

Stormwater Management Plan

Borough of Montvale
Bergen County

NJPDES: NJG0153761

PI#:223084

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Introduction

This Municipal Stormwater Management Plan (MSWMP) documents the strategy for Montvale Borough to address stormwater-related impacts. The creation of this plan is required by N.J.A.C. 7:14A-25 Municipal Stormwater Regulations. This plan contains the required elements described in NJAC 7:8 Stormwater Management Rules. The plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating stormwater design and performance standards for new major development, defined as projects that disturb one or more acre of land. These standards are intended to minimize the adverse impact of stormwater runoff on water quality and water quantity and the loss of groundwater recharge that provides baseflow in receiving water bodies. The plan describes long-term operation and maintenance measures for existing and future stormwater facilities.

A “build-out” analysis has been included in this plan based upon existing zoning and land available for development. The plan also addresses the review and update of existing ordinances, the Borough of Montvale’s Master Plan, and other planning documents to allow for project designs that include low impact development techniques. The final component of this plan is a mitigation strategy for when a variance or exemption of the design and performance standards is sought. As part of the mitigation Chapter of the stormwater plan, specific stormwater management measures are identified to lessen the impact of existing development.

Goals

The goals of the Montvale Stormwater Management Plan are to:

- Reduce flood damage, including damage to life and property;
- Minimize, to the extent practical, any increase in stormwater runoff from any new development;
- Reduce soil erosion from any development or construction project;
- Assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures;
- Maintain groundwater recharge;
- Prevent, to the greatest extent feasible, an increase in nonpoint pollution;
- Maintain the integrity of stream channels for their biological functions, as well as for drainage;
- Minimize pollutants in stormwater runoff from new and existing development to restore, enhance, and maintain the chemical, physical, and biological integrity of the waters of the state, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, and other uses of water; and
- Protect public safety through the proper design and operation of stormwater basins.

To achieve these goals, this Plan outlines specific stormwater design and performance standards for new development. Additionally, the plan proposes stormwater management controls to address impacts from existing development. Preventative and corrective maintenance strategies are included in the plan to ensure long-term effectiveness of stormwater management facilities. The plan also outlines safety standards for stormwater infrastructure to be implemented to protect public safety.

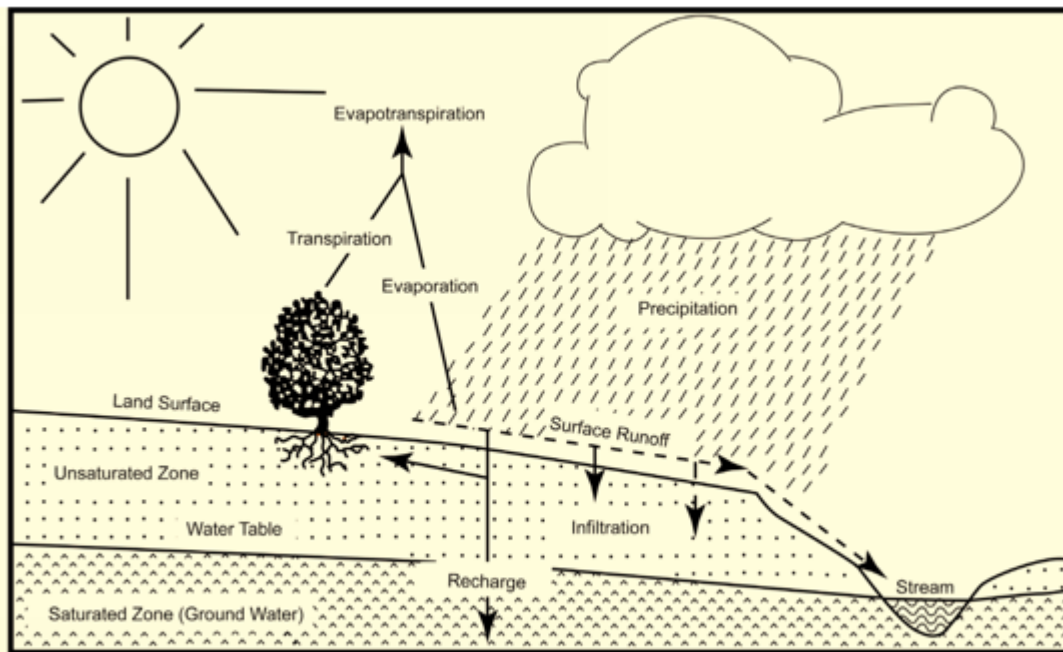
Stormwater Discussion

Land development can dramatically alter the hydrologic cycle (See Figure C-1) of a site and, ultimately, an entire watershed. Prior to development, native vegetation can either directly intercept precipitation or draw that portion that has infiltrated into the ground and return it to the atmosphere through evapotranspiration. Development can remove this beneficial vegetation and replace it with lawn or impervious cover, reducing the site's evapotranspiration and infiltration rates. Clearing and grading a site can remove depressions that store rainfall. Construction activities may also compact the soil and diminish its infiltration ability, resulting in increased volumes and rates of stormwater runoff from the site. Impervious areas that are connected to each other through gutters, channels, and storm sewers can transport runoff more quickly than natural areas. This shortening of the transport or travel time quickens the rainfall-runoff response of the drainage area, causing flow in downstream waterways to peak faster and higher than natural conditions. These increases can create new and aggravate existing downstream flooding and erosion problems and increase the quantity of sediment in the channel. Filtration of runoff and removal of pollutants by surface and channel vegetation is eliminated by storm sewers that discharge runoff directly into a stream. Increases in impervious area can also decrease opportunities for infiltration which, in turn, reduces stream base flow and groundwater recharge. Reduced base flows and increased peak flows produce greater fluctuations between normal and storm flow rates, which can increase channel erosion. Reduced base flows can also negatively impact the hydrology of adjacent wetlands and the health of biological communities that depend on base flows. Finally, erosion and sedimentation can destroy habitat from which some species cannot adapt.

In addition to increases in runoff peaks, volumes, and loss of groundwater recharge, land development often results in the accumulation of pollutants on the land surface that runoff can mobilize and transport to streams. New impervious surfaces and cleared areas created by development can accumulate a variety of pollutants from the atmosphere, fertilizers, animal wastes, and leakage and wear from vehicles. Pollutants can include metals, suspended solids, hydrocarbons, pathogens, and nutrients.

In addition to increased pollutant loading, land development can adversely affect water quality and stream biota in more subtle ways. For example, stormwater falling on impervious surfaces or stored in detention or retention basins can become heated and raise the temperature of the downstream waterway, adversely affecting cold water fish species such as trout. Development can remove trees along stream banks that normally provide shading, stabilization, and leaf litter that falls into streams and becomes food for the aquatic community.

Figure C-1: Groundwater Recharge in the Hydraulic Cycle



Source: New Jersey Geological Survey Report GSR-32.

New Jersey Stormwater Best Management Practices Manual • Appendix C: Sample Municipal Stormwater Management Plan • February 2004 • Page C-4

Background

The Borough of Montvale encompasses a 4.009 square mile area in Bergen County, New Jersey. In recent years, the Borough has been under significant development pressure with corporations such as Mercedes Benz leaving the State and the property being redeveloped as a mixed residential/retail/commercial site, the demolition of the former A&P headquarters for multi-family housing, proposed redevelopment of the former Sony headquarters for multi-family housing, historic farm areas being developed, and office buildings being razed for senior housing. The population of the Borough has had modest increases over the past years with 7,844 residents as of the 2010 census. Estimates available from the US Census estimate Montvale's population at 8,600 in 2018. The 2020 census will provide more accurate population data. This development trend has resulted in changes in the landscape which have allowed older sites to be updated to current stormwater controls, reducing stormwater runoff volumes and pollutant loads to the waterways of the municipality. Figure C-2 illustrates the waterways in the Borough. Figure C-3 depicts the Borough boundary on the USGS quadrangle maps.

