

Notes on this Revised Draft of the Conservation of Natural Resources Plan Element

This revised draft of the Conservation of Natural Resources will be presented to the Planning Board for endorsement at its meeting on October 8, 2025. Comments will be considered by the MPC and appropriate changes made before presentation to the Planning Board for final adoption.

The MPC decided that to avoid future confusion when elements may be updated, any goal for a particular topic will appear in only one element in the Master Plan. Reference to overlapping topics will be included in the background text of the secondary element (s), to confirm that the topic has been considered, and the Plan element with the associated goals will be identified.

For the Conservation of Natural Resources Plan element, no goal conflicts with other Plan elements were found so no structural changes were needed.

Comments were received and some changes and additions to wording were incorporated. These are highlighted in yellow.

[These notes are for information only and will not appear in the final version of the element.]

MASTER PLAN
BOROUGH OF PENNINGTON
NEW JERSEY

8. Conservation of Natural Resources Plan Element (Revised)

The final draft of the Conservation of Natural Resources Plan element from the Environmental Commission was conditionally adopted by the Planning Board on June 12, 2024, and posted on the Borough website for public comment.

This revised version includes updates based on public comments and changes based on comparison of all elements to ensure consistency. These are highlighted in yellow. It will be presented to the Planning Board for endorsement at its meeting on October 8, 2025, prior to final adoption at a public meeting later in 2025.

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1. Introduction

The Municipal Land Use Law (N.J.S.A. 40:55D-28(8)) defines the Conservation of Natural Resources Plan element as follows:

“A conservation plan element providing for the preservation, conservation, and utilization of natural resources, including, to the extent appropriate, energy, open space, water supply, forests, soil, marshes, wetlands, harbors, rivers and other waters, fisheries, endangered or threatened species wildlife and other resources, and which systemically analyzes the impact of each other component and element of the master plan on the present and future preservation, conservation and utilization of those resources”

The conservation of Pennington Borough’s natural resources can positively contribute to the health, quality of life, welfare, and safety of residents. The Conservation of Natural Resources Plan element assists in the conservation of the Borough natural resources by identifying and characterizing its environmentally significant features and by putting forth key goals for the Borough conservation efforts.

The Conservation of Natural Resources Plan element incorporates the 2024 Environmental Resources Inventory (ERI) of Pennington Borough, developed and approved by the Environmental Commission. The ERI can be found on the Borough website. It describes the Borough’s natural resource characteristics and environmentally significant features, including manmade features such as historic sites and contaminated sites. It provides baseline documentation for evaluating resource protection and is a dynamic document that should be periodically revised and re-adopted to capture changes in conditions. Together the ERI and the Conservation of Natural Resources Plan element provide documentation and form a basis for land use and other policy decisions, plans, and municipal functions.

The Borough’s 2025 Master Plan also contains an Open Space and Recreation Plan element and a Green Building and Environmental Sustainability Plan element (GBESE), whose contents may overlap at times with those of the Conservation of Natural Resources Plan element. This element focuses on the conservation of Pennington’s natural resources and leaves the preservation of open space and the conservation of energy to the other elements.

2. Summary of Environmental Resources and Conditions

Pennington Borough is located in northwest Mercer County, New Jersey, and occupies 0.96 square miles, over 90% of which is already developed. The Borough has a population of 2,802 people (2020, U.S. Census). The Environmental Resources Inventory (ERI) is the definitive document that describes the Borough’s environmental resources and conditions. The following is a summary of the categories covered:

