overlaid on the existing conditions. Future redevelopment on the site is intended within the previously developed portion of the site, to the extent feasible, in order to minimize the disturbance of steeply sloped areas. The concept illustrates the buffer area, potential building footprints, and the area that may be allocated for the construction of a public dog park. The concept is not binding for the Township or a potential developer, it is merely intended to provide an example of the possible redevelopment outcome.



Rooney Circle Mixed Use District*Purpose:*

The purpose of the Rooney Circle Mixed Use District is to permit the development of a mixed-use building and associated parking areas on an existing vacant property. The district is approximately 4.7 acres in area. As part of the redevelopment, well-designed pedestrian connections to other properties within the Area, particularly the Essex Green Shopping Center, shall be provided.

Principal Permitted Uses:

- Retail Stores
- Personal Service stores or studios
- Offices
- Restaurants and bars
- Banks
- Fitness Centers
- Medical, dental, psychiatric or chiropractic offices
- Multi-family residential dwellings

Permitted Accessory Uses:

- Parking
- Signage
- Outdoor dining
- Uses which are customarily incidental to the principal use

Bulk Standards

Minimum Lot Size	4 Acres
Minimum Setback to Rooney Circle	15 feet
Minimum setback to all other property lines	20 feet
Maximum Building height	4 Stories, 50 feet*
Maximum Residential Gross Density	24 units / acre
Maximum (Lot) Impervious Coverage	65%

*Building height shall be measured from the mean finished grade around the building to the roof deck in the case of a flat roof or to the midpoint of the roof in the case of a sloped roof. Projections for roof equipment shall be permitted provided they are screened with a solid or decorative shield and do not exceed fifteen (15') feet in height above the roof deck.

Additional Standards

- Applications for development shall provide topographic data and demonstrate compliance with the Township's Steep Slope and Natural Features Ordinance (Section 25-28) and the Tree Protection and Removal Ordinance (Section 25-27).
- Structured parking shall be designed to blend into the architectural character of the building and to be screened from public view.
 - All parking structures shall be designed using compatible or complementary materials to the principal building(s). All voids in the structures

shall be architecturally screened, so that lights and vehicles are not individually visible.

- No blank walls of parking structures shall face Rooney Circle. Any Rooney Circle facing façade shall provide pedestrian interest at ground level through a building lobby, storefront, or other architectural screening / wrapping mechanism.
- Pedestrian connections shall be provided across Rooney Circle to the Essex Green Shopping Center. The connections shall feature pedestrian activated signals, raised or stamped concrete crosswalks or other similar improvements subject to approval by the Township Council, Township Engineer, and Planning Board.
- Amenity space shall be provided as part of any multi-family residential development, consisting of one or more of a community room, a roof deck, a pool, a fitness center, or other similar offering.

Concept

- The figure on page 25 provides a rough conceptual layout of the potential redevelopment scenario overlaid on the existing conditions. Future development will focus on the portion of the site that is not encumbered by steep slopes. The concept includes a potential four-story building with a footprint of 30,000 – 35,000 square feet which could accommodate a mix of uses as well as a

mix of surface and structured parking. Pedestrian connections between the site and Essex Green are crucial and meant to reinforce the relationship between the properties. The concept is not binding for the Township or a potential developer, it is merely intended to provide an example of the possible redevelopment outcome.



10 Rooney Circle Office / Municipal Use District*Purpose:*

To allow for the continuation of office uses and provide a future opportunity to relocate or expand municipal services to the area. A mix of leasable office space, municipal office space, and other municipal or public uses is anticipated. The district is approximately 5.2 acres in area.

Principal Permitted Uses:

- Offices
- Public / Municipal facilities
- Libraries

Permitted Accessory Uses

- Parking
- Equipment and material storage areas associated with municipal facilities and services
- Fuel pumps associated with municipal facilities and services that are not open to the public
- Signage

Bulk Standards

Minimum Setback for Principal Structure (all lot lines)	80 feet
Minimum Setback for Accessory Structures	20 feet to I-280 ROW 50 feet to all other property lines
Maximum Building height	4 stories / 50 feet*
Maximum Lot (Impervious) Coverage	80%

*Building height shall be measured from the mean finished grade around the building to the roof deck in the case of a flat roof or to the midpoint of the roof in the case of a sloped roof. Projections for roof equipment shall be permitted provided they are screened with a solid or decorative shield and do not exceed fifteen (15') feet in height above the roof deck.