Figure C-2: Montvale Borough and Its Waterways

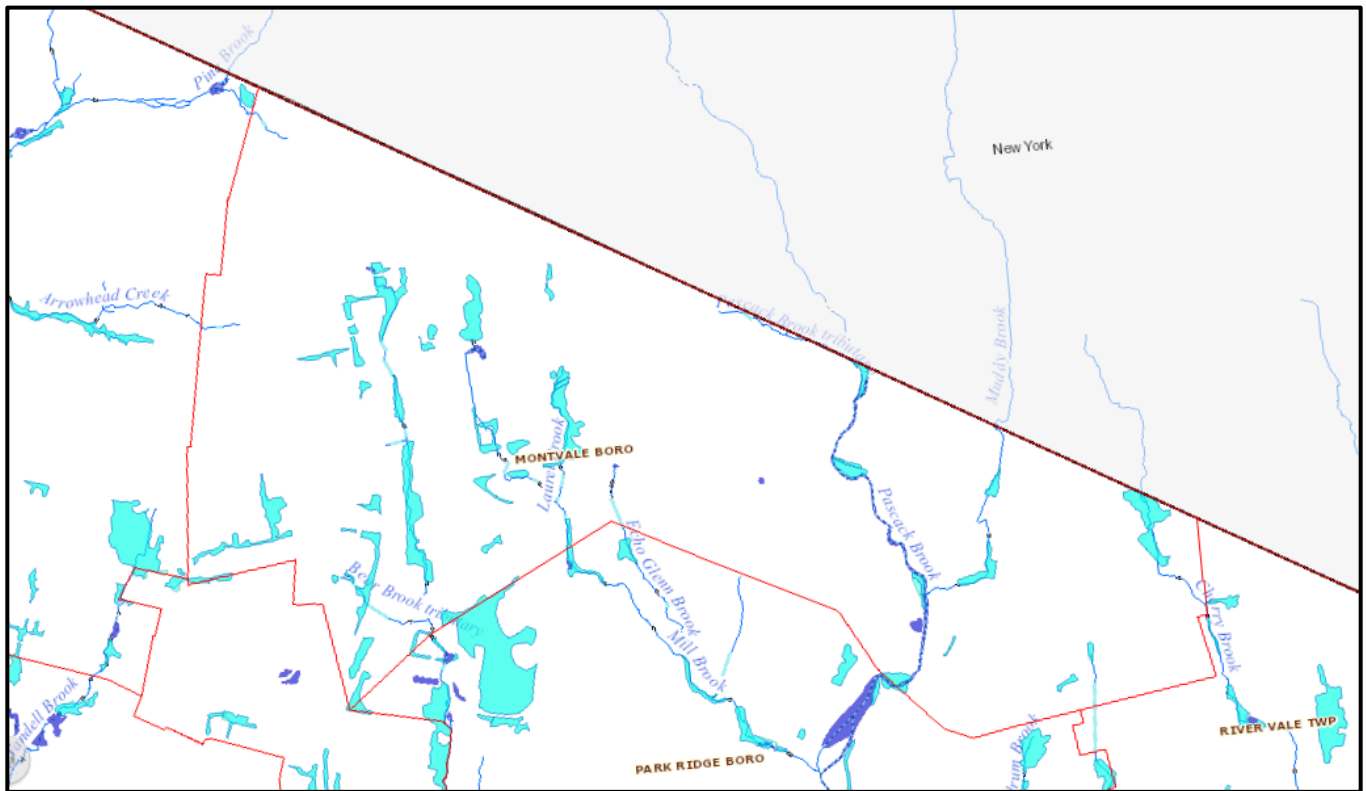
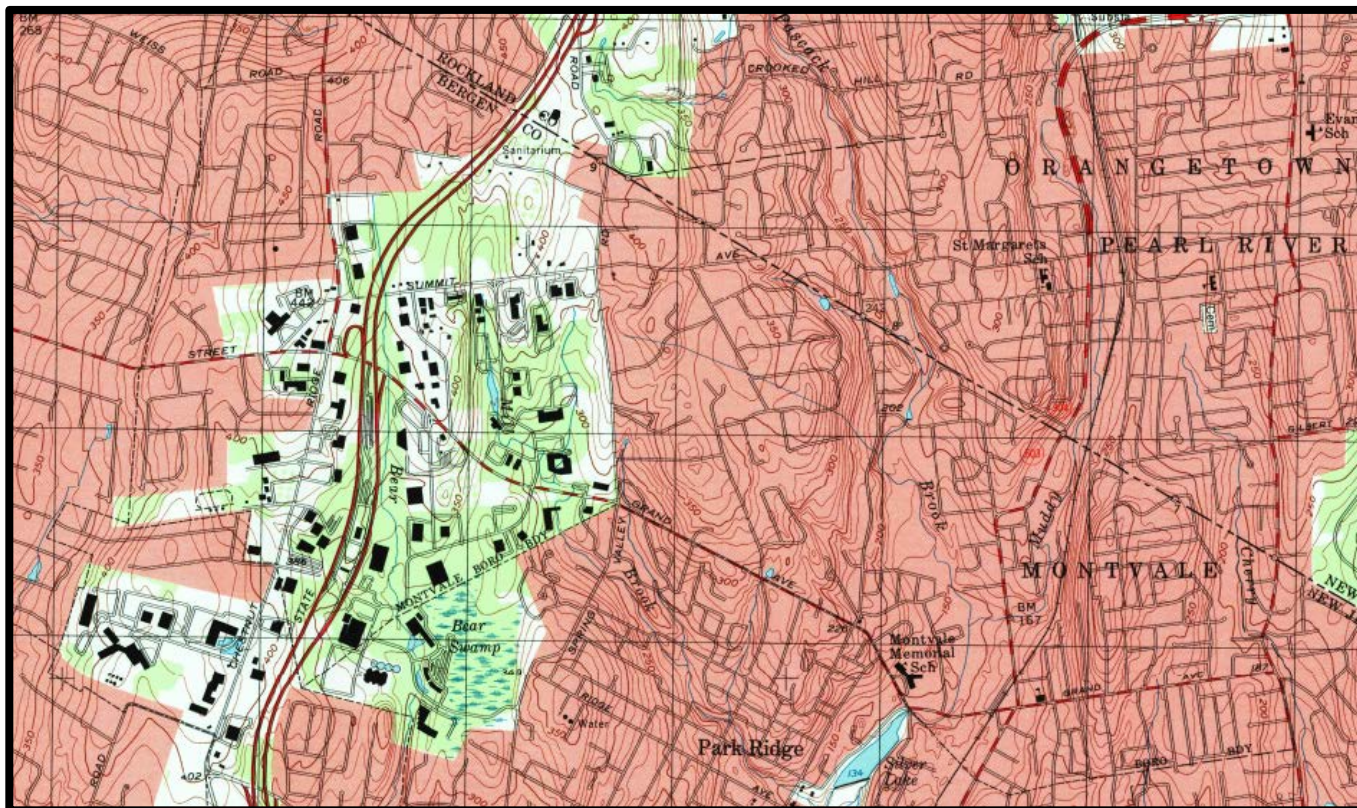


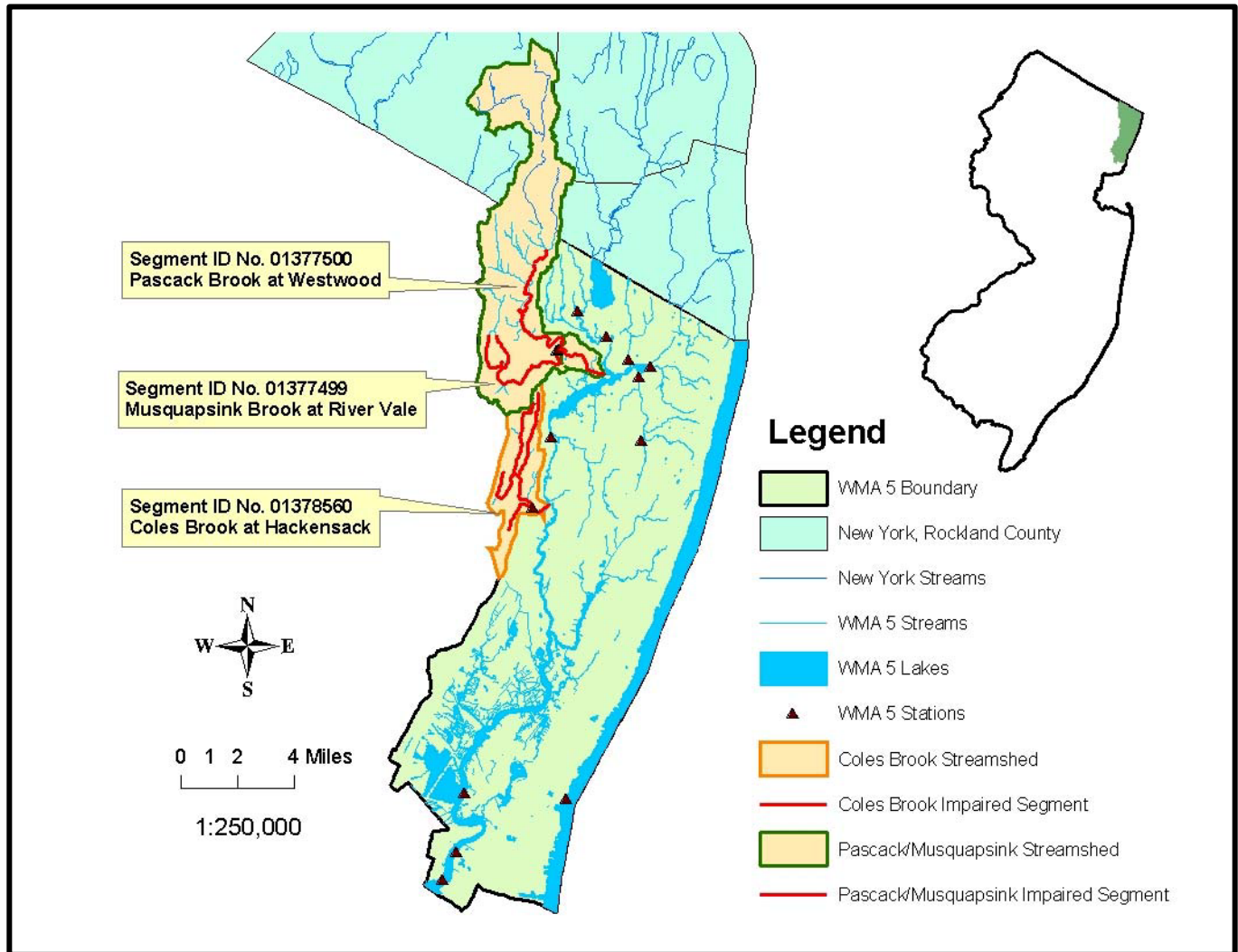
Figure C-3: Borough Boundary on USGS Quadrangles



The major waterways in the Borough include the Pascack Brook, Mill Brook, Muddy Brook, Bear Brook, Cherry Brook, and the Laurel Brook. The NJDEP and other regulatory agencies collect water quality chemical data on the streams in the state. These data show that the instream total phosphorus concentrations and fecal coliform concentrations of the Pascack Brook exceed the state's criteria. This means that the lower portion of the Pascack Brook (C-4) would be considered an impaired waterway and the NJDEP is required to develop a Total Maximum Daily Load (TMDL) for these pollutants for each waterway.

Figure C-4: Spatial Extent of Impaired Segments and Affected Drainage Areas

WMA 5 (NJDEP, Total Maximum Daily Loads for Phosphorus to Address Three (3) Stream Segments in the Northeast Water Region, September 30, 2005)



A TMDL is the amount of a pollutant that can be accepted by a waterbody without causing an exceedance of water quality standards or interfering with the ability to use a waterbody for one or more of its designated uses. The allowable load is allocated to the various sources of the pollutant, such as stormwater and wastewater discharges, which require an NJPDES permit to discharge, and nonpoint source, which includes stormwater runoff from agricultural areas and residential areas, along with a margin of safety. Provisions may also be made for future sources in the form of reserve capacity. An implementation plan is developed to identify how the various sources will be reduced to the designated allocations. Implementation strategies may include improved stormwater treatment plants, adoption of ordinances, reforestation of stream corridors, retrofitting stormwater systems, and other BMPs.

The New Jersey Integrated Water Quality Monitoring and Assessment Report (305(b) and 303(d)) (Integrated List) is required by the Federal Clean Water Act to be prepared biennially and is a valuable

source of water quality information. This combined report presents the extent to which New Jersey waters are attaining water quality standards and identifies waters that are impaired. Sublist 5 of the Integrated List constitutes the list of waters impaired or threatened by pollutants, for which one or more TMDLs are needed.

