

2025 Master Plan



TOWNSHIP OF GREEN, SUSSEX COUNTY

February 13, 2025

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Introduction

Founded 200 years ago in 1824, Green Township borders the southwestern edge of Sussex County, and is 16.5 square miles in size. Green's neighboring municipalities are Andover Borough and Andover, Byram, and Fredon Townships in Sussex County, and Allamuchy and Frelinghuysen Townships in Warren County. Green Township is home to several villages: Greendell, Huntsville, Tranquility, and Huntsburg. Some villages have small commercial areas and each has its own unique character. County Routes 519, 603, 611, and 517 traverse the Township. County Route 517 provides direct access from Green to Interstate 80 through Allamuchy Township. The Lackawanna Cut-Off, originally built for passenger railroad service in the 20th Century, divides the Township horizontally.



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Green Township spans two of New Jersey's physiographic provinces: the Ridge and Valley Region and the Highlands Region. The bulk of the Township is in the Ridge and Valley Region, primarily encompassing the Kittatinny Valley. Allamuchy Mountain, on the southern edge of the Township, is in the Highlands Region. The Kittatinny Valley has rolling hills and relatively flat topography, which primarily supports residential and agricultural uses.

Green Township has been a predominantly rural town for just over two centuries, with a mix of agricultural uses and low-density residential development. Green's proximity to Interstate 80 and US Route 206, has supported some larger residential neighborhoods, which is otherwise characterized by numerous farm fields and rural lanes. Some small to mid-sized commercial light industrial and manufacturing facilities can be found along Airport and Brighton Roads.

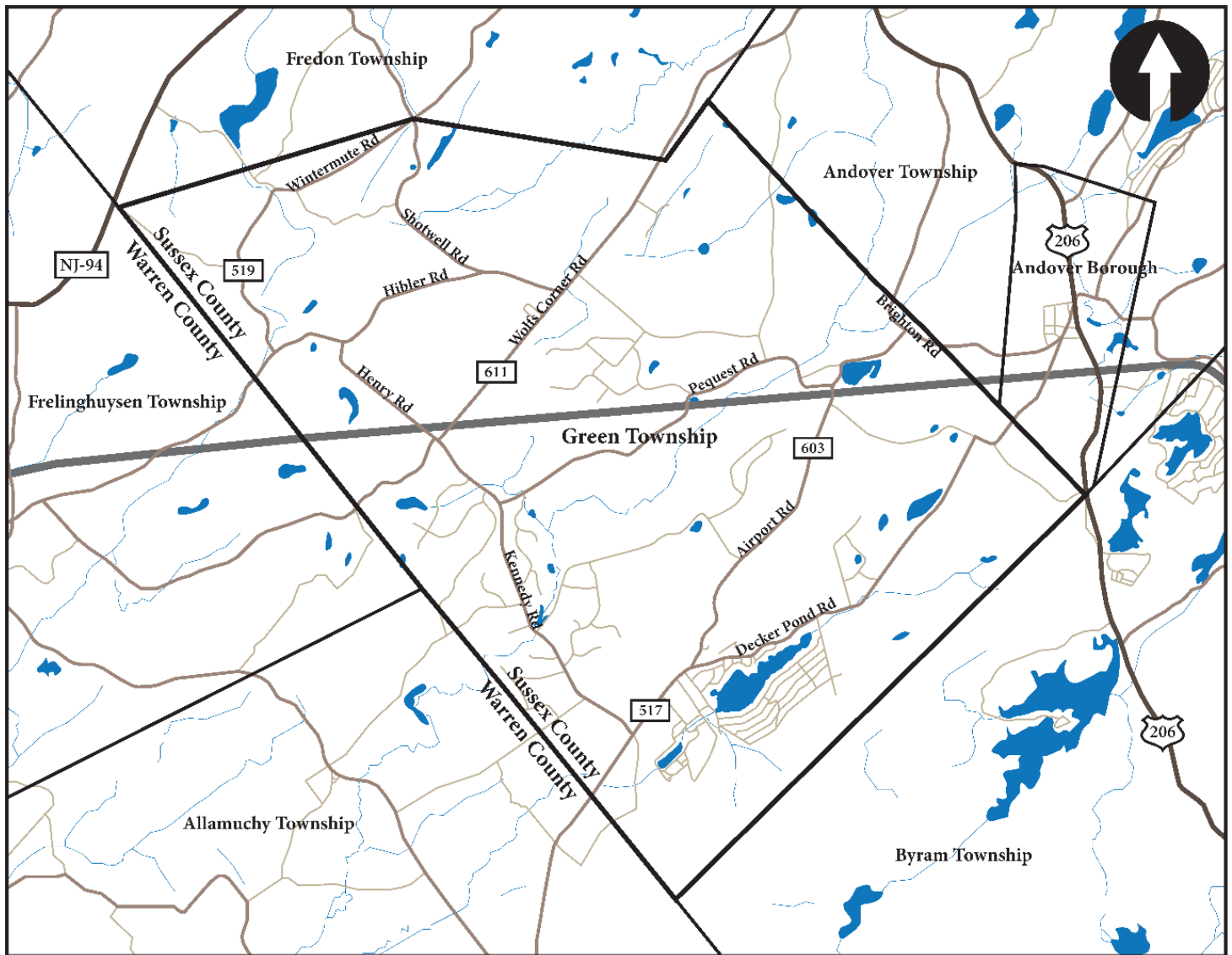


The Township of Green Planning Board completed this Master Plan Update through a Highlands Plan Conformance Grant. The Township Planning Board last completed a

Master Plan in 2003 and a Land Use Element of the Master Plan update in 2005. Master Plan Reexamination Reports were adopted in 2008 and 2018. Updated Housing Elements and Fair Share Plans were adopted in 2008 and 2016. Several recommendations were made in the last Master Plan Reexamination Report in 2018 to make updates to the Township's Land Use Element due to changes in demographics, development patterns, regulatory changes and community changes since 2005. The additional Climate Change-Related Hazard Vulnerability Assessment, required by Municipal Land Use Law, adds another layer of importance to updating Green's Land Use Element of its Master Plan.



Exhibit 1 – Location Map of Green Township



Legend

- | | |
|--------------|----------------------|
| Highway Road | Municipal Boundaries |
| Major Road | Lackawanna Cut-Off |
| Minor Road | Water |

0 0.45 0.89 1.78 2.67 Miles

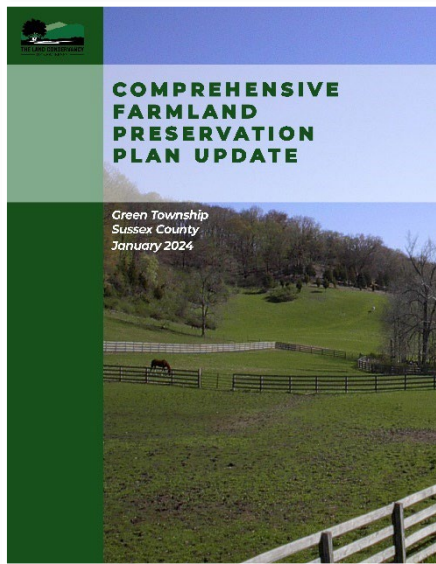


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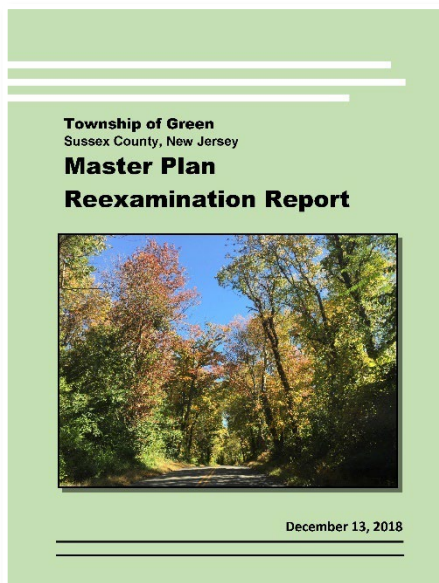
Master Plan History, Goals & Objectives

2024 Comprehensive Farmland Preservation Plan Update



Green Township adopted a Farmland Preservation Plan Element of its Master Plan in January 2024, which replaced the prior plan completed in 2012. The plan was developed in order to become eligible for funding through the State Agriculture Development Committee's Planning Incentive Grant Program. At the time of the adoption of the current plan, the Township had preserved 14 farms totaling 1,425 acres. The cost of the preservation is split between State funding, County funding and the Township's Open Space Trust Fund. There are currently 34 farms in the Township that are eligible for preservation under the State's criteria. The Township plans to preserve another 500 acres of farmland over the next 10 years.