Additional Standards:

- Outdoor storage of materials, equipment or vehicles shall take place in designated areas. Where possible, materials and equipment should be stored within structures and/or screened from public view.

Essex Green Shopping Center District*Purpose:*

The purpose of the Essex Green Shopping Center District is to enhance the existing shopping center. The current uses and layout are anticipated to remain. Future development of the property may consist of minor expansions, retrofits, and adaptive reuse of existing spaces. The district is approximately 33.6 acres in area.

Permitted Principal Uses:

- Retail Stores
- Personal service stores or studios
- Restaurants
- Bars
- Motor vehicle fueling stations
- Post Offices
- Civic centers, limited to assembly hall and non-commercial indoor recreation facilities
- Theaters
- Self-storage facilities in basements of structures existing at the time of adoption of this Plan
- Medical, dental, psychiatric or chiropractic offices
- A maximum of three (3) drive-through facilities, which may include banks, fast food restaurants or pharmacies

Permitted Accessory Uses

- Required Accessory Parking

- Required Accessory truck loading spaces
- Private garage
- Signs

Permitted Conditional uses

- Video or amusement arcade subject to Ordinance Section 25-24.2.b.2(h)
- Commercial Antenna subject to Ordinance Section 25-24.2.b.2(e)

Bulk Requirements

Bulk Standard	Requirement
Minimum lot area	8 Acres
Minimum Setback to Prospect Avenue	100 feet
Minimum Setback to Rooney Circle	20 feet
Maximum building coverage	25%
Maximum lot (Impervious) coverage	85%
Minimum Space Between Buildings	30 feet unless buildings are physically connected
Maximum building height	3 stories / 45 feet

Additional Standards

- Mixed Uses and multiple principal uses on one lot shall be permitted in the Essex Green Shopping Center District.
- In the Essex Green Shopping Center District, every building or group of buildings shall make adequate

provisions for the proper disposal of waste within a screened enclosure.

- Indoor Storage and Loading. In the Essex Green Shopping Center District district, no visible display of waste, trash, scrap or material of any kind shall be permitted except that items offered for sale may be displayed in accordance with an overall plan to be included as part of the preliminary site plan, and in such districts, provisions shall be made for properly enclosed truck loading areas and bays located entirely within the structure.
- Drive-through facilities shall adhere to the following standards:
 - Drive-through lanes shall be physically separated from the traffic circulation system on the site by concrete curbed and landscaped islands with a minimum width of five (5) feet for landscaping.
 - Drive-through lanes shall permit the stacking of a minimum of ten (10) vehicles.
 - There shall be a break in the physical separation to provide a bypass lane to allow vehicles to exit the queue. The location of the bypass lane shall be approved by the Board.

Design Standards

The following are site plan design standards. The standard for relief for any deviations from these standards shall be consistent with the MLUL requirements at N.J.S.A 40:55D-51. The design standards are intended to reinforce the physical, visual, and spatial characteristics of the Redevelopment Area. Any elements not covered by these standards shall be subject to the appropriate provisions of the West Orange Land Use Regulations.

Architectural Design

- Each building shall have a cohesive architectural design that provides an attractive view from all vantage points. The topography of the Area creates a unique challenge with regard to building design and material choice.
- Exterior walls of buildings shall not have large blank or featureless expanses. Building facades shall be articulated with changes in depth, porches and/or balconies, recessed windows or window bays, and decorative elements.
- All building mechanical equipment and rooftop appurtenances shall be screened in an attractive manner that is consistent with the overall architectural design of the development. Consideration should be given to screening rooftops at lower elevations that may be viewed from above.

- Building facades shall be finished with durable material that differentiates between ground floors and upper floors and provides complementary variation along the façade. EIFS and vinyl siding shall be prohibited.