The integrated list is available from the NJDEP website at <https://www.nj.gov/dep/wms/bears/assessment.htm> Specific data on biological monitoring (AMNET data) is available from the NJDEP web site at <https://www.state.nj.us/dep/wms/bfbm/amnet.html> Additional data can be found on the United States Geological Survey (USGS) site at www.water.usgs.gov.

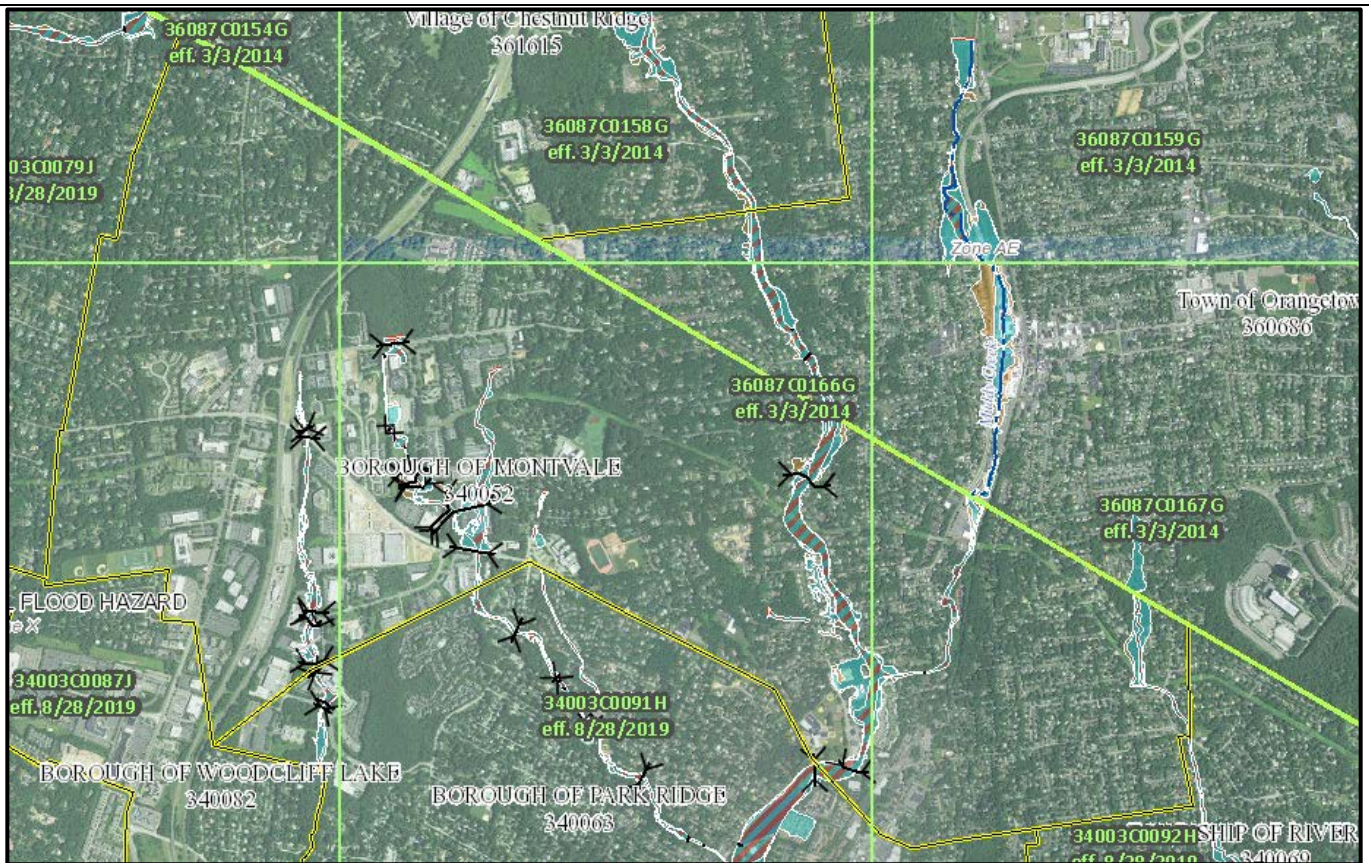
In addition to water quality, the Borough has exhibited severe water quantity issues including flooding, stream bank erosion, and diminished base flow in its streams. Some of the culverts associated with road crossings in the Borough could be considered undersized. During severe storm events, some of these culverts may not have adequate capacity, thereby causing a backwater effect and flooding upstream.

These culverts were designed for much different hydrologic conditions (i.e., less impervious area) than presently exist in the Borough. As the imperviousness increased in the Borough, the peak and volumes of stream flows also increased. The increased amount of water resulted in stream bank erosion, which resulted in unstable areas at roadway/bridge crossings, and degraded stream habitats. Due to development over the years, the Borough has seen a decrease in groundwater recharge, decreasing base flows in streams during dry weather periods. Lower base flows can have a negative impact on instream habitat during the summer months. A map of the groundwater recharge areas is shown in Figure C-6. The map of Wellhead protection areas is shown in Figure C-7.

The Borough has several watercourses that exhibit flooding at various stages during extreme storm events. These events traditionally have not produced property damage but have resulted in stream bank erosion. As a result of Hurricane Irene in 2011, the Pascack Brook exposed a sanitary sewer pipe that was later relocated under a grant from the Federal Emergency Management Act (FEMA). Additional scouring since that time added to the decision to replace the Magnolia Avenue bridge (owned by Bergen County) which is slated to be replaced starting in 2020/2021.

FEMA also establishes National Flood Hazard maps that indicate predicted zones of flood potential along the Pascack and Cheery Brooks. These maps are available through the FEMA website at <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html> either by entering the Borough for a full map, or individual street addresses. (Figure C-5)

Figure C-5: FEMA National Flood Hazard Map – Borough of Montvale, NJ



The Borough presently has not adopted a specific Ordinances to protect wellhead protection areas which are designed to minimize the infiltration of pollutants into aquifers. Wellhead protection areas are noted as a component of Environmentally Critical Areas within the Borough and would be identified as such during the preparation of an Environmental Impact Statement for major (greater than one-acre) development projects. The Ordinance will be adopted in the Fall, 2020.

Figure C-6: Groundwater Recharge Areas in the Borough

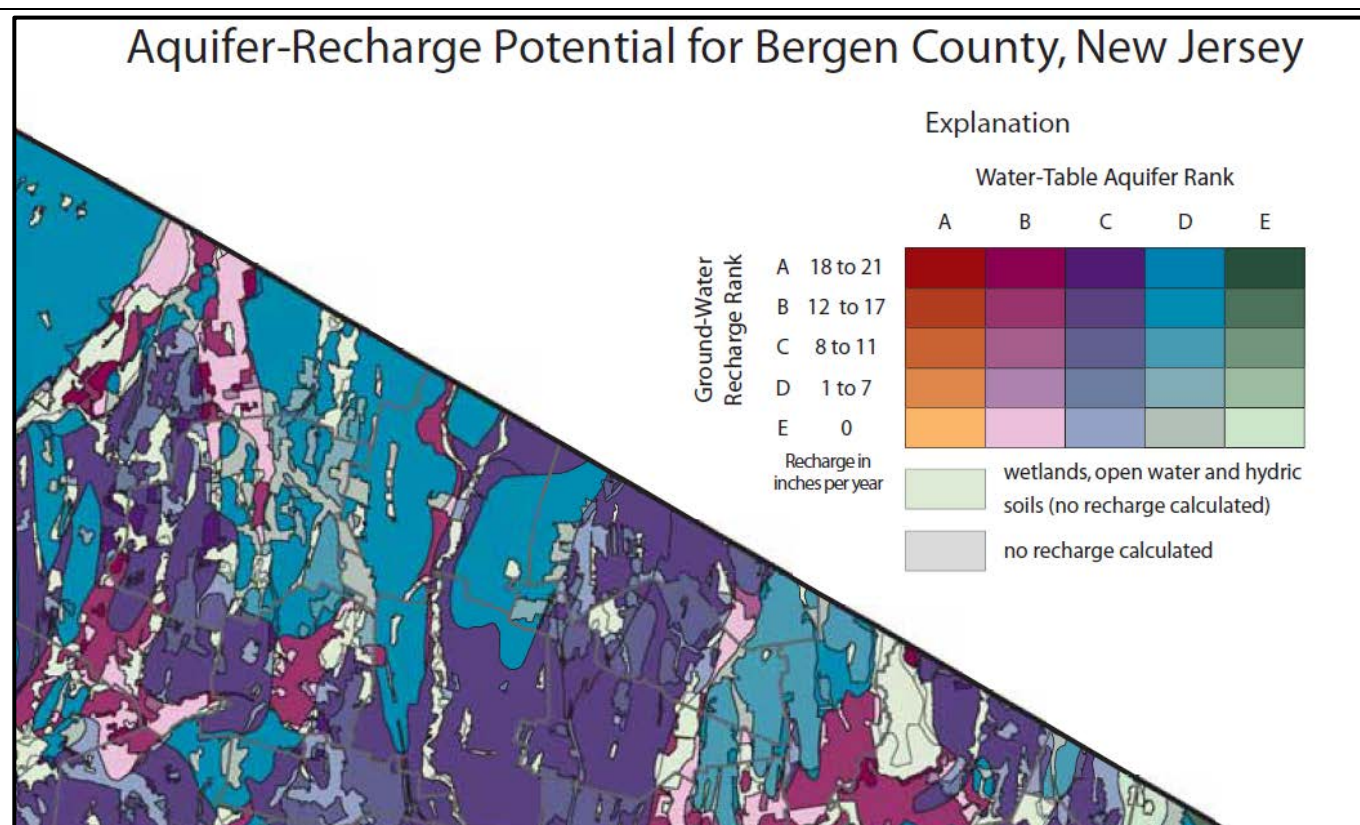
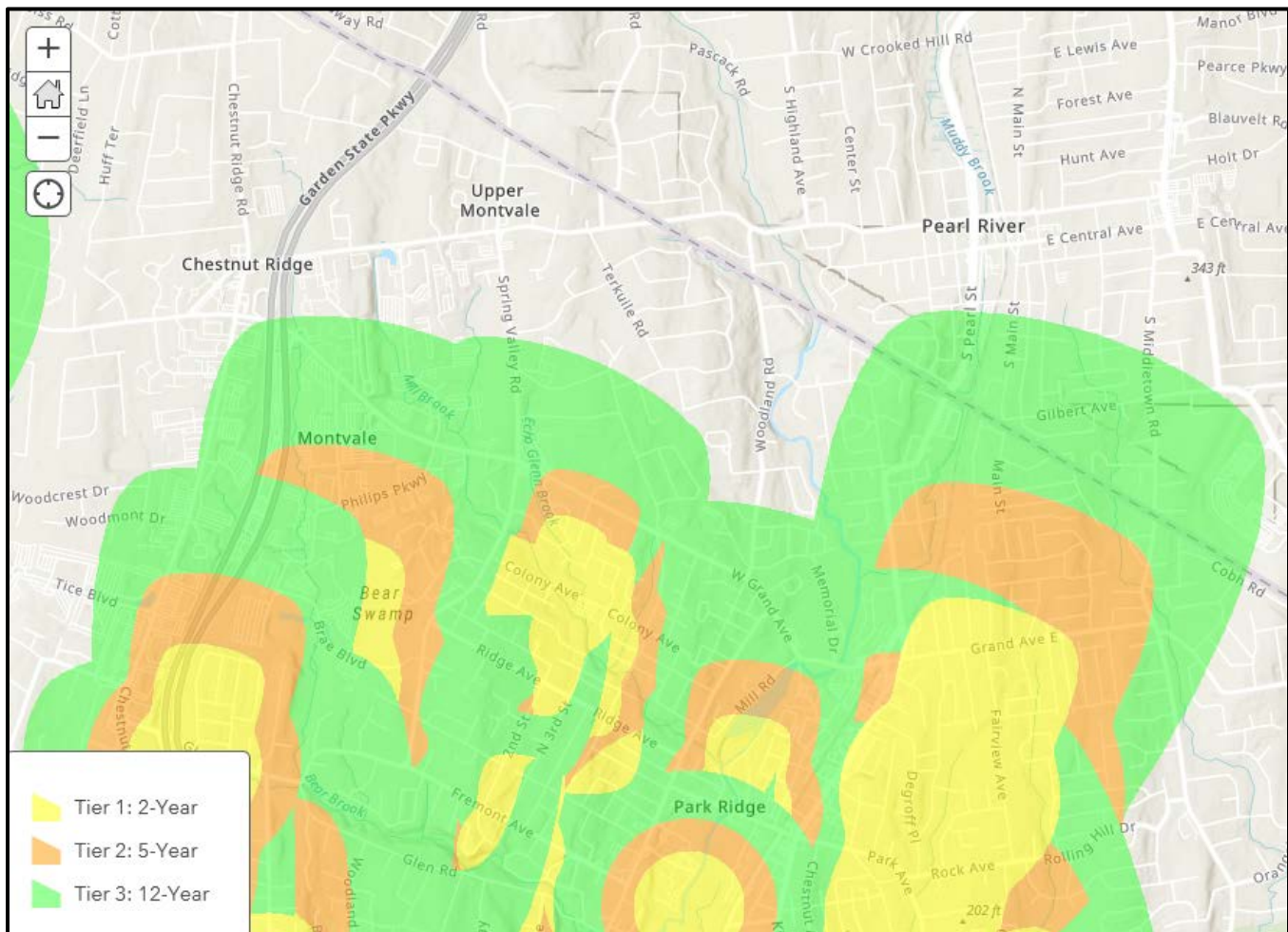