2018 Master Plan Reexamination Report



The most recent Master Plan Reexamination Report was completed in 2018. Before that, a Reexamination Report was completed in 2008. The Township Planning Board last updated the Master Plan in 2003. An updated Land Use Element was adopted in 2005. The 2018 Reexamination Report addressed demographic changes, specific master plan changes including and a list of specific ordinance changes. The Reexamination Report included updated Master Plan Goals and Objectives that are further refined by this Master Plan. Additionally, the Reexamination Report recommended ordinance changes and a proposed expansion of commercial zone districts within the Township. The Reexamination Report has recommendations related to Trinca Airport; however, the Airport has since closed, necessitating a review of potential new uses for the property.

2016 Housing Element and Fair Share Plan

The most recent Housing Element and Fair Share Plan (HEFSP) was completed in 2016. Prior to that, the Township's first Housing Element and Fair Share Plan was adopted in 2008. The 2016 Plan provided a framework for the Township to receive a Judgment of Compliance and Repose from the Superior Court for providing its fair share of present and prospective regional need for low- and moderate-income housing. That same year, the Township and Fair Share Housing Center agreed to a settlement of Mount Laurel litigation, which reduced the prospective need to 102 units (30% reduction). In the HEFSP, the Township addressed its third-round obligations (1999-2025) through inclusionary zoning, accessory apartments, supportive housing, a regional contribution agreement, group homes and other mechanisms.

2016 Sussex County Open Space and Recreation Plan Update

The 2016 Sussex County Open Space and Recreation Plan Update highlights Green Township for its coordination efforts with neighboring Andover and Allamuchy Townships in the creation of a trail along the defunct Lehigh and Hudson River Railroad. Known as Evergreen Trail in the Township, the 2.3-mile trail now runs between Airport Road and Kennedy Road, passing through agricultural fields, lightly wooded areas, and Evergreen Park.

2009 Open Space and Recreation Plan (OSRP)

Green Township was the first municipality in Sussex County to establish a dedicated open space trust fund. The Township's first OSRP was adopted in 2001. In 2009, the Open Space Committee reviewed the 2001 plan and used public input to re-affirm, expand, and update the following goals:

Goal 1: Preserve Existing Farmland.

- Encourage private landowners to work with the Sussex County Agriculture Development Board (CADB) to preserve their farms.
- Develop a program of landowner outreach whereby the Open Space Committee can communicate with the Township farmland-owner base to provide information on preservation programs and opportunities.
- Work with regional nonprofits such as the Foodshed Alliance, New Jersey Agricultural Society, and Northeast Organic Farming Association of New Jersey to increase agritourism opportunities in Green Township.
- Add programming to Green Township Day that celebrates the agrarian traditions of the community and promotes local farms and local farm products.



Goal 2: Preserve large, contiguous areas in the Township.

- Continue to develop a wildlife corridor of protected lands that connects Whittingham Wildlife Management Area, the Johnsonburg Swamp Preserve, and Allamuchy Mountain State Park.
- Expand existing parkland in the Township by targeting properties that would enhance both passive and active recreational opportunities.
- Regularly meet with leaders from neighboring communities to collaborate on and integrate open space and recreation planning efforts. This collaborative effort shall result in the creation of greenways, blueways, and preserved farmlands that share connectivity between municipalities.

Goal 3: Expand existing parkland in the Township and target those properties that would enhance the recreational opportunities in the Township both for passive and active recreation.

- Create a recreational blueway along the Pequest River and work with the New Jersey Department of Environmental Protection (NJDEP) to keep the waters free of fallen trees and other potential obstructions to ensure navigability.
- In partnership with the NJDEP and local nonprofit land trust organizations create a footpath along the Lehigh Hudson Railway.
- Create an interpretive trail along the rail footbed to highlight the history of both Green Township and the historic railroad industry of region.
- Periodically survey the community to assess if the recreational needs of the community are being met.
- Expand recreational facilities as needed.

Goal 4: Conserve the natural features and protect the environmentally sensitive lands within the Township, especially the Pequest River corridor.

- Work with partnership organizations and local landowners to protect land located within designated Natural Heritage Priority sites.
- Preserve and protect the Kittatinny Ridge Forest and limestone forest through conservation easements and direct acquisition of properties of exceptional ecological value.
- Target properties along the Pequest River for acquisition or protection through the use of conservation easements, donations, and fee acquisition.
- Protect both water quality and quantity including:
 - Groundwater recharge areas.
 - Designated Community Well Head Protection Areas by limiting development in their vicinity.
 - Category One Waters and their tributaries by creating buffer areas, either through direct acquisition or by conservation easements

Goal 5: Encourage the State Division of Parks and Forestry and Division of Fish and Wildlife to expand their holdings in the Township

- Encourage the expansion of Whittingham Wildlife Management Area (WMA) through either direct acquisition or conservation easements aimed at creating a buffer zone around the WMA.
- Encourage NJDEP to expand Allamuchy Mountain State Park through either direct acquisition or conservation easements aimed at creating a buffer zone surrounding the Park.
- In years where State funding is limited, continue to work with nonprofit land trust organizations to acquire and hold title to land until the State is able to accept properties.

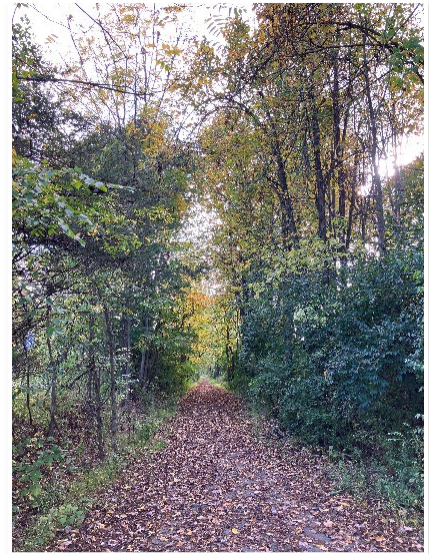
Goal 6: Preserve and enhance the rural character of the Township through preservation of the existing road corridors and scenic vistas

- Preserve and enhance the rural character of the Township through preservation of the existing road corridors and scenic vistas.
- Protect scenic roadway entrances to Green Township.
- Codify policies to create vegetated buffer zones between new developments and scenic, rural roadways.
- Continue to work with the Planning Board to acquire conservation easements with private landowners and new developments to protect the scenic beauty and sensitive natural resources of the Township.
- Implement a systematic procedure to digitally record easements, including updated parcel surveys.
- Preserve and protect remaining historic properties throughout the Township as identified by the Historical Society.



2024 Master Plan Goals and Objectives

Green Township's Master Plan meets the requirements of the Municipal Land Use Law (MLUL) Section 40:55D-28. The Goals and Objectives of this plan stem from the overarching goal to maintain the established character of the community, which necessitates a planning response that focuses on supporting and preserving the unique character of Green Township, while accommodating appropriate future growth. As a result, Green's Master Plan incorporates the following goals and objectives:



Goal 1: Avoiding adverse impacts on the local environment by adopting planning and zoning measures that will protect sensitive wetlands, steep slopes, potable ground water supply, and flood prone areas.

Objectives:

- 1.a. Continue to monitor and update ordinances related to steep slopes, wetlands, wellhead protection and flood hazard areas, as necessary to remain consistent with State and Federal regulations.
- 1.b. Continue supporting the development of a comprehensive inventory, such as an environmental resources inventory, with identification and mapping of sensitive wetlands, steep slopes, potable groundwater supplies, and flood-prone areas within the Township.

Goal 2: Preserving to the greatest degree possible the established character and physical amenities of the Township through careful land use planning.

Objectives:

- 2.a. Prepare and adopt updates to Master Plan Elements as funding becomes available including an Open Space and Recreation Plan, Sustainable Economic Development Plan, Forestry Management Plan and Circulation Plan.
- 2.b. Prepare and adopt an updated Housing Element and Fair Share Plan to address updated State housing regulations.

Goal 3: Recognizing and planning for the needs of local residents through the study of demographic conditions.

Objectives:

3.a. Update demographics whenever relevant Master Plan Elements or Master Plan Reexaminations are completed in order to provide the Township with the most up to date information.