1. **Geology.** Pennington is located at the southern edge of the Piedmont Plateau. The topography of most of the Borough is relatively mild, with gentle slopes, flat areas, and occasionally, steep slopes.
2. **Soils and Slopes.** A region's soil defines what vegetation is possible and impacts land uses. Pennington lies at the edge of the Piedmont Province and the Coastal Plain and contains a wide variety of soil types, with 60% of its soils classified as prime farmland. Most of the Borough is relatively flat, but there are some areas of steep slopes along the banks of Stony Brook and various tributaries, as well as along the embankments of the existing railroad lines.
3. **Land Use.** NJDEP Land Use/Land Cover mapping identifies approximately 63.5% of the Borough as urban, with residential areas comprising the majority. Less than 1% is classified as vacant land. Main roads are New Jersey State Highway Route 31 and Mercer County roads, 624/E. Delaware Ave., 640/N. Main St. and 631/Ingleside Ave. CSX railroad tracks traverse the Borough in a north-south direction.
4. **Open Space.** There are two parks in the Borough, Kunkel Park and Sked Street Park. Recently, the Borough began the development of a public arboretum in the woodland behind Toll Gate Grammar School. The Borough works actively with Hopewell Township, Mercer County and regional not-for-profit organizations to create, expand and maintain a permanently protected "green belt" of open space around or near Pennington, with access from the Borough where possible.
5. **Water Resources.** There are a total of 2.12 miles of stream flowing across Pennington Borough, including Lewis Brook, Stony Brook, Woolsey Brook, and several tributaries to these streams. There are also three features defined as waterbodies, lakes, or ponds by NJDEP, with 0.25 acres depicted as wetland. Three larger lakes in Hopewell Township surround the Borough; Rosedale Lake, Curlis Lake, and Baldwin Lake. The Borough is located on the Delaware and Raritan watershed line with Woolsey Brook flowing to the Delaware and Lewis Brook and Stony Brook flowing to the Raritan. Drinking water comes from four wells around the Borough that collect water via fractures in the bedrock of the Passaic formation. The Borough delivers about 80 million gallons of water per year to its users. Climate change is driving increases in intense precipitation that drives riverine and stormwater flooding. At the same time, climate change is likely to worsen droughts that could threaten our waterways and water supply. Finally, increasing temperatures will stress our waterways and can have a negative impact on water quality as harmful algal blooms thrive in warm waters that have excess nutrients delivered via stormwater runoff. While Pennington does not drink surface water from Stony Brook it does drain to areas that are relied upon by thousands for drinking water.

6. **Wastewater and Solid Waste Management.** Pennington Borough is responsible for the operation and maintenance of the wastewater collection system (i.e., pipes in the street) within the Borough. Treatment of this wastewater occurs at the Pennington Wastewater Treatment Plant (WWTP), which is owned by the Stony Brook Regional Sewerage Authority (SBRSA). Sludge from the plant is trucked to the WWTP receiving facility in Princeton for treatment and disposal. The Borough's Department of Public Works provides curbside trash and bulk item collection to all residents once a week, and the trash is taken to a Mercer County transfer facility in Ewing Township. Recycling is provided every other Tuesday through the Mercer County Improvement Authority. The Borough also collects leaves, brush and other yard waste.
7. **Climate and Air Quality.** Pennington Borough lies within the Central New Jersey climate zone, a temperate, continental climate influenced by airstreams that vary from hot and humid to dry and cold. Severe storm events, including thunderstorms, tropical storms, hurricanes, blizzards, ice storms, hailstorms, and tornadoes, all occur in Mercer County. Storms often result in flooding. Most recently, the remnants of tropical storm Ida hit New Jersey in September 2021 when 7.44 inches of rain fell within a 6-hour period in the Hopewell Valley area, resulting in severe flooding in Pennington Borough. Pennington is also prone to extreme heat that can impact residents and people working outside in the Borough. According to the NJDEP, 15 of the 20 hottest years recorded in New Jersey have occurred since 2000. This trend is expected to worsen over time. Information on how residents can cope with extreme heat can be found in the NJDEP website Heat Hub NJ (<https://heat-hub-new-jersey-njdep.hub.arcgis.com>). Air quality in the Borough is generally good as there are no major sources of air pollution located in or near Pennington, although large scale events such as wildfires can impact the region.
8. **Light and Noise Pollution.** The sources of light pollution impacting Pennington Borough are mostly not within the Borough itself. Local sources of light and noise pollution include the traffic on Route 31, as well as the lighting of parking lots, businesses, office parks, and athletic fields. Noise pollution comes from cars, motorcycles, trucks and trains and from lawn maintenance and leaf blowing. All noise pollution is regulated under chapter 133 in Pennington Borough Code.
9. **Vegetation and Wildlife.** Pennington's natural areas face ongoing and emerging threats to natural ecological balance. Non-native, invasive species pose a significant threat by crowding out native species and reducing biodiversity. Climate change impacts the range of flora and fauna as well as growing conditions. The white-tailed deer population has grown, negatively impacting the ecosystem and adversely affecting public safety with auto collisions and exposure to Lyme disease. On the positive side, Pennington has been

recognized as a Tree City for over 30 years, and the Borough has a Community Forestry Management Plan as well as ordinances on street trees and on tree management on private property.