Figure C-7: Wellhead Protection Areas in the Borough



Tier 1: 2 years – these areas are defined as the Time of Travel of the outer boundaries to an individual well or wells, in this case 730 days;

Tier 2: 5 years – these areas are defined as the Time of Travel of the outer boundaries to an individual well or wells, in this case 1,826 days; and

Tier 3: 12 years – these areas are defined as the Time of Travel of the outer boundaries to an individual well or wells, in this case 4,383 days.

Source: <https://njgis-newjersey.opendata.arcgis.com/datasets>; <https://www.state.nj.us/dep/njgs/whpaguide.pdf>

Design and Performance Standards

The Borough has adopted the Design and Performance Standards for Stormwater Management Measures under Chapter 344-3 of the Ordinance to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies. The Design and Performance standards include the language for maintenance of stormwater management measures consistent with the stormwater management rules, and language for safety standards for Stormwater Management Basins. During construction, Borough inspectors will observe the construction of the project to ensure that the stormwater management measures are constructed and function as designed.

Plan Consistency

The Montvale Municipal Stormwater Management Plan is consistent with the Residential Site Improvement Standards (RSIS) at N.J.A.C. 5:21. The municipality will utilize the most current update of the RSIS in the stormwater management review of residential areas. This Municipal Stormwater Management Plan will be updated to be consistent with any future updates to the RSIS.

The Borough's Stormwater Management Ordinance requires all new development and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards. During construction, Borough inspectors will observe on-site soil erosion and sediment control measures and report any inconsistencies to the local Soil Conservation District.

Nonstructural Stormwater Management Strategies

The Borough has reviewed the Master Plan and Ordinances and has provided a list of the Chapters in the Borough land use and zoning ordinances that address nonstructural stormwater management strategies.

Chapter 400 of the Borough Code, entitled District Regulations, was reviewed with regard to incorporating nonstructural stormwater management strategies. Several changes were made to this Chapter, entitled "Design and Performance Standards" to incorporate these strategies.

Chapter 400-8(B): Definitions and word usage: Buffer Area

Land area or areas used to visibly separate one use from another or to shield or block noise, lights, or other nuisance elements and to ensure privacy:

1. Where wooded, buffer areas shall be kept in their natural state. When natural vegetation is sparse, plant material at least six feet in height and a solid or tightly woven fence may be required by the Planning Board or Zoning Board in order to provide a year-round visual screen. Planting shall be placed in suitable locations in the buffer area as may be required by the Planning Board or Zoning Board.
2. Except for underground utility easements which shall be permitted, no principal or accessory structure, other than as may be provided herein, nor any off-street parking or loading areas or other principal or accessory uses shall be permitted within buffer areas. The Planning Board or the Zoning Board, as the case may be, upon specific findings or reasons therefor, may permit a portion of the buffer area to be used for utility easements or driveways to ensure access to or from a principal roadway in a manner that is consistent with the definition of "buffer area" herein.
3. Where the extension of a utility or a street extends into a mandatory buffer area, said utility or street shall, to the extent possible, be located perpendicular to the property line adjoining the buffer areas and shall disturb the buffer area to the minimum extent possible.

Chapter 400-21(F): Townhouse T-6 Zone

1. At least 35% of the total land area of any cluster residential development or townhouse development shall be designed for and devoted to open space, which shall include wetlands and wetland transition areas. In computing such thirty-five-percent requirement, common recreation areas accessory to the residential use and required buffer area shall be included as open space.
2. Maintenance of open space. Any common open space that is proposed as part of a cluster residential development or townhouse development shall comply with the maintenance requirements provided by the Municipal Land Use Law.

Chapter 400-21(G)(2)(e): Environmental Standards. Any development within the T-6 (Cluster Residential Development and Townhouse Uses) Zone shall comply with all environmental standards as well as provided herein and all other provisions of the Borough of Montvale, the state and federal governments. Any new building or structure to be erected, any existing building or structure to be moved, enlarged, altered or added to any land shall comply with the following requirements:

1. There shall be no increase in the rate of runoff of any adjoining or nearby stream or watercourse. Zero (0) percent increase in runoff shall be maintained for the site in consideration of a one-hundred-year storm unless a lesser standard is made applicable to the property pursuant to a duly adopted state regulation, in which event the lesser standard shall apply.
2. All principal buildings shall be set back a minimum of 15-feet from the one-hundred-year flood line of any stream or watercourse. All stream and watercourse corridors within this fifteen-foot distance shall remain in their natural state, except where necessary to provide utility easement or connecting roadways. The Planning Board shall, in addition, require the applicant to dedicate to the public an easement of not less than 10-feet width along each side or edge of such body of water. The foregoing requirements shall be considered design standards, deviation from which shall require a waiver from the Planning Board.
3. No portion of the sanitary sewer system servicing the development may be located within 100-feet of any groundwater source in any area of fractured bedrock.
4. No portion or feature of any residential development shall impede any existing waterways or streams or substantially alter the hydrology to the area.
5. In the T-6 Residential Zone, no structure shall be permitted in any area of development having a topographic slope of 15-percent or greater as provided in § 128-6.3.1.
6. Any application in the T-6 Zone shall be required to file an environmental impact statement in accordance with the standards and procedures established herein.

Chapter 400-21(H): Staging - As permitted by N.J.S.A. 40:55D-39c(6), a residential cluster development or townhouse development may be developed in stages. No proposed sequence of stages submitted by the applicant shall be approved unless the Planning Board finds and determines as follows:

1. That each stage is substantially self-functioning with regard to access, utility services, parking, open space and other similar physical features maintained upon completion of construction and development.
2. That each stage is properly related to every other segment of the development and to the community as a whole and to all necessary community services which are available, or which may be needed to serve the development in the future.
3. That adequate protection will be provided to ensure the proper disposition of each stage through the use of maintenance and performance guaranties, covenants, and other formal agreements.
4. That the landowner will provide a balanced distribution for development in each stage. Such disposition shall be judged on the basis of the level of improvement costs, physical planning and coordination required and other relationships which may be necessary to undertake each stage or segment.

Chapter 344-3 Design and Performance Standards for Stormwater Management Measures.

1. Stormwater management measures for major development shall be developed to meet the erosion control, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality standards § 108-4. To the maximum extent practicable, these standards shall be met by incorporating nonstructural stormwater management strategies into the design. If these strategies alone are not sufficient to meet these standards, structural stormwater management measures necessary to meet these standards shall be incorporated into the design.
2. The standards in this ordinance apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development to the extent that alternative design and performance standards are applicable under a regional stormwater management plan or water quality management plan adopted in accordance with Department rules.

Chapter 350-52 Planting of Shade Trees – Shade trees exhibiting a diameter of no less than 2 1/2 inches measured six inches above the ground, shall be planted on center at sixty-foot intervals as determined by the Planning Board with the advice of the Environmental Commission and shall be located on the street line in a manner so as not to interfere with utilities or sidewalks. Said shade trees shall be of the following types: Norway maple, sugar maple or plane tree.

Chapter 344-7 Nonstructural stormwater strategies.