3.b. Continue to analyze demographic trends over time to identify shifts in population, such as aging residents, youth outmigration, or changes in family structures, and their implications for planning and land use.

Goal 4: Providing adequate housing facilities meeting minimum standards of health and safety to satisfy the needs of all income groups, especially low and moderate-income households.

Objectives:

4.a. Maintain an updated Housing Element and Fair Share Plan consistent with State regulations.

4.b. Continue collecting commercial and residential development fees in order to support local affordable housing projects.

4.c. Consider projects that provide for a variety of housing types, including senior housing and group homes, that are affordable to a variety of income levels, including very low, low and moderate incomes.

Goal 5: Establishing an adequate system of roads and providing for the safe and efficient movement of traffic through and throughout the Township.

Objectives:

5.a. Continue capital improvement programs that provide for roadway improvements throughout the Township.

5.b. Support the County in their efforts to continue capital improvements on County Roads throughout the Township.

Goal 6: Providing for the physical and mental health of local residents by establishing ample recreational outlets and an adequate system of parks, recreation areas, and open spaces.

Objectives:

6.a. Update the Township's Open Space and Recreation Plan as funding becomes available.

6.b. Support the goals and objectives of the Township's Open Space and Recreation Plan.

6.c. Continue to plan for and expand local and regional trail systems to connect open spaces, parks and neighborhoods.

Goal 7: Preserving the local heritage by protecting farmland and historic landmarks for the cultural benefit of present and future generations.

Objectives:

7.a. Maintain an updated Farmland Preservation Plan.

7.b. Support the preservation goals of the Farmland Preservation Plan.

7.c. Consider methods for supporting local agriculture and minimizing conflicts between local residents and farmers.

7.d. Identify historic landmarks and support their preservation.

Goal 8: Establishing planning policies which will help achieve efficient, economical, and high-quality public education.

Objectives:

8.a. Coordinate with local, regional and State educational boards to ensure local access to high-quality public education.

8.b. Ensure that the planning of educational facilities is aligned with demographic trends and projections, accommodating changes in student populations and community growth.

Goal 9: Coordinating with local, County and State agencies to ensure access to community facilities and services including police, fire, emergency and other public safety services, community buildings and public works as necessary to ensure a high quality of life in the Township.

Objectives:

9.a. Coordinate with and support the local volunteer fire department and emergency services squad.

9.b. Coordinate with and contribute to local, County and State Emergency Management Plans.

Goal 10: Maintaining constant vigilance over regional planning activities, especially those at the State and County levels, in terms of their potential impact on local planning and development.

Objectives:

10.a. Continue to monitor and update local plans and ordinances with respect to updates to County and State regulations.

Goal 11: Coordinating local planning efforts with those of neighboring municipalities in order to achieve a maximum degree of compatibility especially along common municipal boundaries.

Objectives:

11.a. Consider land use plans, zoning regulations, and development proposals from neighboring municipalities to identify areas of potential conflict or opportunity for alignment.

11.b. Consider ways to integrate goals and policies that promote compatibility along common borders, ensuring a cohesive vision for regional development.

Goal 12: Creating a planning and development environment that will promote fiscally sound municipal government affordable to all residents.

Objectives:

12.a. Explore diverse revenue sources, including grants, opportunities for shared services, and innovative financing options, to reduce reliance on property taxes and enhance fiscal stability.

12.b. Prioritize funding for the maintenance and rehabilitation of existing infrastructure to prevent costly repairs and promote efficient use of municipal resources.

Goal 13: Preserving existing affordable housing and establishing criteria for the provision of additional units, maintaining Township standards on development while concurrently meeting standards required to provide reasonable opportunities for low- and moderate-income households.

Objectives:

13.a. Continue to assess the existing affordable housing stock to identify units at risk of loss and identify areas where future affordable housing may be most appropriate.

13.b. Consider funding sources, such as state and federal grants and tax credit programs, to support the development and preservation of affordable housing projects.

Goal 14: Encouraging municipal policies and development that considers smart growth strategies including the consideration of potential locations to install electric vehicle charging stations; storm resiliency with respect to energy supply, flood-prone areas, and environmental infrastructure; and environmental sustainability.

Objectives:

14.a. Identify strategic locations for electric vehicle charging stations, prioritizing areas with high traffic, public facilities, and existing infrastructure.

14.b. Consider adding storm resiliency measures into land use and development plans, including the identification of flood-prone areas, wildfire fuel hazard areas, and critical infrastructure features.

Goal 15: Consider climate change-related hazards and coordinate with local, County, State and Federal agencies to ensure emergency management planning and resiliency planning works to mitigate hazards most likely to impact the residents of Green Township, while planning for ways to become more resilient in the future when facing impacts from climate change.

Objectives:

15.a. Identify and evaluate climate change-related hazards specific to Green Township, including flooding, extreme weather, and other potential risks.

15.b. Continue to foster a network of local, County, State, and Federal agencies to facilitate collaboration on emergency management and resiliency planning efforts.

15.c. Incorporate information, hazards, and strategies from the Sussex County Hazard Mitigation Plan (HPM) into the Master Plan and other municipal plans.

Goal 16: Consider sustainable economic development policies in Green Township that promote high quality commercial development in keeping with the rural and agricultural character of the Township.

Objectives:

16.a. Review and update commercial zoning regulations to align permitted uses with current and future demand within the Township.

16.b. Consider design guidelines that ensure new commercial projects align with the Township's rural aesthetic, incorporating elements such as landscaping, architecture, and signage that reflect local character.

16.c. Consider agritourism opportunities that leverage the Township's agricultural resources, such as farms, markets, and festivals, to attract visitors and support local businesses.

Goal 17: Consider sustainable non-residential development in the Township that provides for commercial and light industrial development opportunities that are in keeping with development in the area and can be accommodated on local roadways, recognizing that some types of high intensity commercial and industrial development may be inappropriate for the Township, given its rural character.

Objectives:

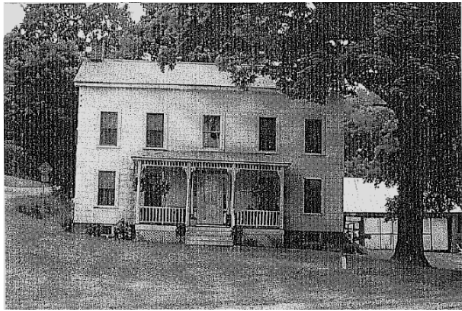
17.a. Review and update zoning regulations to facilitate moderate non-residential development while maintaining appropriate scale and intensity and ensuring roadway capacity is considered.



Community Characteristics

Green Township is a small, rural community with a unique and storied history that spans industries from agriculture to aviation. As detailed in the following sections, the Township is experiencing slowly but steadily changing demographics, household dynamics, and economic characteristics that will impact its current and future planning efforts.