Fences and Walls

- Fences shall not exceed four (4') feet in height in any required setback area abutting a public street.
- Fences shall not exceed six (6') feet in height anywhere else in the Area.
- The finished side of any fence shall face away from the applicant's property.
- Chain link fence, barbed wire, razor wire, and electrical wire fence shall be prohibited.
- Walls shall not exceed four (4') feet in height, except for retaining walls required as part of an approved grading plan, subject to review by the Township Engineer and Planning Board.

Landscaping

- Maximum effort should be made to preserve and incorporate into the landscaping plan all existing trees and vegetation within the Area.
- All open space areas shall be landscaped and maintained in an attractive condition with appropriate plant materials.

- Best management practices are encouraged to reduce stormwater runoff and improve groundwater recharge.
- Native species shall be utilized for plantings to the extent feasible. Native plant species can be found at: [http://www.npsnj.org/pages/nativeplants Plant Lists.html](http://www.npsnj.org/pages/nativeplants%20Plant%20Lists.html) and other similar sources.
- Invasive species shall be prohibited. A list of invasive species and non-invasive alternatives can be found at: <https://www.invasive.org/alien/pubs/midatlantic/midatlantic.pdf>
- Landscaping shall be provided around the perimeter of parking areas and within islands and rows separating parking spaces. One (1) tree plus ground level plantings shall be provided for each ten (10) surface parking stalls proposed.

Lighting

- A lighting plan shall be provided for review by the Planning Board. The proposed level of illumination shall be shown for all areas of the site in either lux or foot-candles.
- Minimum Illumination Levels shall be as follows:
 - Pedestrian Walkways – 6 lux / 0.6 foot-candles
 - Parking Areas – 16 lux / 1.5 foot-candles
 - Streets / Driveways – 6 lux / 0.6 foot-candles
 - Parking Garages – 75 lux / 7.5 foot-candles

- Details shall be provided for all light poles and fixtures.
- All light fixtures shall be LEDs
- All light fixtures shall be shielded to prevent off-site spillage and glare.
- Light poles shall not exceed twenty (20') feet in height or the height of the principal building, whichever is lesser.

Parking and Loading

The design of off-street parking and loading areas shall comply with the standards in Township Ordinance Section 25-12.1, 25-12.3, and 25-12.4 except as noted below or elsewhere in this Plan:

- Parking spaces shall be setback a minimum of ten (10) feet from the Rooney Circle or I-280 right-of-way and a minimum of twenty-five (25') feet from the Prospect Avenue right-of-way.
- There shall be no required setback for parking spaces adjacent to other properties in the Area or private roadways.
- Bicycle racks shall be provided near the entrances of non-residential and municipal uses.
- Bicycle storage / parking areas are encouraged as an amenity in residential developments.
- Parking structures shall be constructed of compatible and/or complementary materials to the surrounding

buildings to blend architecturally with the remainder of the development.

- The provision of electric vehicle charging stations and spaces is encouraged within structured parking facilities and surface lots. Where demand is uncertain, providing adaptable electrical infrastructure to allow for the installation of charging stations in the future is preferred.



Electric Vehicle Charging Station

Recycling and Refuse

- All developments shall have appropriately sized recycling and refuse enclosures that comply with Township Ordinance section 25-8.14.
- All recycling and refuse enclosures shall be constructed of durable fencing and/or masonry block, a minimum of six (6') feet in height, which provides visual screening.
- Landscaping consisting of evergreen plantings shall supplement the screening.

Signage

- One (1) off-site directory sign shall be permitted along the Area's Prospect Avenue frontage.
 - An off-site directory sign shall be defined as a free-standing or monument sign used exclusively for the purpose of identifying the tenants, occupants, or uses of buildings or properties in different districts or on different properties within the Area.
 - Setback Requirement – Shall be a minimum of ten (10') feet from any property line.
 - Height Requirement – Shall not exceed ten (10') feet in height.
 - Size Requirement – Shall not exceed fifty (50) square feet in area per side.