1. Buffers. Buffer areas are required along all lot and street lines separating residential uses from arterial and collector streets, separating a nonresidential use from either a residential use or residential zoning district line, and along all street lines where loading and storage areas can be seen from the street. The buffer area shall use native vegetation, which requires less fertilization and watering than non-native species. Buffer areas may be used for stormwater management by disconnecting impervious surfaces and treating runoff from these impervious surfaces. Preservation of natural wood tracts and limiting land disturbance for new construction must be incorporated where practical.
2. Curbs and gutters. Curb cuts or flush curbs with curb stops are encouraged where practical to allow vegetated swales to be used for stormwater conveyance and to allow the disconnection of impervious areas where practical.

3. Drainage systems. An existing ordinance may require that all streets be provided with inlets and pipes where the same are necessary for proper drainage. The use of natural vegetated swales in lieu of inlets and pipes are encouraged where practical.
4. Driveways and access ways. The use of pervious paving materials to minimize stormwater runoff and promote groundwater recharge should be considered for driveways and access ways where practical. Consideration should be given for subsurface soil conditions. The use of crowned driveways is also encouraged to promote disconnectivity between impervious surfaces and grass areas to promote groundwater recharge.
5. Natural features. Natural features, such as trees, brooks, swamps, hilltops, and views, are to be preserved whenever possible, and that care be taken to preserve selected trees to enhance soil stability and landscaped treatment of the area. In addition, forested areas shall be maintained to ensure that leaf litter and other beneficial aspects of the forest are maintained in addition to the trees.
6. Nonconforming uses, structures, or lots. The existing ordinance may allow an applicant/owner of an existing use to propose additions or alterations that exceed the permitted building and/or lot coverage percentages. The applicant should mitigate the impact of the additional impervious surfaces unless the stormwater management plan for the development provided for these increases in impervious surfaces. This mitigation effort must address water quality, flooding and groundwater recharge.
7. Off-site and off-tract improvements. Any off-site and off-tract stormwater management and drainage improvements must conform to the design and performance standards described.
8. Off-street parking and loading. Parking lots with more than 10 spaces and all loading areas should allow for flush curb with curb stop or curbing with curb cuts to encourage developers to allow for the discharge of impervious areas into landscaped areas for stormwater management. The use of natural vegetated swales for the water quality design storm, with overflow for larger storm events into storm sewers should be utilized where practical. A developer may demonstrate that fewer spaces would be required, provided area is set aside for additional spaces if necessary. Pervious paving could be provided overflow parking areas.
9. Performance standards. This sub-chapter can provide for pollution source control must be evaluated in order to prohibit materials or wastes from being deposited upon a lot in such form or manner that they can be transferred off the lot, directly or indirectly, by natural forces such as precipitation, evaporation or wind. Materials and wastes that might create a pollutant or a hazard shall be enclosed in appropriate containers.
10. Shade trees. The existing ordinance may require a minimum of shade trees per lot to be planted in the front yard. In addition to this Chapter, the Borough may have a tree preservation ordinance that restricts and otherwise controls the removal of mature trees throughout the Borough. This ordinance should recognize that the preservation of mature trees and forested areas must be considered in the management of environmental resources, particularly watershed management, air quality and ambient heating and cooling. A critical disturbance area that extends beyond the driveway and building footprint where clearing of trees cannot occur shall be depicted on the plan minimizing land disturbance. Identification of forested areas and the percentage of wooded areas be protected from disturbance shall also be provided.
11. Sidewalks. Sidewalks should be designed to discharge stormwater to neighboring lawns where feasible to disconnect these impervious surfaces or use permeable paving materials where appropriate.
12. Soil erosion and sediment control. The applicant shall comply with the New Jersey soil erosion and sediment control standards and should incorporate signs to retain and protect natural vegetation; minimize and retain water runoff to facilitate groundwater recharge; and install diversions, sediment basins, and similar required structures prior to any on-site grading or disturbance.
13. Further guidance on the implementation of these strategies can be found in the NJDEP Stormwater Best Management Practices Manual, March 2020, as amended.

Land Use/Build-Out Analysis

The Borough of Montvale has conducted a Vacant Lands analysis pursuant to a settlement agreement to address housing responsibilities under the Council of Affordable Housing. This includes a “Vacant Lands as per Settlement Agreement” map, and Vacant Land Inventory. The inventory provides the following information:

- Total Acres of Vacant Land – 204.8 Acres;
- Total Constrained Acres – 92.55 Acres; and
- Total Buildable Acres – 126.88 Acres.

The Borough has 204.8 acres of vacant land, or 0.32 square miles. Since the Borough has a combined total of less than one square mile (or 640-acres) of vacant or agricultural lands, the municipality is not required to complete a build-out analysis for this Report. Otherwise, a build-out analysis must be conducted assuming full development under existing zoning for each Hydrologic Unit Code (HUC) 14 drainage area in the municipality.

A detailed land use analysis for the Borough was conducted in 2018. Figure C-8 illustrates the Existing land use in the Borough based on 2012 GIS information from NJDEP. The Borough zoning map is shown in Figure C-9. Figure C-10 illustrates the Vacant Land Map within the Borough. The build-out calculations are shown in Table C-1.

Figure C-8 – Existing Land Use

The following is information from the NJDEP GIS mapping service which provides open space, developed land, and wetlands as of 2012. Note that in the interim period, many of the areas that were shown as open space in 2012 have been developed or are slated for development.