History and Context



Ephraim Green House - 1790



Greendell Store - 1911



Tranquility Grist Mill - 1844

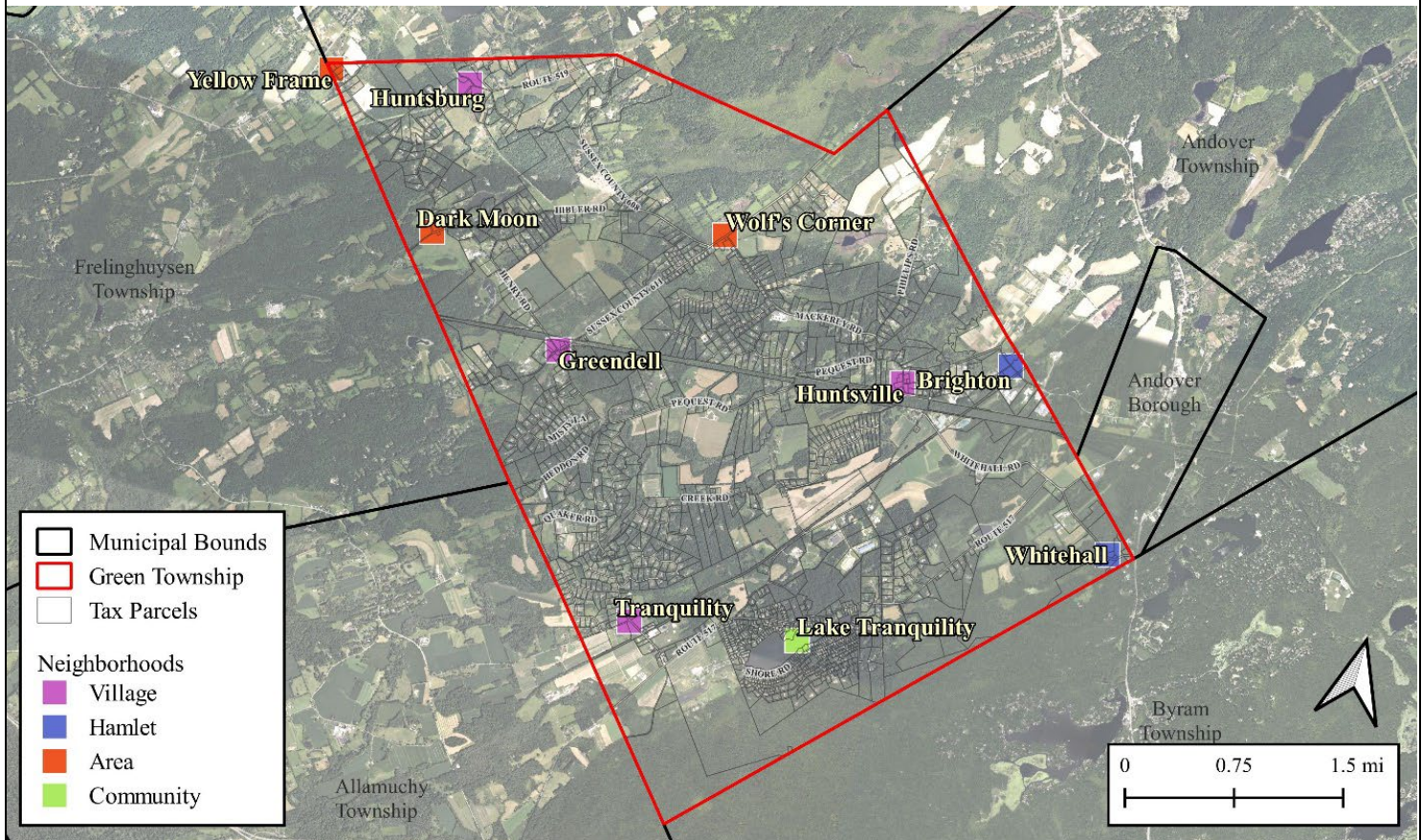
The Township of Green, in rural Sussex County, was incorporated 200 years ago, in December of 1824. Green Township was named after an early settler of the area, Ephraim Green. The Township has experienced several boundary changes over the past two centuries, however, today the Township spans 16.5 square miles and includes several small villages and hamlets including Greendell, Tranquility, Yellow Frame, and Huntsville. Green Township's early economy was driven by several industries, including blacksmith shops, mills, distilleries, forges, and inns. Two railroads provided the transportation of people and goods during the mid-1800s — the Lackawanna Railroad and the Lehigh and Hudson River Railway, which are both inactive now.

Homes in the Township were constructed as early as the 1700s. By the 1900s, Green Township was characterized by mills and farms, and though there has been a decline in these industries, the rural character of the community remains. In 1939, the Trinca Airport was constructed in the Township, originally built as a private landing strip on a farm. After functioning as a private airport for several decades, the Airport was purchased by the Township in 2002, and later closed in 2020.

Today, Green Township is largely a rural community with scattered agricultural uses and some rural residential neighborhoods, villages and hamlets. The unique communities within the Township remain and include: the villages of Greendell, Huntsburg, Huntsville, and Tranquility; the hamlets of Brighton

and Whitehall; the three neighborhood areas of Yellow Frame, Dark Moon, and Wolf's Corner; and the Lake Tranquility community.¹

Exhibit 2 – Neighborhoods in Green Township



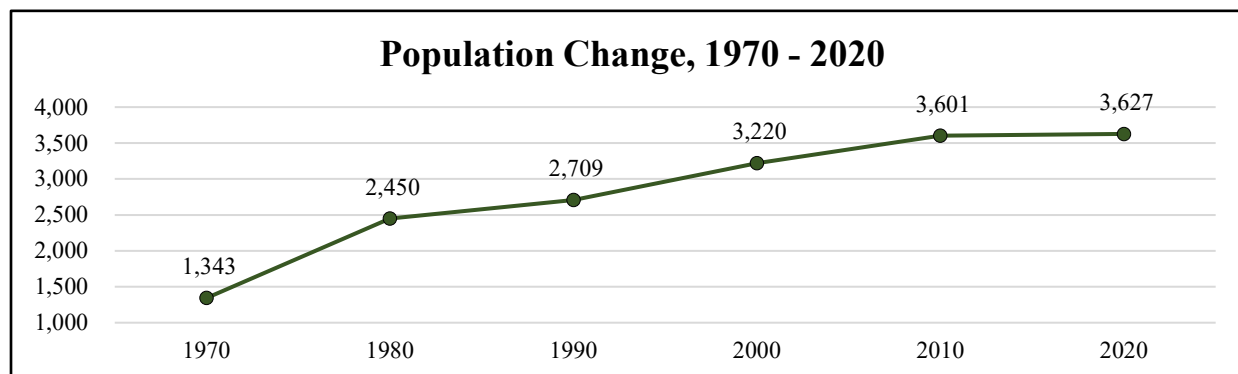
¹ ECO Systems Environmental Consultants, "Historic and Cultural Inventory, Green Township," updated June 2005.

Demographics

Population

The Township of Green's population has remained relatively stable since the 2003 Master Plan was prepared and adopted. In 2020, the United States Decennial Census reported a population of 3,627 people living in Green Township. This is just under a one (1) percent increase in population since the 2010 Decennial Census. **Exhibit 3** below, illustrates the increase in the Township's population over the last 50 years. The largest change in population occurred between 1970 and 1980, when the population increased by 1,107 people. Between 2010 and 2020, the population increased by just 26 people. As a result, without additional development, the population of the Township is likely to remain relatively stable with only slight year-over-year increases from infill and single lot development.

Exhibit 3 – Population Change, 1970 – 2020. U.S. Decennial Census (1970-2020), U.S. Census Bureau.



The New Jersey Transportation Planning Authority provides population forecasts for New Jersey's northern and central municipalities, with the most recent formal forecast prepared in 2021.² This report anticipates an annual increase of 0.1 percent in Sussex County by 2050, and an annual increase of 0.2 percent in Green Township (**Exhibit 4**). The Township's projected population in 2050 is 3,737 people, which is just 110 more people than counted in the 2020 Decennial Census. Ultimately, the NJTPA is not anticipating an overwhelming increase or decrease in Green Township's population over the next 30 years, but rather a small, steady increase, similar to the trends realized in Green Township over the last few decades.

² NJTPA 2050 Demographic Forecasts.

Exhibit 4 – Population Projections, 2015-2050. NJTPA, 2021 Demographic Forecasts.

	2015 Population	2050 Population	Annualized % Change 2015-2050
Green Township	3,479	3,737	0.2%
Sussex County	145,930	152,337	0.1%

Age and Gender

The Decennial Census provides breakdowns of the population by age cohort and gender. Though the population has grown slightly, there are differences in growth between certain age cohorts (**Exhibit 5**). The median age increased from 42.2 years in 2010 to 45.4 years in 2020, indicating that residents are living longer and/or not relocating elsewhere as they age.

Notably, the population under 19 years old saw a relatively significant decrease of about 497 people, with the vast majority of those individuals (-348) falling into the 5-to-14-year cohort. This shows that as the Township's population ages in place, there are fewer households with school-aged children.

Those aged 70 to 74 years saw the largest increase in population (+165), followed by those aged 35 to 39 years (+162), and those aged 20 to 24 years (+160). On the other end of population change, the age cohort of 40 to 44 years saw the largest decrease in population (-368). The 5-to-9-year age cohort saw a decrease of 175 individuals, and the 10-to-14-year cohort saw a decrease of 173 individuals.

Green Township is faced with an aging population. This is not only illustrated by the changes in population as described above, but also by the old-age and child dependency ratios. Dependency ratios show portions of the population which are, generally, not economically active and tend to not produce income. The higher the ratio of these populations, the higher the burden on working-age people. Dependency ratios are calculated by dividing the population of interest by the working population (those aged 18 through 64) and multiplying by 100. Green Township's Age Dependency Ratio of 60.8 indicates that there are a total of 61 children and seniors for every 100 working-age adults. The Township has about the same number of those under 18 years (651) and those aged 65 and older (666). These two age groups represent just under 40 percent of the total population in Green Township in 2020.