- A system of wayfinding signage shall be permitted throughout the Area. The wayfinding signage shall be a comprehensive coordinated system with uniform style and color that is designed to direct motorists and pedestrians to destinations within the Area. There shall be no specific limit to the number of wayfinding sign, but their placement shall be subject to the Planning Board's review and approval.
 - Location Requirement – Shall not be placed in a location that obstructs or interferes with a sight triangle or any traffic control measures.
 - Height Requirement – Shall not exceed four (4') feet in height.
 - Size Requirement – Shall not exceed six (6) square feet in area per side.
- Except as noted in this Plan, signage in the Executive Drive Multifamily Residential District shall comply with Township Ordinance Section 25-15.3.b.
- Except as noted in this Plan, signage in the Rooney Circle Mixed Use District shall comply with Township Ordinance Section 25-15.3.c.2
- Except as noted in this Plan, signage Standards in the 10 Rooney Circle Office / Municipal District shall comply with Township Ordinance Section 25-15.3.c.2.

- Except as noted in this Plan, signage standards in the Essex Green Shopping Center District shall comply with Township Ordinance Section 25-15.3.c.2.

Stormwater Management

- All development shall comply with Section 25-29 "Stormwater Control" of the Township Ordinance.
- Site design within the Area shall adhere to the New Jersey Stormwater Management Best Management Practices.
- To the extent feasible, development within the Executive Drive Essex Green Redevelopment Area should utilize green infrastructure techniques including, but not limited to the following:
 - Rain gardens/bioswales: Landscaped areas with native vegetation that capture, filter, and retain rainwater and allow to be absorbed back into the groundwater system, reducing the amount of runoff flowing to the municipal sewers.
 - Green roofs: Roofs partially or completely covered with vegetation, soil beds, drainage layer, and a water-proofing medium. Benefits include retention and filtration of rainwater, reduction of urban heat island effect and insulation, creation of habitats for wildlife, and a more aesthetically pleasing landscape.

- Permeable pavement: Surface layer that allows for the infiltration of water back into the ground instead of into the sewers. Permeable pavement can be used for sidewalks as well as other hardscaped surfaces such as parking stalls and driving aisles.

Utilities

- All utilities shall be installed underground.
- Building mounted utility meters shall be placed in enclosures, rooms, alcoves or otherwise integrated within the design of the building and screened from public view.
- Utility boxes and ground level utility structures shall be screened on at least three (3) sides by landscaping that will conceal the box throughout the year while permitting access by the utility company.



Bioswale example of stormwater best management practice

SUSTAINABILITY PLAN

- *Master Plan Sustainability Plan* – New development and improvements to the site and buildings under the Executive Drive Essex Green Redevelopment Plan shall be guided by the Goals, Principles, and Actions of the most recent version of the Township of West Orange Sustainability Plan Element, adopted in the 2010 Master Plan Update.
- *Green Building Standards* – New development and site improvements shall follow the Sustainable Building and Design Standards and checklist in Section 25-51.16 of the Township Ordinance. Sustainable measures should include, but not be limited to, Sustainable Site Planning, Water Use Efficiency, Energy Efficiency, Sustainable Materials and Resource Use, Electric Vehicle Charging Infrastructure, and Healthy Indoor Environmental Quality. The Redeveloper is encouraged, but not required to, register the buildings in the Area in the USGBC LEED certification program.
- *Storm Water Best Management Practices (BMPs)* – Where possible, the Redeveloper is encouraged to utilize BMPs, including but not limited to rain gardens, bioswales, green roofs, and permeable pavement, to reduce stormwater runoff and improve groundwater recharge on the site.
- *Steep Slopes* – Development shall comply with the Township's Steep Slope and Natural Features Ordinance (Section 25-28) and Tree Protection and Removal Ordinance (Section 25-27) in order to minimize disturbance of any slopes greater than 15% grade and preserve existing trees.
- *Electric Vehicle Charging* – Electric vehicle charging stations should be incorporated throughout the Redevelopment Area. Office and commercial developments should offer designated spaces an amenity to employees, customers, and visitors. The Township should include EV infrastructure as part of any municipal / public uses that are developed in the Area. Multi-family residential developments should include charging stations and infrastructure that is adaptable to accommodate additional stations in the future.
- *Renewable Energy* – Redevelopment projects should explore the feasibility of incorporating renewable energy, particularly photovoltaic solar panels, into the design of projects. Roof mounted systems on office and commercial buildings or canopy systems on the top floor of structured parking or over surface parking lots are encouraged.