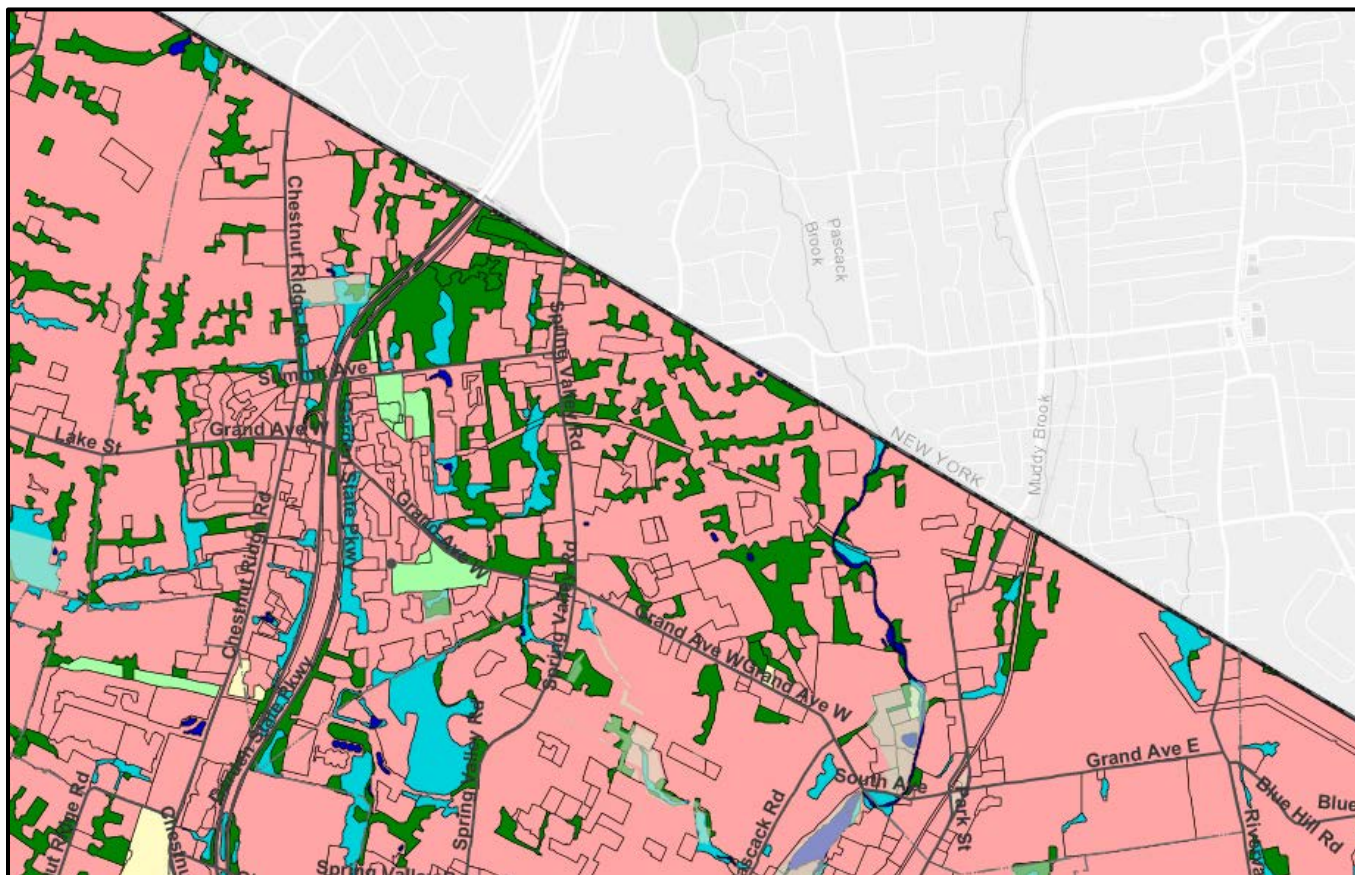


Figure C- 9 – Montvale Borough Zoning Map

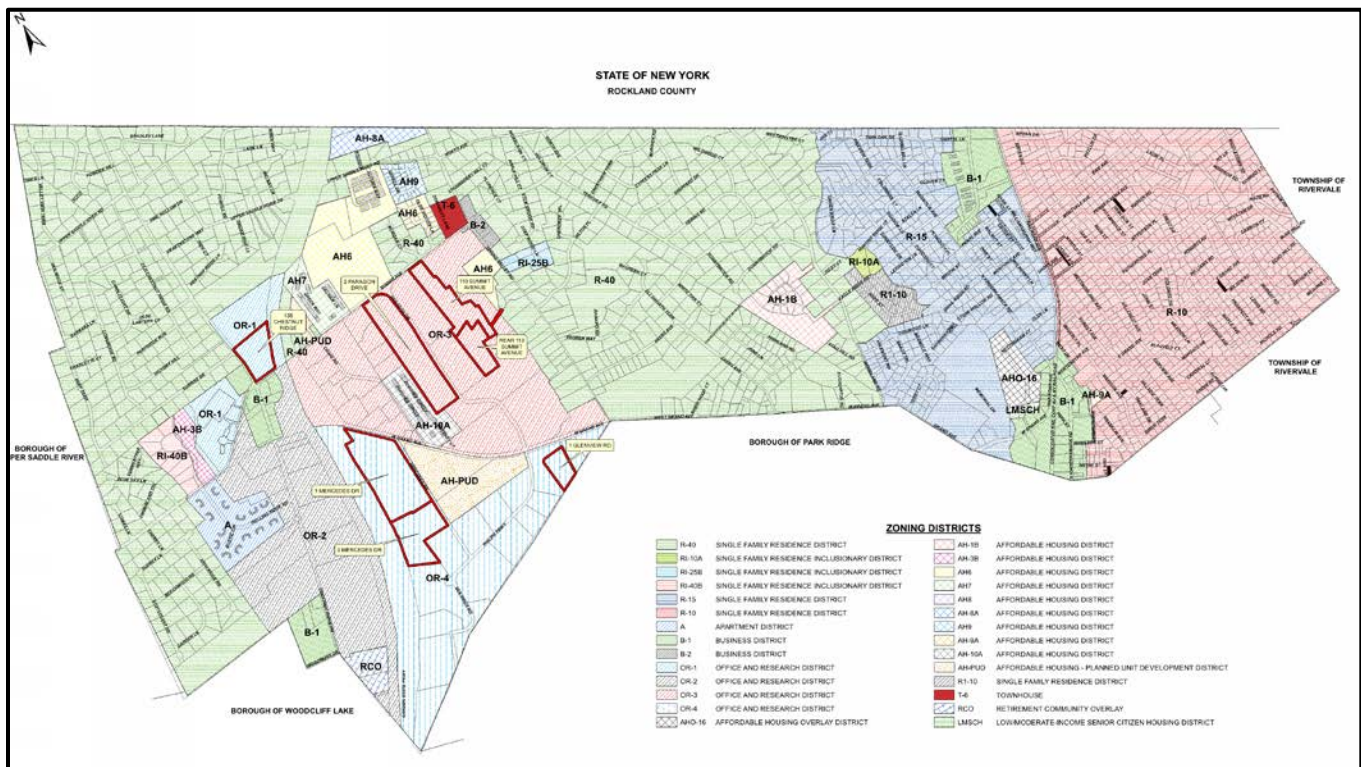


Figure C-10 – Vacant Land Map

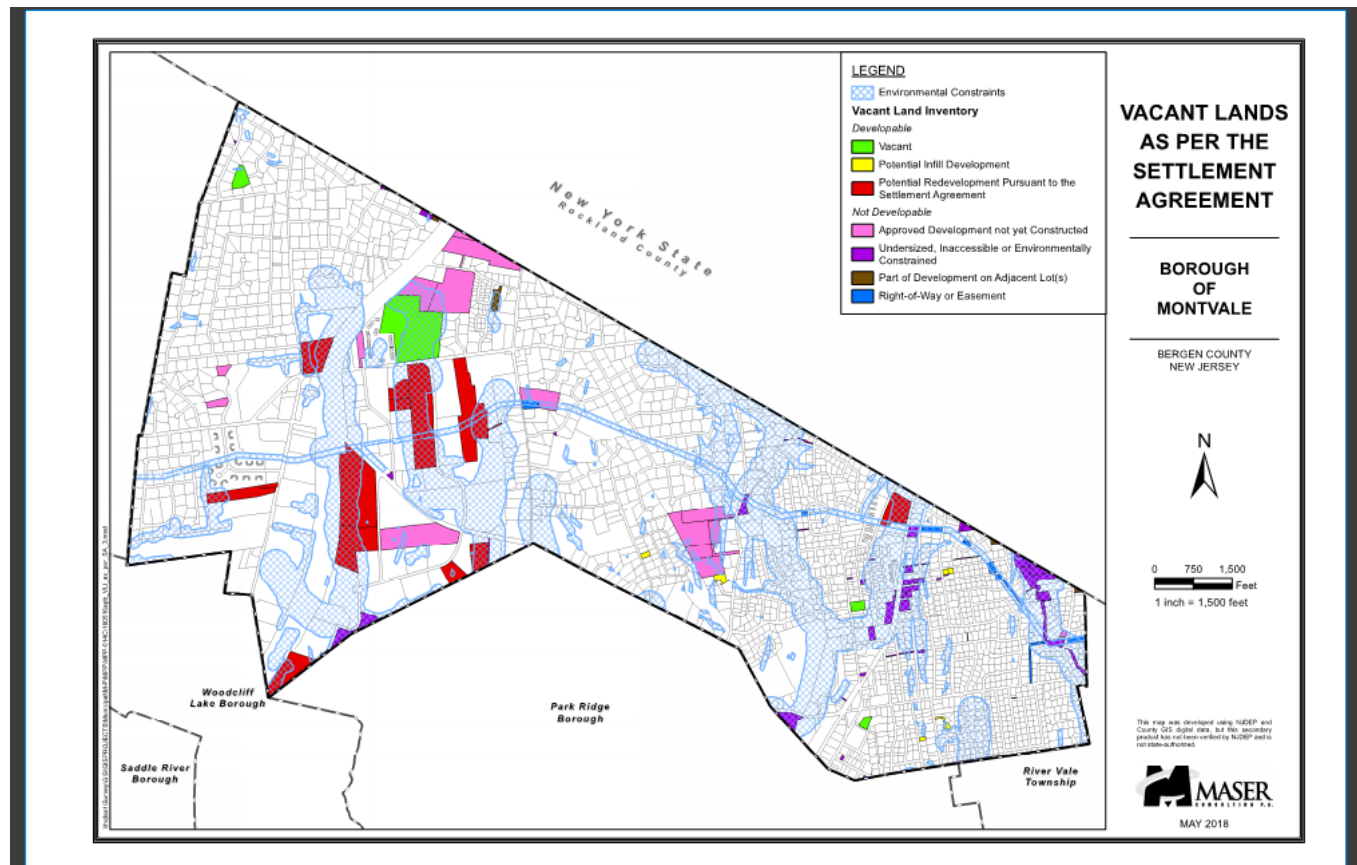


Table C-1 Vacant Land Inventory for Montvale Borough - 2018

MONTVALE BOROUGH											5/16/2018	
Vacant Land Inventory as per the Settlement Agreement												
Block	Lot	Address	Owner	Planning Area	Zoning	Total Acres*	Constrained Acres	Buildable Acres**	Constraint Description	Notes	Include in RDP	RDP
101	2	Valley View Terrace	Borough of Montvale	PA1	R-40	0.04	0.00	0.04		Undersized Lot	No	0
104	14	89 Valley View Terrace	Glaser, Walter & Judith	PA1	R-40	2.20	0.06	2.14	Steep Slopes	Potential Development	No	0
201	7	Fox Hill Rd	Magee, Thomas J. & Ursula Sheth	PA1	R-40	0.12	0.00	0.12		Undersized Lot	No	0
203	15	Fox Hill Rd	Uddin, Shahab	PA1	R-40	0.33	0.00	0.33		Inaccessible	No	0
203	16	Fox Hill Rd	Woodbine, Mark & Keron	PA1	R-40	0.24	0.02	0.22	Steep Slopes	Inaccessible	No	0
203	17	Fox Hill Rd	Forte, Keith & Joann Newkirk-Forte	PA1	R-40	0.21	0.00	0.21		Part of Development in Orangetown, NY	No	0
301	2	Near Garden State	Y Not Montvale LLC	PA1	AH-8A	0.93	0.00	0.93		Approved Townhouse Development	No	0
301	3	160 Spring Valley Rd	Bonnabel, Henry J. & Erna K.	PA1	AH-8A	9.10	0.00	9.10		Approved Townhouse Development	No	0
302	1	Upper Saddle River Rd	Del Ben, Reno A.	PA1	AH6	5.95	1.10	4.85	Wetlands, Steep Slopes	Approved Residential Development	No	0
302	4	32 Upper Saddle River Rd	Del Ben, Reno A.	PA1	AH6	12.92	0.37	12.55	Wetlands, Steep Slopes	Approved Residential Development	No	0
302	5,16	Serrell Drive Rear	Rockland Built Homeowners Assoc.	PA1	AH9	1.43	1.12	0.31	Wetlands	Retention Basin for Subdivision	No	0
603	21	Jan Court	Borough of Montvale	PA1	R-15	0.08	0.08	0.00	Water, Wetlands, SFHA, C1	Undevelopable due to Environmental Constraints	No	0
603	28	Jan Court	Borough of Montvale	PA1	R-15	0.21	0.05	0.16	C1	Undevelopable due to shape of lot	No	0
606	3	Sunnyside Drive	Borough of Montvale	PA1	R-15	0.06	0.00	0.06	Easement	Undersized Lot	No	0
606	28	Shadow Lane	Borough of Montvale	PA1	R-15	0.27	0.23	0.04	Easement	Easement	No	0
705	1	Erie Avenue	Marini, Anne E.	PA1	R-10	0.41	0.41	0.00	Steep Slopes	Undevelopable due to Environmental Constraints	No	0
705	3	Erie Avenue	Borough of Montvale	PA1	R-10	0.15	0.12	0.03	Steep Slopes	Undevelopable due to Environmental Constraints	No	0
705	9	14 Bryan Dr	Rml Realty LLC	PA1	R-10	0.52	0.50	0.02	C1, Steep Slopes	Undevelopable due to Environmental Constraints	No	0
705	10	Bryan Dr 334 R	Rex Energy 1,LLC, Suite 300	PA1	R-10	0.45	0.45	0.00	C1, Steep Slopes, Easement	Undevelopable due to Environmental Constraints	No	0
707	5	Bryan Dr	Mcgrath, James & Joann	PA1	R-10	0.33	0.00	0.33		Inaccessible	No	0
707	6	Bryan Drive Rear	Jaworski, Thomas E. & Laurie Ann	PA1	R-10	0.48	0.00	0.48		Inaccessible	No	0
707	17	Phyllis Dr	Balzano, Elaine	PA1	R-10	0.32	0.32	0.00	Easement	Easement	No	0
709	10,01	25 Walnut St	Morales, Jeanne Lynn & Paul	PA1	R-15	0.05	0.05	0.00	C1	Undevelopable due to Environmental Constraints	No	0
710	2	Erie Avenue	Baldanza Constr Co	PA1	R-10	0.07	0.06	0.01	Steep Slopes	Undevelopable due to Environmental Constraints	No	0
710	9	Main St	Tennessee Gas Pipeline Co	PA1	R-10	0.89	0.89	0.00	Easement	Utility Right-of-Way	No	0
712	1	55 Montvale Ave	Dema, Edip & Ejup	PA1	R-10	0.26	0.26	0.00	C1, Steep Slopes	Undevelopable due to Environmental Constraints	No	0
712	7	73 Montvale Avenue	Pearlmont LLC	PA1	R-10	0.12	0.00	0.12		Undersized Lot	No	0
712	9	Montvale Ave	Caggia, Alfred R	PA1	R-10	0.23	0.20	0.03	Steep Slopes	Undevelopable due to Environmental Constraints	No	0
712	10	Montvale Ave	Dema, Edip & Ejup	PA1	R-10	0.23	0.23	0.00	Steep Slopes	Undevelopable due to Environmental Constraints	No	0
712	11	65 Montvale Ave	Macdonald, D & Hawthorne G	PA1	R-10	0.24	0.24	0.00	Steep Slopes	Undevelopable due to Environmental Constraints	No	0
713	1	5 Pennsylvania Ave	Genovese-Boege (Trste), Annette	PA1	R-10	0.28	0.28	0.00	C1, Steep Slopes	Undevelopable due to Environmental Constraints	No	0
713	2	Montvale Ave	Borough of Montvale	PA1	R-10	0.73	0.73	0.00	C1, Steep Slopes	Undevelopable due to Environmental Constraints	No	0
713	12	9 Pennsylvania Ave	Rockland Built Homes, Inc	PA1	R-10	0.26	0.26	0.00	Steep Slopes	Undevelopable due to Environmental Constraints	No	0
801	3	Montvale Avenue	Borough of Montvale	PA1	R-10	0.18	0.00	0.18	Easement	Undevelopable due to shape of lot	No	0
801	13	Ladik Pl	Muchoe, Michael & Maria	PA1	R-10	0.21	0.00	0.21		Part of Development in Orangetown, NY	No	0
802	3	Ladik Place	Borough of Montvale	PA1	R-10	1.83	1.83	0.00	Wetlands, C1	Undevelopable due to Environmental Constraints	No	0
802	13	Ladik Pl	Bach, Edward Jr.	PA1	R-10	0.02	0.00	0.02		Undersized Lot	No	0
802	14	Middletown Rd	Lane, Edmund & Mc Guinness, Patrick	PA1	R-10	1.38	1.08	0.30	Wetlands, C1, Steep Slopes	Undevelopable due to Environmental Constraints	No	0
802	15	Middletown Rd	Lane, Edmund & Mc Guinness, Patrick	PA1	R-10	0.34	0.34	0.00	Wetlands, SFHA, C1	Undevelopable due to Environmental Constraints	No	0
802	16	Middletown Rd	Birch Construction I Corp	PA1	R-10	1.01	1.01	0.00	Wetlands, SFHA, C1	Undevelopable due to Environmental Constraints	No	0
802	17	Middletown Rd	Garvey, Timothy	PA1	R-10	0.95	0.93	0.02	Wetlands, SFHA, C1	Undevelopable due to Environmental Constraints	No	0
802	19	Middletown Rd	Martin Country Estates	PA1	R-10	0.32	0.32	0.00	Wetlands, SFHA, C1	Undevelopable due to Environmental Constraints	No	0