10. Contaminated Sites. In Pennington Borough there are two active contaminated sites on the NJDEP Known Contaminated Sites (KCS) list:

- a. The former Pennington Borough Sanitary Landfill. This case is being remediated under the Licensed Site Remediation Professional (LSRP) program. Remediation started in September 2019.
- b. The Tiger Mart site (Exxon gas station) at the corner of Route 31 and West Delaware Avenue This is a post-remedial case with a Remedial Action Permit (RAP) for institutional control in place.

Progress on these and any future sites can be monitored on the NJDEP Website https://experience.arcgis.com/experience/f26272f8a41c4ace77ac6f9b3c80ebb/page/Explorer-Web-Map?utm_medium=email&utm_source=govdelivery&views=Known-Contaminated-Sites-List

In summary, the Environmental Resource Inventory catalogues the Borough's natural resources and characteristics and should be utilized by residents and officials in decision-making, particularly as the Borough plans for climate impacts. It is useful to residents who wish to identify potential resource issues on their property and in their neighborhood as well as to officials reviewing development applications. While the Borough is a suburban landscape, our natural resources are critical to the resilience, health and well-being of our residents and can serve as a biodiversity oasis as areas around us are impacted by development and climate change.

3. Conservation of Natural Resources Plan Element Goals

The goals of the Conservation of Natural Resources Plan element are as follows:

1. Coordinate development to preserve, enhance and where possible restore natural resources and natural functioning systems (e.g., floodplains, habitats) with a focus on environmental health, climate resilience and biodiversity.
2. Guide growth away from natural resources into areas with existing infrastructure.
3. Limit disturbance of environmentally sensitive lands such as steep slopes, floodplains, wetlands, forested lands, critical habitat, and unique environmental features.
4. Protect water quality for drinking, recreation, irrigation, shade, flood mitigation, and natural habitat.

5. Encourage the removal and replacement of non-native plantings and protect and restore natural vegetation.
6. Manage nuisance and invasive species to protect native ecosystems and biodiversity.
7. Preserve contiguous natural lands to minimize habitat fragmentation and maximize the benefits of preservation.
8. Preserve and enhance existing visual resources such as scenic corridors, tree-lined streets, and woodlands.
9. Foster stewardship and management of already preserved lands and natural resources.
10. Preserve and enhance riparian zones to minimize flooding, maximize water quality and protect aquatic habitats.

4. Impacts of Other Elements of the Master Plan

Pennington Borough addresses natural resource conservation in the other elements of the Master Plan where relevant. The impacts of other elements on the conservation of natural resources include:

Land Use Plan Element. The Land Use Plan element relates to the Borough's zoning and potential redevelopment areas. Future development should aim to conserve, restore and build the resilience of the Borough's natural resources through the preservation of open space and by observing the principles of sustainable development. The Land Use Plan element includes a Climate Change Vulnerability Assessment of the risk to the Borough of climate change-related natural hazards, which will impact natural resources as well as residents and borough businesses.

Public Works Services Plan Element. This element primarily concerns the Borough's energy, drinking water, waste management and recycling, wastewater and sewage, and stormwater management systems. The maintenance and improvement of these systems is consistent with several goals of this Conservation of Natural Resources Plan element. In particular, the improvement of the Borough's stormwater management system can reduce the quantity of pollutants that flow into the Borough's waterbodies as stormwater runoff.

Open Space and Recreation Plan Element. Both the Open Space and Recreation Plan element and the Conservation of Natural Resources Plan element encourage the preservation of the Borough's natural spaces. Open space preservation protects wildlife habitats, natural vegetation, trees, and can contribute to stormwater management and pollutant reduction.

Green Buildings and Environmental Sustainability Plan Element. Buildings that incorporate energy efficiency, water conservation and reuse, and other green building practices can greatly contribute to the conservation of Pennington Borough's natural resources. The strategies

discussed in the Green Buildings and Environmental Sustainability Plan element will be key in achieving the goals of the Conservation of Natural Resources Plan element, and in reducing the Borough's carbon footprint.

Revised