CIRCULATION PLAN

- *Master Plan Circulation Plan* – Improvements to the site under this Plan shall be guided by the general goals and objectives of the 2010 Master Plan Circulation Plan Update. Further, the 2010 Circulation Plan Element was amended in 2016 to incorporate the principles of “Complete Streets” and to create a comprehensive, integrated, connected street network that safely accommodate all users.
- *Site Circulation Standards* – Site circulation improvements shall include provision of sidewalks or similar pedestrian pathways, protections for pedestrians at crosswalks and sidewalks, bicycle paths and routes, bicycle racks, and other site circulation best practices for multi-family residential, commercial, and office sites.
- *Walking Path* - A walking path should be constructed throughout the Area, connecting the multifamily residential housing with the dog park, Essex Green shopping center, potential future municipal uses at 10 Rooney Circle and the jitney bus stop at Essex Green.
- Executive Drive is a private road, which provides access to 100, 200, 300 Executive Drive and 10 Rooney Circle. During the course of the redevelopment project, it may be necessary to modify or realign portions of Executive

Drive. There is an existing access easement in place that shall remain and be modified during the course of the redevelopment project if necessary.

- *Transit*
 - NJ Transit Bus Route 71 stops at the Essex Green Mall. The bus route runs through Essex County and terminates at Newark Penn Station. Wayfinding signage including route information, schedules, and other pertinent details should be provided at key points throughout the Area.
 - NJ Transit Rail Service with Mid-Town direct and Hoboken bound trains is available from three nearby stations. The Orange Train Station, the Mountain Station and the South Orange Station are approximately 3, 3.5 and 4.5 miles from the Redevelopment Area, respectively. The West Orange Jitney offers connecting service that stops at Essex Green in the morning and evening peaks. A shuttle within the redevelopment area should be provided in coordination between the Township and Redeveloper(s) that links the Jitney service to the potential residential, office, municipal, and retail users throughout the Area.

CONFORMANCE WITH TOWNSHIP OBJECTIVES

The Township's most recent comprehensive Master Plan was adopted in 1989. Since that time, two Reexamination Reports and updates to several Plan Elements have been prepared. The most recent Reexamination Report, as well as a Master Plan update including a Sustainability Plan and updates to the Land Use, Economic Development, and Historic Preservation Elements was adopted in 2010. An update to the Circulation Element was adopted in 2016, which includes a subsection of the recommendations section that incorporates a Complete Streets policy.

The 300 Executive Drive Redevelopment Plan, was adopted in September 2018 for the property adjacent to the Redevelopment Area to the west. The goals and objectives of that Plan are consistent with, and complementary to, this Plan.

Master Plan Reexamination Report and Update (2010)

The Township adopted a Master Plan Reexamination Report and Update in 2010. The following goals, objectives, and policies in the Plan are relevant to the Area and the formulation of this Redevelopment Plan:

Land Use Plan

- The existing land use of the Area is shown mostly as "Commercial," and Block 155, Lot 40.03 is shown as vacant. The plan does not contain any specific

discussion of the Area and does not recommend any changes to the Zoning for the Area.

Economic Development Recommendations

- The Economic Development Element recognizes the existing office / commercial developments clustered at I-280 and Prospect Avenue, and recommends that the Township continue to maintain a mix of land uses.
- The Plan continues the recommendation from 2004 that states: "development that generates employment opportunities and beneficial commercial/retail activity should continue to be encouraged where it is compatible with adjacent land uses, and sensitive natural and environmental features, and should be balanced by the need to maintain adequate public infrastructure and facilities, services and pedestrian and vehicular circulation patterns.
- The Essex Green shopping center and surrounding area is identified as a "Regional Center" for its variety of retail, restaurant, and entertainment establishments, as well as the complementary uses located close by including office, hotel, and personal services. Improvements to the regional business districts should continue to be encouraged. The Plan states that "A key for this area is to maintain a balance of land uses, which will have benefits with regard to traffic as well as fiscal impacts."

Sustainability Plan

- Encourage improved energy efficiency in existing commercial buildings.