MONTVALE BOROUGH
Vacant Land Inventory as per the Settlement Agreement

5/16/2018

Block	Lot	Address	Owner	Planning Area	Zoning	Total Acres*	Constrained Acres	Buildable Acres**	Constraint Description	Notes	Include in RDP	RDP
802	21	13 Windsor Rd	Van Horn Builders, Inc	PA1	R-10	0.84	0.84	0.00	Wetlands, SFHA, C1	Undevelopable due to Environmental Constraints	No	0
803	7	47 Middletown Rd	Lovenson Herbert & Sylvia	PA1	R-10	0.28	0.00	0.28		Part of Development in Orangetown, NY	No	0
804	2	35 Main Street	Hecker, George & Linda Jean	PA1	R-10	0.05	0.00	0.05		Undersized Lot	No	0
804	3	37 Main St	Hecker, Todd, Trustee	PA1	R-10	0.23	0.00	0.23		Potential Infill Development	No	0
804	4	Erie Ave	Hecker, Gro E. & Linda	PA1	R-10	0.23	0.00	0.23		Potential Infill Development	No	0
804	12	Erie Ave	Platt, Melissa (Etals)	PA1	R-10	0.26	0.22	0.04	Easement	Easement	No	0
804	17	Montvale Avenue	Borough of Montvale	PA1	R-10	0.35	0.24	0.11	Easement	Easement	No	0
805	12	Montvale Avenue	Borough of Montvale	PA1	R-10	0.29	0.23	0.06	Easement	Easement	No	0
805	21	Pennsylvania Avenue	Borough of Montvale	PA1	R-10	0.68	0.65	0.03	Steep Slopes, Easement	Easement	No	0
810	7	Windsor Rd	Boro of Montvale	PA1	R-10	1.06	1.06	0.00	Wetlands, SFHA, C1, Easement	Undevelopable due to Environmental Constraints	No	0
810	14	2a Windsor Rd	Kallareou, John & Marilyn	PA1	R-10	0.30	0.29	0.01	C1	Approved for Residential Development	No	0
1002	5	159 Summit Ave	De Piero, Edward, Terry & Glen	PA1	AH-PUD	1.60	0.00	1.60	Wetlands	Approved for Affordable Housing Development	No	0
1002	7	127 Summit Ave	Del Ben, Reno A.	PA1	AH6	25.67	19.82	5.85	Wetlands, C1, Steep Slopes	Potential Development	No	0
1103	4	Spring Valley Road	Tenneco Inc. Tenn. Gas Pipeline Div	PA1	R-40	1.20	0.76	0.44	Steep Slopes, Easement	Utility Right-of-Way	No	0
1103	5	87 Spring Valley Road	Bonnabel, H. J. & Erna	PA1	RI-25B	5.05	1.43	3.62	Steep Slopes, Easement	Approved for Residential Development	No	0
1201	6	Hilton Place	Borough of Montvale	PA1	R-40	0.06	0.00	0.06		Undersized Lot	No	0
1301	24	Woodland Road	Bonnabel, Henry J. & Erna	PA1	AH-1B	4.73	1.03	3.70	C1, Steep Slopes	Approved for Residential Development	No	0
1301	26	66 Woodland Road	Bonnabel, Henry J. & Erna K	PA1	AH-1B	7.26	0.40	6.86	C1, Steep Slopes	Approved for Residential Development	No	0
1301	27	Woodland Road	Bonnabel, Henry J. & Erna K.	PA1	AH-1B	2.03	1.17	0.86	Steep Slopes	Approved for Residential Development	No	0
1301	33	Woodland Rd (R.O.W.)	Bonnabel, Henry J. & Erna K	PA1	R-40	0.82	0.08	0.74	Steep Slopes	Approved for Residential Development	No	0
1402	4	Shadow Lane	Borough of Montvale	PA1	R-15	0.08	0.00	0.08		Undersized Lot	No	0
1502	5	77 N Kinderkamack	Creagh, Kevin & June	PA1	R-15	0.05	0.00	0.05		Undersized Lot	No	0
1503	4	9 Pine St	Tempesta, Joseph	PA1	R-15	0.24	0.09	0.15	C1	Undevelopable due to Environmental Constraints	No	0
1504	6	57 N Kinderkamack	Nakopolos, Gus & Xanthippi	PA1	R-15	1.10	0.00	1.10		Potential Development	No	0
1504	22	38 Montvale	Janovic, Raymond & Patricia	PA1	R-15	1.57	1.57	0.00	Wetlands, SFHA, C1, Steep Slopes	Undevelopable due to Environmental Constraints	No	0
1505	1	6 Pennsylvania Ave	Kaczala, T	PA1	R-10	0.89	0.89	0.00	C1, Steep Slopes	Undevelopable due to Environmental Constraints	No	0
1601	14	Parking Lot	Borough of Montvale	PA1	B-1	0.60	0.12	0.48	Wetlands	Municipal Parking Lot	No	0
1601	16	10 Railroad Ave	Gabriel Mayberry Realty Inc	PA1	B-1	0.07	0.01	0.06	Wetlands	Undevelopable due to Environmental Constraints	No	0
1602	2	7 Glen Lane	Glaser, Robert & Janet	PA1	R-15	0.66	0.66	0.00	Wetlands, SFHA, C1	Undevelopable due to Environmental Constraints	No	0
1603	2	15 N Kinderkamack	Theresa Angelo Testamentary Trust	PA1	R-15	0.14	0.00	0.14		Undersized Lot	No	0
1604	1	Wortendyke Ave	New Jersey Transit Corp.	PA1	B-1	0.37	0.00	0.37		NJ Transit Parking Lot	No	0
1607	10	Forest Ave & Waverly	Borough of Montvale	PA1	R-10	0.09	0.00	0.09		Undersized Lot	No	0
1608	10	Westmoreland Ave	Wieland, Timothy & Mary Jo	PA1	R-10	0.16	0.05	0.11	Steep Slopes	Undevelopable due to Environmental Constraints	No	0
1609	9	Westmoreland Ave	Borough of Montvale	PA1	R-10	0.16	0.15	0.01	Steep Slopes	Undevelopable due to Environmental Constraints	No	0
1701	21	Rutherford Place	Borough of Montvale	PA1	R-10	0.04	0.00	0.04		Undersized Lot	No	0
1706	8	Grand Avenue East	Borough of Montvale	PA1	R-10	0.97	0.36	0.61	SFHA, C1, Easement	Easement	No	0
1706	19	Moulton Drive	Borough of Montvale	PA1	R-10	0.97	0.97	0.00	SFHA, C1, Easement	Undevelopable due to Environmental Constraints	No	0
1708	4	Middletown Rd	Rockland Electric Co Tax Dept Bh19	PA1	R-10	0.91	0.82	0.09	C1, Easement	Utility Right-of-Way	No	0
1708	5	6 Maze Rd	Leone, Frank & Louise	PA1	R-10	0.05	0.00	0.05		Undersized Lot	No	0
1709	6	Middletown Road	Boro of Montvale	PA1	R-10	0.81	0.81	0.00	Wetlands, SFHA, C1	Undevelopable due to Environmental Constraints	No	0
1902	1	W Grand Ave	Townsmen, A Trade Name	PA1	OR-3	0.27	0.00	0.27		Undevelopable due to shape of lot	No	0
2202	11	26 Akers Ave	Palella, Joseph J & Margaret W	PA1	R-40	0.39	0.00	0.39		Potential Infill Development	No	0