In 2010, the sex ratio (the number of males per 100 females) was 96.9. This ratio decreased to 78.9 in 2020. In both 2010 and 2020, males (45.2 in 2010 and 46.4 in 2020) had a slightly older median age than females (42.1 in 2010 and 42.2 in 2020).³

³ United States Census Bureau, United States Decennial Census, 2010 and 2020.

Exhibit 5 – Population Change by Age Cohort, 2010-2020. U.S. Decennial Census (2010, 2020), U.S. Census Bureau.

Age Cohorts	Change 2010-2020
Total population	-86
Age	
Under 5 years	-97
5 to 9 years	-175
10 to 14 years	-173
15 to 19 years	-52
20 to 24 years	+160
25 to 29 years	+38
30 to 34 years	+137
35 to 39 years	+162
40 to 44 years	-368
45 to 49 years	-10
50 to 54 years	-2
55 to 59 years	-39
60 to 64 years	-4
65 to 69 years	+130
70 to 74 years	+165
75 to 79 years	+13
80 to 84 years	-4
85 years and over	+40
Selected Age Categories	
5 to 14 years	-348
15 to 17 years	-17
18 to 24 years	+125
15 to 44 years	+73
16 years and over	+415
18 years and over	+376
60 years and over	+337
62 years and over	+388
65 years and over	+341
75 years and over	+49

Race and Ethnicity

Green Township is primarily homogenous in terms of race and ethnicity, with the majority of the population identifying as white alone (approximately 94% of the population in 2010 and 89% in 2020), the Township is diversifying slowly. For individuals who identified as “Some Other Race alone,” the population grew by 20. The number of black or African American individuals increased by 23 between 2010 and 2020. Additionally, the number of individuals who identified as two or more races increased by 63 (**Exhibit 6**).

Exhibit 6 – Change in Race and Ethnicity, 2010 – 2020. U.S. Decennial Census, Table P9, (2010, 2020), U.S. Census Bureau.

	2010	2020	Change, 2010 - 2020
Population of one race	3,394	3,224	-224
White alone	3,287	3,071	-216
Black or African American alone	42	65	+23
American Indian and Alaska Native alone	1	2	+1
Asian alone	60	62	+2
Native Hawaiian and Other Pacific Islander alone	-	-	0
Some Other Race alone	4	24	+20
Population of two or more races	34	97	+63
Population of two races	34	94	+60
Population of three or more races	0	3	+3

Households Characteristics

The United States Census Bureau provides estimated household⁴ characteristics using the American Community Survey (ACS) 5-Year Estimates. Between 2010 and 2022, the ACS estimated that there was a small increase in the number of households in Green Township, with 1,175 households in 2010 and 1,216 in 2022. The average family size decreased from 3.04 to 2.97 in this same period.

Of the 1,216 housing units in the Township, 100 percent are occupied, as of the 2022 ACS 5-Year Estimates (**Exhibit 7**). Between 2010 and 2022, Green Township saw an increase in the number of 1- and 2-person households and a decrease in 3-person and 4-or-more-person households. Of the occupied housing units in the Township, the majority consist of 2-person households in 2022 (39.2%). In 2010, 4-person households comprised the majority (36.9%). Over the last ten years, the Township has seen decreases in family households,

⁴ United States Census Bureau definition: A household includes all the people who occupy a housing unit (such as a house or apartment) as their usual place of residence. A household includes the related family members and all the unrelated people, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated people sharing a housing unit such as partners or roomers, is also counted as a household. The count of households excludes group quarters. There are two major categories of households, “family” and “nonfamily.”

with the population fitting this description dropping by almost 10 percent. Nonfamily households⁵ comprise 19.2 percent of all households in the Township. These household characteristics reflect the same findings from the population and age demographics. Primarily, the reduced household size reflects that of aging households with fewer children.

Exhibit 7 – Selected Household Characteristics, 2010 – 2022. U.S. American Community Survey 5-Year Estimates, Table S2501 (2010, 2022), U.S. Census Bureau.

Household Characteristics	2010			2022			Change 2010-2022 [Total Occupied Housing Units]
	Occupied housing units	Owner- occupied housing units	Renter- occupied housing units	Occupied housing units	Owner- occupied housing units	Renter- occupied housing units	
Total Households	1,175	1,150	25	1,216	1,185	31	+41
Household Size							
1-person household	7.2	7.4	0.0	9.6	9.9	0.0	+2.4
2-person household	32.3	32.3	36.0	39.2	39.4	32.3	+6.9
3-person household	23.5	23.1	40.0	16.3	16.7	0.0	-7.2
4-or-more-person household	36.9	37.2	24.0	34.9	34.0	67.7	-2
Household Type							
Family households	90.7	90.5	100.0	80.8	80.3	100.0	-9.9
Married-couple family	81.4	81.9	60.0	72.5	72.2	80.6	-8.9
Other family	9.3	8.6	40.0	8.4	8.1	19.4	-0.9
Nonfamily households	9.3	9.5	0.0	19.2	19.7	0.0	+9.9
Householder not living alone	2.0	2.1	0.0	9.5	9.8	0.0	+7.5
Family Type							
With related children under 18 years	48.0	47.7	64.0	32.7	31.8	67.7	-15.3
No related children under 18 years	52.0	52.3	36.0	67.3	68.2	32.3	+15.3

A significant portion of occupied houses in Green Township were constructed between 1980 and 1999 (503 units, or 41%), followed by those built between 1960 and 1979 (399 units, or 33%). All units are single-family residential structures. Most (67%) have four or more bedrooms, and all are reported to have full plumbing and kitchen facilities, per the 2022 ACS Estimates. Between 2010 and 2022, the number of renter-occupied units increased from 25 units to 31 units.

⁵ United States Census Bureau definition: A nonfamily household consists of a householder living alone (a one-person household) or where the householder shares the home only with people to whom he/she is not related (e.g., a roommate).

Income and Employment

As of 2022, approximately 63 percent of the population aged 16 years and older was in the labor force; this is an increase of 167 people from 2010; however, it represents a 6 percent decrease in percentage of the total population. Of those in the labor force, approximately 136 were reported to be unemployed, resulting in an unemployment rate of 7.1 percent in 2022. This is an increase of about 1.1 percent since 2010 (**Exhibit 8**).

Exhibit 8 – Employment Status (2010-2022), U.S. American Community Survey 5-Year Estimates, Table DP03 (2010, 2022), U.S. Census Bureau

EMPLOYMENT STATUS	2010		2022		Change 2010-2022
	Count	%	Count	%	
Population 16 years and over	2,550		3,043		+493
In labor force	1,756	68.9	1,923	63.2	+167
Civilian labor force	1,756	68.9	1,923	63.2	+167
Employed	1,651	64.7	1,787	58.7	+136
Unemployed	105	4.1	136	4.5	+31
Armed Forces	(X)	0	(X)	0	0
Not in labor force	794	31.1	1,120	36.8	+326
Civilian labor force	1,756	1756	1,923	1923	+167
Unemployment Rate	(X)	6	(X)	7.1	+1.1%

Of those who were employed in 2022, approximately 80 percent commuted to work, alone, via car, truck, or van (**Exhibit 9**). This number has increased by 116 people since 2010. Notably, there were increases in the number of people who walked to work (+29 people) and in those who worked from home (+22 people). Between 2010 and 2022, the average travel time to work decreased from 40 minutes to 30 minutes. In 2022, 100 percent of the Township's working population worked within New Jersey. Of this population, 53.8 percent worked within Sussex County.⁶

Exhibit 9 – Commuting Characteristics (2010-2022), U.S. American Community Survey 5-Year Estimates, Table S0801 (2010, 2022), U.S. Census Bureau

COMMUTING TO WORK	2010		2022		Change 2010-2022
	Count	%	Count	%	
Workers 16 years and over	1,574		1,723		+149
Car, truck, or van -- drove alone	1,260	80.1	1,376	79.9	+116
Car, truck, or van -- carpooled	139	8.8	132	7.7	-7
Public transportation (excluding taxicab)	29	1.8	25	1.5	-4
Walked	6	0.4	35	2	+29
Other means	7	0.4	-	0	-7
Worked from home	133	8.4	155	9	+22
Mean travel time to work (minutes)	40	(X)	30	(X)	-10

⁶ United States Census Bureau, United States American Community Survey 5-Year Estimates (2022).