Circulation Plan Element

- Essex Green is noted as being one of two shopping centers that is responsible for half of all pedestrian/auto accidents in the Township.
- The Township offers commuter shuttle routes (West Orange Jitney) that connect the nearby train stations to neighborhoods and commuter lots. This Plan seeks to integrate the Jitney service with new development and enhance it as necessary.
- This Plan promotes pedestrian connections throughout the development and requires design improvements to the circulation system that are consistent with the 2016 Complete Streets Plan Element.

RELATIONSHIP TO OTHER PLANS

State Development and Redevelopment Plan (SDRP)

In 2001, the State Planning Commission adopted the State Development and Redevelopment Plan (SDRP). The SDRP is a document that, while not binding, guides State-level development and redevelopment policy as well as local and regional planning efforts. Eight statewide goals are articulated in the Plan, along with dozens of corresponding implantation policies. The goals are as follows:

1. Revitalize the State's cities and towns.
2. Conserve the State's natural resources and systems.
3. Promote beneficial economic growth, development and renewal for all New Jersey residents.
4. Protect the environment, prevent and clean up pollution.
5. Provide adequate public facilities and services at a reasonable cost.
6. Provide adequate housing at a reasonable cost.
7. Preserve and enhance areas with historic, cultural, scenic, open space, and recreational value.
8. Ensure sound and integrated planning and implementation statewide.

This Plan meets stated goals 1, 2, 3, 5, 6, and 8 of the SDRP.

- The intended redevelopment of the outdated and underutilized office buildings into multi-family residential housing will bring a productive use to the site for the future.
- The Plan intends to minimize environmental disturbance by using existing infrastructure and building with respect to the sensitive environmental features on the site.
- Revitalizing and redeveloping the surplus of suburban office space to restore its economic benefit is a State-wide challenge that this Plan seeks to address.

- Relocating the Department of Public Works or Library to the office building at 10 Rooney Circle expands the Township's ability to provide municipal services.
- Constructing affordable, family rental housing fulfills the Township's affordable housing requirements while also providing housing for families of all income groups.
- The Redevelopment Area is located in PA-1 and is in close proximity to major highways. Redevelopment of the site is consistent with good planning principals and integrated land use planning and implementation.

The SDRP also includes a State Plan Policy Map, which divides the state into regions known as Planning Areas. This Redevelopment Area is located in the Metropolitan Planning Area (PA-1), which is characterized by intensive existing development and is the target for redevelopment efforts. The goals for PA-1 include the following:

1. Provide for much of the state's future redevelopment.
2. Revitalize cities and towns.
3. Promote growth in compact forms.
4. Stabilize older suburbs.
5. Redesign areas of sprawl.
6. Protect the character of existing stable communities.

This Plan meets stated goals 1, 3, 4, and 5 for Planning Area 1.

- The redevelopment project promotes the reuse and revitalization of a parcel whose current improvements are outdated. The best
- The redevelopment of a previously disturbed and developed site is consistent with concept of promoting growth in compact forms.
- The suburban office park model has declined in viability; this plan seeks to stabilize the Area's economic future by building more affordable housing options and promoting mixed-use development.
- Suburban office parks are a symbol of sprawling development patterns. This Plan seeks to develop buildings that were built during a period of suburban expansion and is currently outdated, and construct in their place new, affordable, multi-family housing.

State Strategic Plan

The final draft of the State Strategic Plan was released in 2012. While the State Strategic Plan has not been officially adopted, and the SDRP is still the official State Plan, it is still prudent to review the relationship between this Plan and the State Strategic Plan Draft. This Plan is consistent with the stated goals of the State Strategic Plan. This Plan exemplifies the guiding principle of "Spatial Efficiency", where new development is encouraged to be located in areas where infrastructure is already in place to support growth.

This Plan meets the following “Garden State Values” of the State Strategic Plan:

- Prioritize Redevelopment, infill, and existing infrastructure
- Increase Job and Business Opportunities in Priority Growth Investment Areas
- Create high-quality, livable places

Essex County Plans

The only recent county-wide planning document adopted by Essex County is the 2013 Comprehensive Transportation Plan. The County also has a Park, Recreation, and Open Space Master Plan that dates to 2003.

Essex County Comprehensive Transportation Plan (2013)

The County Comprehensive Transportation Plan’s vision is to “Develop a safe coordinated and integrated multimodal transportation system that provides accessibility for all users while promoting connectivity, economic vitality and productivity, our communities’ livability, and our ecosystem’s viability.”