MONTVALE BOROUGH
Vacant Land Inventory as per the Settlement Agreement

5/16/2018

Block	Lot	Address	Owner	Planning Area	Zoning	Total Acres*	Constrained Acres	Buildable Acres**	Constraint Description	Notes	Include in RDP	RDP
2204	34	Stag Hill Road	Borough of Montvale	PA1	R-40	0.83	0.01	0.82	Steep Slopes	Potential Infill Development	No	0
2204	39	Woodland Rd	Bonnabel, Henry & Erna	PA1	AH-1B	4.30	0.82	3.48	Steep Slopes	Approved for Residential Development	No	0
2204	40	48 Woodland Road	Bonnabel, Henry & Erna	PA1	AH-1B	2.70	0.24	2.46	Steep Slopes	Approved for Residential Development	No	0
2401	1	36 W Grand Ave	C/O Heartland BK Multi-Family	PA1	R-15	2.10	2.10	0.00	Water, Wetlands, SFHA, C1, Steep Slopes	Undevelopable due to Environmental Constraints	No	0
2405	26	3 Wayne St	NJ Energy Realty LLC	PA1	B-1	0.09	0.00	0.09		Undersized Lot	No	0
2407	2	26 Wayne Street	Messer, Karen E.	PA1	R-10	0.08	0.00	0.08		Undersized Lot	No	0
2411	7	21 Hillside Terr	Hecker, Todd Trustee	PA1	R-10	0.18	0.00	0.18		Potential Infill Development	No	0
2501	8.04	7 Blauvelt Ct	Jpe Contractors	PA1	R-10	0.53	0.13	0.40	Wetlands, Steep Slopes	Potential Infill Development	No	0
2506	1	Wilson & Prospect	Borough of Montvale	PA1	R-10	0.02	0.00	0.02		Undersized Lot	No	0
2509	49	Middletown Rd.	Boro of Montvale	PA1	R-10	0.01	0.01	0.00	C1	Undevelopable due to Environmental Constraints	No	0
2601	32.04	5 Cider Mill Court	5 & 9 Cedar Mill Ct LLC	PA1	RI-40B	1.42	0.00	1.42		Approved for Residential Development	No	0
2601	32.09	15 Cider Mill Court	Joseph & Mary Dematteo	PA1	RI-40B	1.03	0.00	1.03		Approved for Residential Development	No	0
2802	2	Grand Ave	De Piero, Edward & Elaine	PA1	AH-PUD	13.20	0.69	12.51	Wetlands, Steep Slopes	Approved for Nonresidential Development	No	0
3201	7	W Grand Ave	Yes Phillips Group LLC	PA1	OR-4	0.33	0.33	0.00	Wetlands, SFHA, C1	Undevelopable due to Environmental Constraints	No	0
3301	1	Chestnut Ridge Rear	Brighton Norse Rty LLC	PA1	OR-2	0.05	0.00	0.05		Undersized Lot	No	0
3303	1	W Grand Ave	C/O Marriott, Property Tax Dept.	PA1	OR-4	3.15	3.15	0.00	Wetlands, SFHA, C1	Undevelopable due to Environmental Constraints	No	0
703	7	133 - 149 Kinderkamack Road†	Misrad Associated c/o Braun Associates	PA1	B-1	5.05	0.44	4.61	C1, Easement, SFHA, Steep Slopes, Water	8 units/acre	Yes	7
1001	1	135 Chestnut Ridge†	135 Chestnut Ridge Partners, LLC	PA1	OR-1	7.18	3.45	3.73	C1, Wetlands	8 units/acre	Yes	5
1102	2.01***	110 Summit Avenue†	GWNLAAC R.E. Holding c/o IVL Group	PA1	OR-3	11.48	3.33	8.15	C1, Easement, SFHA, Steep Slopes, Water, Wetlands	Project Density	Yes	25
1903	4	138 Summit Avenue†	Ines De Piero et al	PA1	OR-3	2.09	1.46	0.63	C1, Steep Slopes	8 units/acre	Yes	2
1903	5	Summit Avenue†	Edward & Elaine De Piero	PA1	OR-3	2.79	2.15	0.64	C1, Steep Slopes	8 units/acre	Yes	2
1903	7	2 Paragon Drive†	Two Paragon, LLC	PA1	OR-3	19.29	5.78	13.51	C1, Easement, SFHA, Steep Slopes, Water, Wetlands	8 units/acre	Yes	21
2408	26	7 Franklin Avenue	Montvale Partners LLC	PA1	B-1	0.83	0.00	0.83		8 units/acre	Yes	1
2702	1	1 Mercedes Drive†		PA1	OR-4	21.81	8.58	13.23	C1, SFHA, Steep Slopes, Water, Wetlands			
2801	2	3 Mercedes Drive†	Samuel Hekemian et al	PA1	OR-4	11.09	5.31	5.78	C1, SFHA, Water, Wetlands	Project Density	Yes	70
3201	6	1 Glenview†		PA1	OR-4	3.92	0.74	3.18	C1, Steep Slopes, Wetlands			
3004	3, 10	64 - 66 Chestnut Ridge Road†	Fredrick & Marylou Parodi / 70 Chestnut LLC	PA1	OR-2	6.10	1.91	4.19	Wetlands (L3 only)	8 units/acre	Yes	7
3201	4	21 Philips Parkway†	Ridgecrest Realty c/o Marcus Assoc	PA1	OR-4	3.00	0.29	2.71	Steep Slopes	8 units/acre	Yes	4
3302	1	12 Van Riper†	Hornrock Properties MPR, LLC	PA1	OR-4	7.04	3.37	3.67	Wetlands	Project Density	Yes	37
Total						204.8	92.547427	126.8826				

* Total Acres was calculated using Bergen County electronic parcel data

** Buildable Acres is the land area comprising existing impervious coverage in environmentally constrained areas and areas not currently developed

*** Please note that the lot number and acreage have changed since the VLA was completed in 2015

† These sites were included for purposes of settlement as potential redevelopment areas although not technically vacant pursuant to the definition of vacant in the Round 2 regulations.

Major Developments

Montvale's Ordinance regarding Stormwater Management Requirements for Major Developments includes, but is not limited to requirements that:

Chapter 344-4G(8):Special water resource protection areas shall be established along all waters designated Category One at N.J.A.C. 7:9B, and perennial or intermittent streams that drain into or upstream of the Category One waters as shown on the USGS Quadrangle Maps or in the County Soil Surveys, within the associated HUC14 drainage area. These areas shall be established for the protection of water quality, aesthetic value, exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, and exceptional fisheries significance of those established category One waters. These areas shall be designated and protected as follows:

1. The applicant shall preserve and maintain a special water resource protection area in accordance with one of the following:
 - a. A three-hundred-foot special water resource protection area shall be provided on each side of the waterway, measured perpendicular to the waterway from the top of the bank outwards or from the centerline of the waterway where the bank is not defined, consisting of existing vegetation or vegetation allowed to follow natural succession is provided.
 - b. Encroachment within the designated special water resource protection area under Subchapter G(8)(1)[a] above shall only be allowed where previous development or disturbance has occurred (for example, active agricultural use, parking area or maintained lawn area). The encroachment shall only be allowed where applicant demonstrates that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable. In no case shall the remaining special water resource protection area be reduced to less than 150 feet as measured perpendicular to the top of bank of the waterway or centerline of the waterway where the bank is undefined. All encroachments proposed under this subsection shall be subject to review and approval by the Department.
2. All stormwater shall be discharged outside of and flow through the special water resource protection area and shall comply with the Standard for Off-Site Stability in the "Standards For Soil Erosion and Sediment Control in New Jersey," established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq.
3. If stormwater discharged outside of and flowing through the special water resource protection area cannot comply with the Standard for Off-Site Stability in the "Standards for Soil Erosion and Sediment Control in New Jersey," established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., then the stabilization measures in accordance with the requirements of the above standards may be placed within the special water resource protection area, provided that:
 - a. Stabilization measures shall not be placed within 150 feet of the Category One waterway;
 - b. Stormwater associated with discharges allowed by this Chapter shall achieve a 95% TSS postconstruction removal rate;
 - c. Temperature shall be addressed to ensure no impact on the receiving waterway;
 - d. The encroachment shall only be allowed where the applicant demonstrates that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable;

- e. A conceptual project design meeting shall be held with the appropriate Department staff and Soil Conservation District staff to identify necessary stabilization measures; and
 - f. All encroachments proposed under this Chapter shall be subject to review and approval by the Department.
4. A stream corridor protection plan may be developed by a regional stormwater management planning committee as an element of a regional stormwater management plan, or by a municipality through an adopted municipal stormwater management plan. If a stream corridor protection plan for a waterway subject to Subchapter G(8) has been approved by the Department of Environmental Protection, then the provisions of the plan shall be the applicable special water resource protection area requirements for that waterway. A streamer corridor protection plan for a waterway subject to Subchapter G(8) shall maintain or enhance the current functional value and overall condition of the special water resource protection area as defined in Subsection G(8)(1)[a] above. In no case shall a stream corridor protection plan allow the reduction of the special water resource protection area to less than 150 feet as measured perpendicular to the waterway subject to this subsection.
5. Subsection G(8) does not apply to the construction of one individual single-family dwelling that is not part of a larger development on a lot receiving preliminary or final subdivision approval on or before February 2, 2004, provided that the construction begins on or before February 2, 2009.

Mitigation Plans

Under **Chapter 344-7(F)**, Standards for Nonstructural Stormwater Strategies, the Ordinance addresses development of non-conforming uses, structures or lots as follows:

The existing ordinance may allow an applicant/owner of an existing use to propose additions or alterations that exceed the permitted building and/or lot coverage percentages. The applicant should mitigate the impact of the additional impervious surfaces unless the stormwater management plan for the development provided for these increases in impervious surfaces. This mitigation effort must address water quality, flooding and groundwater recharge.