In 2022, the most common industry employing Green Township residents was “educational services, and health care and social assistance” (32.3% of the total employed population). This number increased by 262 people between 2010 and 2020. The next largest employer was “professional, scientific, and management, and administrative and waste management services” (14.7%); although there was a decrease in employees in this sector in this ten-year timeframe. “Retail trade” saw an increase of 36 people and comprised approximately 11.5 percent of the Township's employed population. The most significant decreases in employment are visible in those employed by the “manufacturing” and “construction industries.” The “manufacturing industry” saw a decrease of 89 people between 2010 and 2022, and the “construction industry” saw a decrease of 77 people (**Exhibit 10**).

Exhibit 10 – Employment by Industry (2010-2022), U.S. American Community Survey 5-Year Estimates, Table DP03 (2010, 2022), U.S. Census Bureau

INDUSTRY	2010		2022		Change 2010-2022
	Count	%	Count	%	
Civilian employed population 16 years and over	1,651		1,787		+136
Agriculture, forestry, fishing and hunting, and mining	26	1.6	36	2.0	+10
Construction	156	9.4	79	4.4	-77
Manufacturing	234	14.2	145	8.1	-89
Wholesale trade	22	1.3	27	1.5	+5
Retail trade	169	10.2	205	11.5	+36
Transportation and warehousing, and utilities	94	5.7	73	4.1	-21
Information	22	1.3	28	1.6	+6
Finance and insurance, and real estate and rental and leasing	80	4.8	98	5.5	+18
Professional, scientific, and management, and administrative and waste management services	286	17.3	262	14.7	-24
Educational services, and health care and social assistance	316	19.1	578	32.3	+262
Arts, entertainment, and recreation, and accommodation and food services	107	6.5	110	6.2	+3
Other services, except public administration	66	4	42	2.4	-24
Public administration	73	4.4	104	5.8	+31

In addition to employment changes, there are some notable trends in income distributions. From 2010 to 2022, the number of households that reported income ranges between \$10,000 and \$49,999 have decreased, while households earning higher incomes have increased. Specifically, households earning between \$150,000 to \$199,999 and over \$200,000 have increased by 15.5 percent and 14.3 percent, respectively. The most significant changes are visible in nonfamily households. This cohort saw an increase in the total number of households represented (an increase of 124 households). Larger percentages of these households reported incomes on the higher end of the scale. Of all families in the Township, approximately 1.3 percent had an income below the poverty level in 2022 (**Exhibit 11**).

Exhibit 11 – Family Income, 2022, U.S. American Community Survey 5-Year Estimates, S1901 (2022), U.S. Census Bureau

Income, 2022				
	All Households	Families	Married-couple families	Nonfamily households
Total	1,216 (+41)	983 (-83)	881 (-76)	233 (+124)
Less than \$10,000	0.0% (-0.6%)	0.0% (0.0%)	0.0% (0.0%)	0.0% (-6.4%)
\$10,000 to \$14,999	0.0% (-2.5%)	0.0% (-0.8%)	0.0% (-0.8%)	0.0% (-19.3%)
\$15,000 to \$24,999	1.1% (-3.5%)	0.0% (-4.4%)	0.0% (-1.6%)	5.6% (-0.8%)
\$25,000 to \$34,999	1.4% (-1.2%)	0.7% (-1.3%)	0.8% (-0.2%)	4.3% (-4.9%)
\$35,000 to \$49,999	4.8% (-7.4%)	5.5% (-4.2%)	5.6% (-2.4%)	3.9% (-32.8%)
\$50,000 to \$74,999	12.8% (+0.5%)	13.9% (+1.2%)	12.0% (+0.3%)	8.2% (-0.1%)
\$75,000 to \$99,999	10.9% (-1.9%)	11.6% (-2.5%)	9.6% (-6.1%)	7.7% (+7.7%)
\$100,000 to \$149,999	16.1% (-13.3%)	16.2% (-16.1%)	15.7% (-18.5%)	15.9% (+9.5%)
\$150,000 to \$199,999	23.8% (+15.5%)	22.8% (+14.2%)	24.3% (+14.7%)	26.2% (+26.2%)
\$200,000 or more	29.1% (+14.3%)	29.3% (+13.7%)	32.0% (+14.7%)	28.3% (+21.0%)
Median income (dollars)	\$162,315 (+\$58,622)	\$167,159 (+\$53,188)	\$168,969 (+\$47,146)	\$160,972 (+\$123,597)
Mean income (dollars)	\$190,563 (+\$75,407)	\$196,063 (+\$74,381)	No data	\$162,717 (+\$113,780)

Note: The smaller number in parenthesis indicates the percent change from 2010 to 2022.

School Enrollment and Educational Attainment

Between 2010 and 2022, Green Township saw an overall decrease in the population 3 years and over enrolled in school. Kindergarten through 12th grade saw a decrease in 317 students in these 10 years, with grades 1 through 4 seeing the largest decrease (-172 students). The population enrolled in an undergraduate program increased by almost 200 students, and the graduate or professional school population saw a small increase of eight (8) students (**Exhibit 12**).

Exhibit 12 – School Enrollment (2010-2022), U.S. American Community Survey 5-Year Estimates, Table S1401 (2010, 2022), U.S. Census Bureau

SCHOOL ENROLLMENT	2010			2022			Change 2010-2022
	Total	In public school	In private school	Total	In public school	In private school	
Population 3 years and over enrolled in school	1,135	79.8	20.2	977	78.9	21.1	-158
Nursery school, preschool	66	28.8	71.2	22	0.0	100.0	-44
Kindergarten to 12th grade	903	83.6	16.4	586	85.5	14.5	-317
Kindergarten	26	42.3	57.7	79	84.8	15.2	+53
Elementary: grade 1 to grade 4	337	88.7	11.3	165	77.0	23.0	-172
Elementary: grade 5 to grade 8	244	85.2	14.8	96	81.3	18.8	-148
High school: grade 9 to grade 12	296	80.1	19.9	246	93.1	6.9	-50
College, undergraduate	114	78.1	21.9	309	68.0	32.0	195
Graduate, professional school	52	82.7	17.3	60	100.0	0.0	8

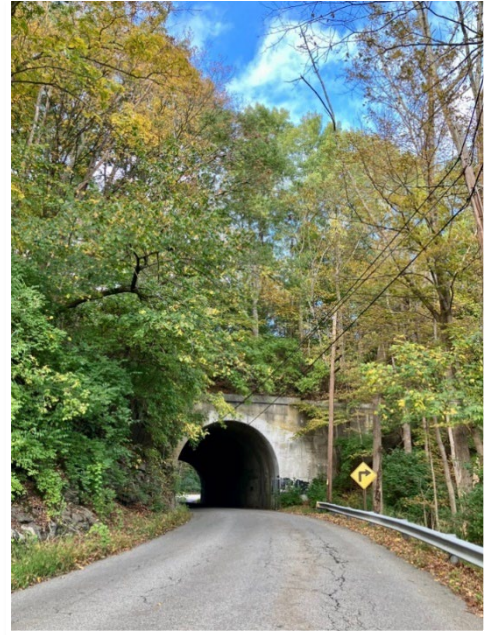
The population of residents with higher education (associate's, bachelor's, and graduate or professional degrees) is increasing, particularly the portion that holds a bachelor's degree (**Exhibit 13**).

Exhibit 13 – Educational Attainment (2010-2022), U.S. American Community Survey 5-Year Estimates, Table S1501 (2010, 2022), U.S. Census Bureau

	2010	2022	Change 2010-2022
EDUCATIONAL ATTAINMENT			
Population 25 years and over	2,261	2,638	+377
Less than 9th grade	35	32	-3
9th to 12th grade, no diploma	49	25	-24
High school graduate (includes equivalency)	739	366	-373
Some college, no degree	361	275	-86
Associate's degree	121	139	+18
Bachelor's degree	674	1112	+438
Graduate or professional degree	282	689	+407

Demographics Summary

The Township has seen a small but mostly steady population increase since 1970, appearing to almost plateau between 2010 and 2020. Overall, the population is aging. This is evident in the shift to smaller household sizes and fewer school-aged children. The population remains relatively homogenous in terms of race, though the Township has seen a small increase in those who identify as two or more races. Nearly all of the housing units within the Township were occupied in 2022, and the occupants overwhelmingly owned their houses, rather than rented them. Most of the Township's housing stock was constructed before 1999 and nearly all are single-family residential structures. The Township's working population increased between 2010 and 2022, as did its unemployment rate. While the majority of those employed drive to work, more residents are walking to work or working from home than compared to 2010.