- The West Orange Jitney System, which stops at Essex Green, is identified in the Transportation Plan as a link to the Orange and South Orange Train Stations, which offer Midtown-Direct train service.

- The Prospect Avenue corridor is identified as a location with a high percentage of auto trips with potential to be diverted to transit.

Master Plans of Adjacent Municipalities

The Redevelopment Area is centrally located within West Orange Township and does not border or impact any of the adjacent municipalities.

ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS**Redevelopment Entity**

The Township Council shall serve as the Redevelopment Entity to implement this Redevelopment Plan. The Redevelopment Entity must designate a redeveloper prior to the submission of an application for any approval to the Planning Board.

Property to be Acquired

The Area has been designated as a non-condemnation redevelopment area. No property acquisition through the use of eminent domain is authorized or anticipated as a part of this Plan.

Relocation Assistance

Eminent domain is not authorized as part of this plan and any transfer of property and subsequent relocation requirements are purely voluntary so no plan for relocation assistance is necessary.

Affordable Housing

There are no housing units in the Area, so there are no affordable housing units identified for removal as part of the implementation of this redevelopment Plan.

Provision of New Affordable Housing Units

Redevelopment Plans are permitted to require the provision of affordable housing units per the Local Redevelopment and Housing Law (N.J.S.A. 40A:12A-7.b).

Affordable units shall be family rental units. Residential units shall be developed in conformance with the Uniform Housing Affordability Controls (UHAC, N.J.A.C 5:80-26:1 et seq. or any successor legislation, with the exception that in lieu of 10% of the affordable units in rental projects being required to be affordable to households earning at or below 35% of the regional median income, 13% of the affordable units in such projects shall be affordable to households earning at or below 30% of the regional median income, consistent with and as required by the Fair Housing Act.

Deed Restrictions shall be filed ensuring that the affordability controls remain in place for at least 30 years pursuant to UHAC.

Amending the Redevelopment Plan

Upon compliance with the requirements of applicable law, the West Orange Township Council may amend, revise or modify this Redevelopment Plan, as circumstances may make such changes appropriate.

Duration of the Redevelopment Plan

This Redevelopment Plan shall be in full force and effect for a period of thirty (30) years from the date of approval of this Plan by the Township Council.

IMPLEMENTATION OF REDEVELOPMENT PLAN**Redevelopment Agreements**

The following restrictions and controls on redevelopment are statutorily imposed by the Local Redevelopment and Housing Law, in connection with the selection of a redeveloper or redevelopers and shall apply notwithstanding the provisions of any zoning or building ordinance or other regulations now or hereafter in force. The restrictions and restraints shall be implemented by appropriate covenants or other provisions in redeveloper agreements and/or disposition instruments.

- The redeveloper(s) will be obligated to carry out the specified improvements in accordance with the Redevelopment Area Plan.
- The redeveloper(s), its successors or assigns shall devote land within the Redevelopment Area to the uses specified in this Redevelopment Plan.
- The redeveloper(s) shall begin the development of said land for the use(s) required in this Redevelopment Plan within a period of time that the Township Council fixes as reasonable.
- Until the redeveloper(s) completes construction of the improvements, the redeveloper(s) will not be permitted to sell, lease, or otherwise transfer or dispose of property within the Redevelopment Area without prior written consent of the Township.
- Upon completion of the required improvements, the conditions determined to exist at the time the Redevelopment Area was determined to be in need of redevelopment shall be deemed to no longer exist.
- No covenant, agreement, lease, conveyance or other instrument shall be effected or executed by the redeveloper(s), the Township Council, or the successors, lessees, or assigns of either of them, by which land in the Redevelopment Area is restricted as to sale, lease, or occupancy upon the basis of race, color, creed, religion, ancestry, national origin, sex or marital status.
- Neither the redeveloper(s) nor the Township Council, nor the successors, lessees, or assigns shall discriminate upon the basis of race, creed, religion, ancestry, national origin, sex or marital status in the sale, lease or rental or in the use and occupancy of land or improvements erected or to be erected thereon, or any part therein.