The industries that employ Township residents have changed over the last decade. The Township sees the most prominent decreases in those who work in both construction and manufacturing, and these are starkly contrasted to the increase in the number of workers who are employed in educational services, health care and social assistance. Incomes have increased across household types. There has been an overall decrease in school enrollment up to 12th grade, but an increase in the number of residents who attend college at the undergraduate, graduate or professional levels.

The above data has several implications for land use planning in the Township. The Township is seeing an array of changing household dynamics – the number of individuals living together, the employment status, educational attainment, and age, to name a few. Residents are living longer and working at or closer to home. The decline in family households and the growth of one- and two-person households, in addition to the presence of older generations living with younger ones, can alter the demand for different types of housing as well as the services offered in the area. A larger population of older individuals generally triggers the need for more resources for senior care, healthcare, and transportation options tailored to older residents.

A decrease in the number of larger families can result in lower demand for child-oriented services and recreation opportunities; instead shifting towards adult education services

or classes and activities designed for adults and smaller families. The increase in older residents can also heighten the economic burden on working-age people and on businesses which are now faced with a smaller local workforce. Spending patterns may shift as well.

Accessible healthcare and services, transportation, and social spaces that cater to older residents and individual-oriented groups rather than family-oriented groups, are all items that should be considered in current and future planning efforts and decision-making processes.



Land Use Plan Element



The Land Use Plan Element seeks to implement the overarching purpose of the Master Plan to maintain the established character of the community through a planning response which focuses on supporting and preserving the unique character of Green Township, while accommodating appropriate future growth. The Land Use Element specifically highlights eight (8) land use-related goals from the broader Master Plan Goals and Objectives⁷ including Goal 6, which emphasizes the need to address climate-related hazards and weather events.

Land Use-Related Goals

Goal 1: Avoiding adverse impacts on the local environment and adopting planning and zoning measures that will protect sensitive wetlands, steep slopes, potable ground water supply, and flood-prone areas.

Goal 2: Preserving to the greatest degree possible the established character and physical amenities of the Township through careful land use planning.

Goal 3: Providing for the physical and mental health of local residents by establishing ample recreational outlets and an adequate system of parks, recreation areas, and open spaces.

Goal 4: Preserving the local heritage by protecting farmland and historic landmarks for the cultural benefit of present and future generations.

Goal 5: Encouraging municipal policies and development that considers smart growth strategies including the consideration of potential locations to install electric vehicle charging stations; storm resiliency with respect to energy supply, flood-prone areas, and environmental infrastructure; and environmental sustainability.

Goal 6: Consider climate change-related hazards and coordinate with local, County, State and Federal agencies to ensure emergency management planning and resiliency planning works to mitigate hazards most likely to impact the residents of Green Township, while planning for ways to become more resilient in the future when facing impacts from climate change.

⁷ These are the same as Goal 1, Goal 2, Goal 6, Goal 7, Goal 14, Goal 15, Goal 16, and Goal 17 respectively.

Goal 7: Consider sustainable economic development policies and regulations in Green Township that promote high-quality commercial development in keeping with the rural and agricultural character of the Township.

Goal 8: Consider sustainable non-residential development in the Township that provides for commercial and light industrial development opportunities that are in keeping with development in the area and can be accommodated on local roadways, recognizing that some types of high intensity commercial and industrial development may be inappropriate for the Township, given its rural character.

Existing Conditions

Green Township is located on the southern border of Sussex County, surrounded by Fredon Township, Andover Township, and Andover Borough to the north, Byram Township in Sussex County to the east, and Allamuchy Township and Frelinghuysen Township in Warren County to the south. County Route 611 (Wolf's Corner Road and Kennedy Road), County Route 608 (Shotwell Road), County Route 603 (Airport Road), County Route 517 (Decker Pond Road) are the major roadways through the Township. These roadways provide access to US Highway Route 206 just outside the municipal border to the east, and State Route 94 located just to the west. Interstate Route 80 runs east and west to the south, through Allamuchy Township.



The Township's rolling hills and relatively flat valleys are ideal for agriculture and farming. There are some areas of severe slopes present, predominantly around lakes (**Exhibit 14**). There are just over 200 acres of water across numerous waterbodies, including Lake Tranquility, Buckmire Pond, Grass Pond, and several smaller, unnamed ponds, mostly connected via the Township's over 30-mile-long stream system.

Exhibit 15 shows the various soil types that are present throughout the Township. Most (26.2%) of the Township's soils fall under the Rock Outcrop-Farmington-Galway complex, 15 to 35 percent slopes (RnfD). This is generally well-draining soil formed in till. There is also a large presence (11.8%) of the Hazen-Paulins Kill complex, 3 to 8 percent slopes, very stony (HdxdBb), another well-draining soil.

Exhibit 14 – Natural Features of Green Township

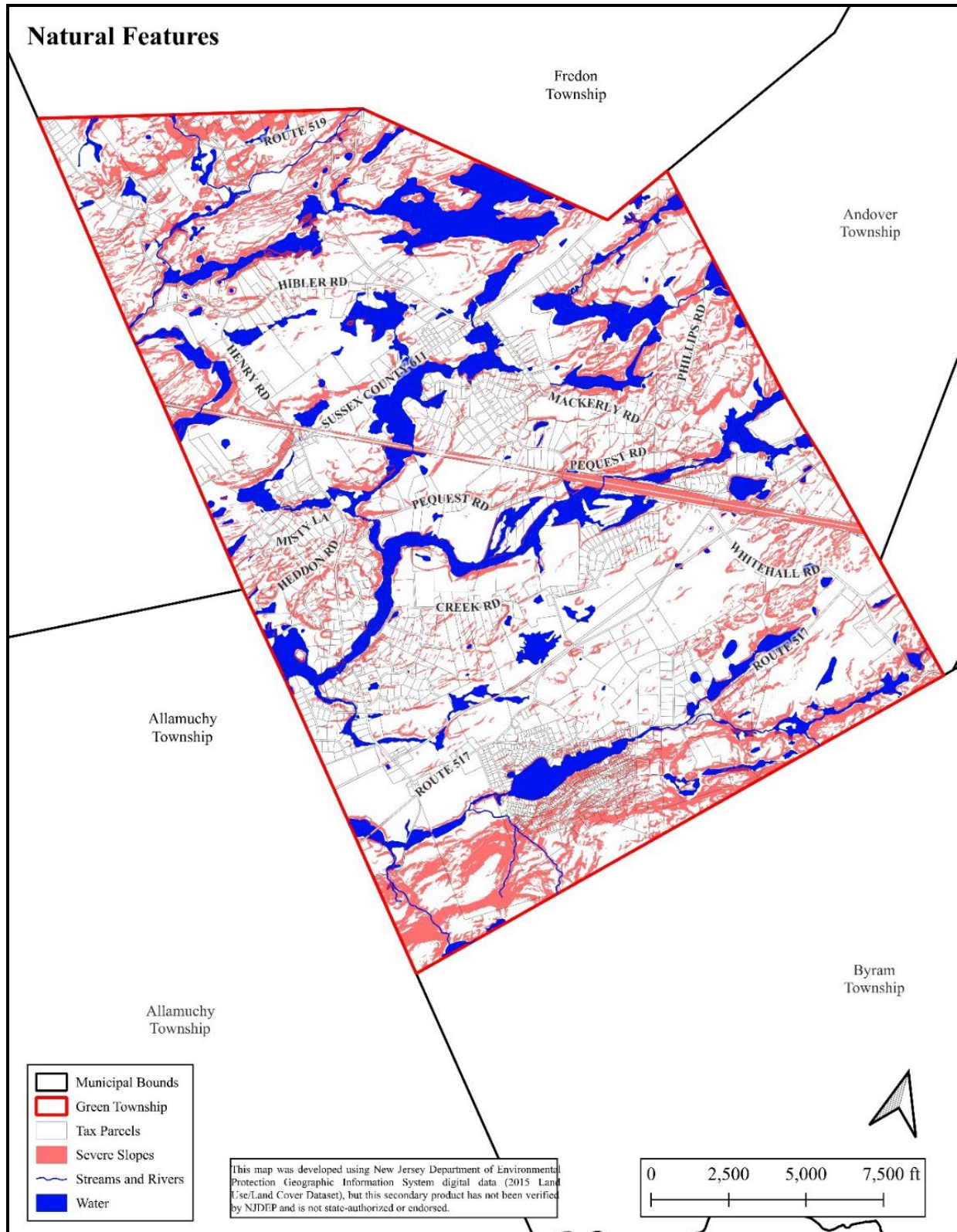


Exhibit 15 – Soils within Green Township

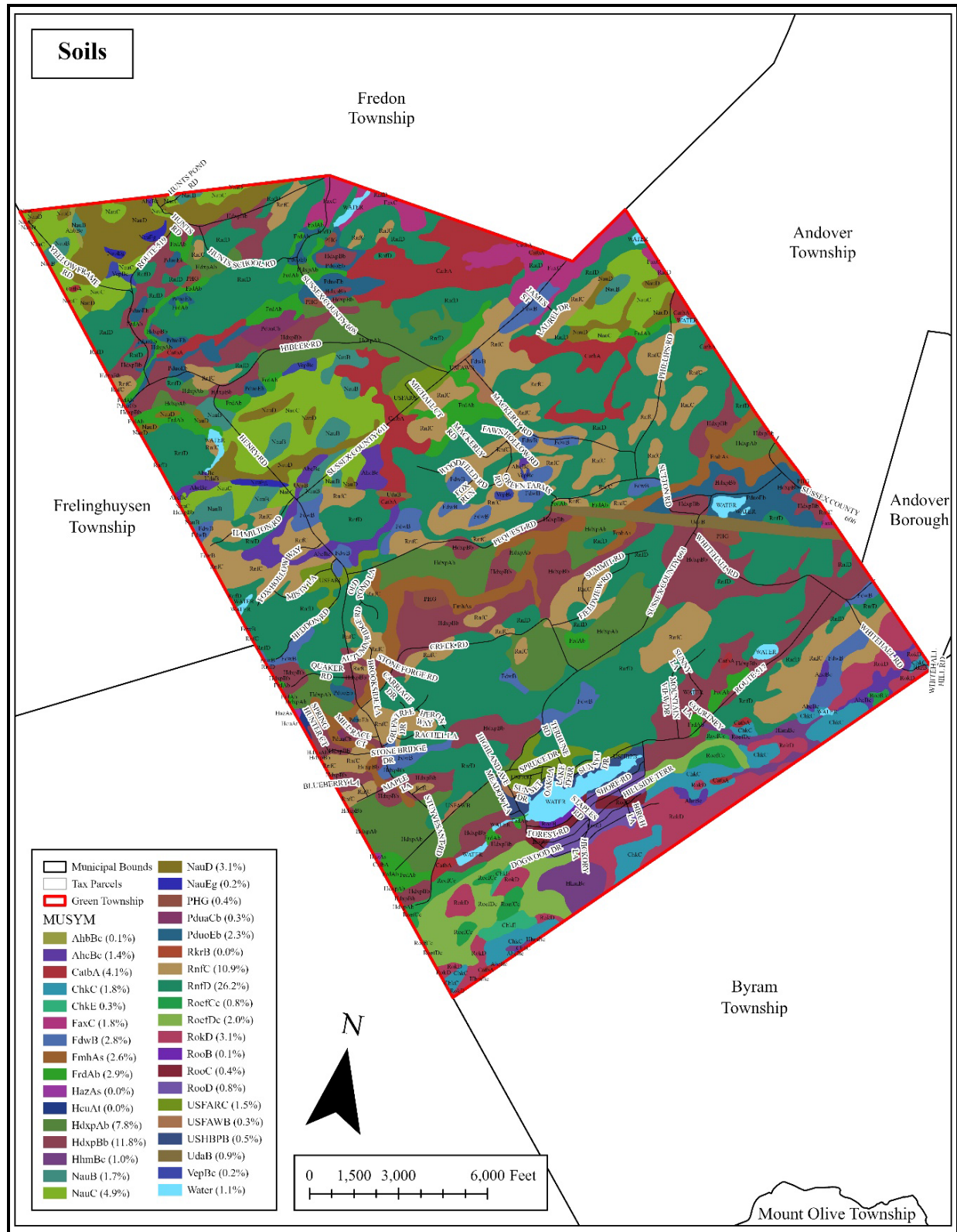
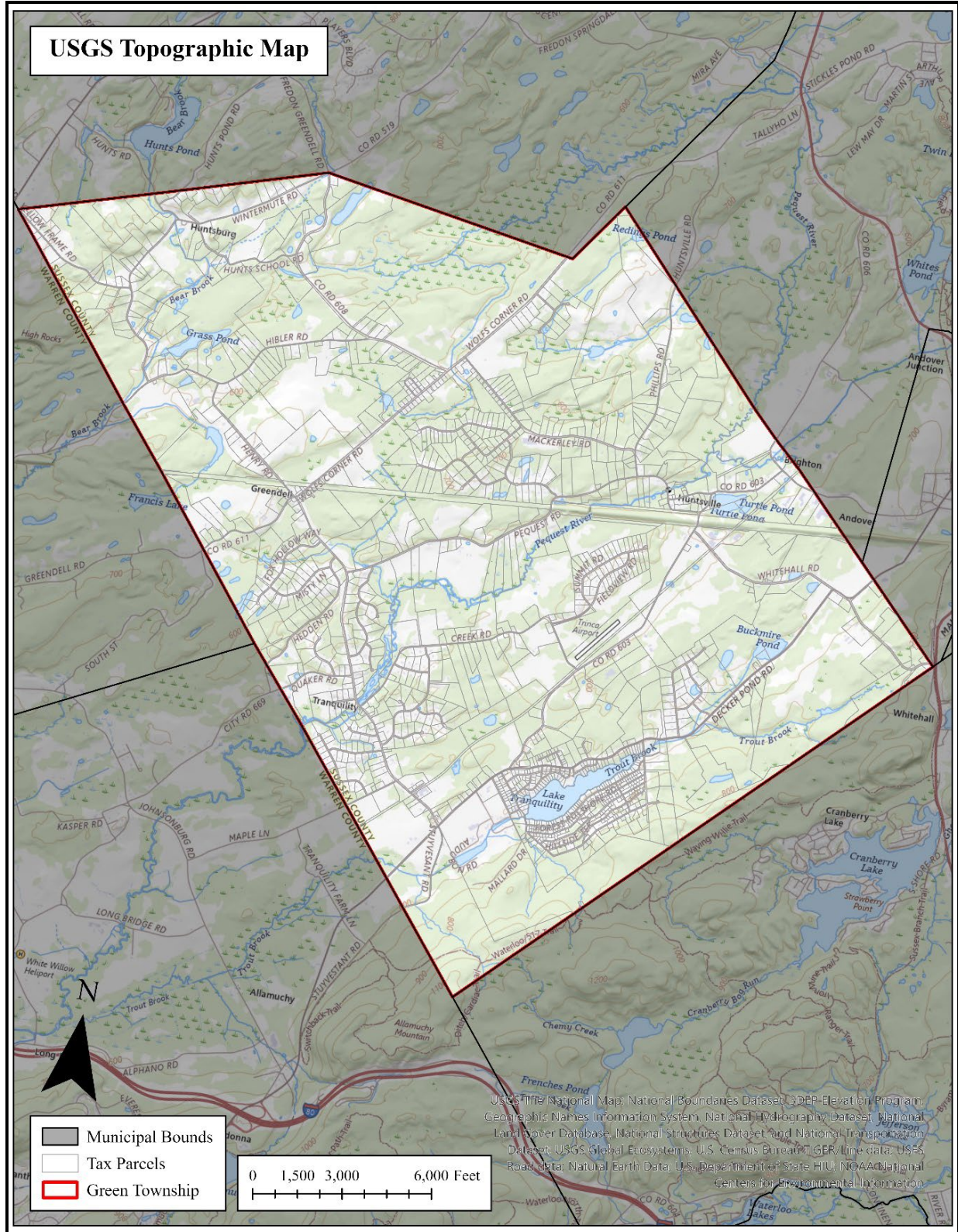


Exhibit 16 – USGS Topographic Map of Green Township



Existing Land Use

The New Jersey Department of Environmental Protection (NJDEP) provides data on current land use and land cover throughout the State. According to this Land Use/Land Cover dataset, Green Township's most prominent land use is forested land, which comprises about 42.6 percent of the total land coverage in the Township. Forested lands are present throughout the Township; however, large swaths are present in the southern-most corner of the municipality in Allamuchy State Park and Evergreen Park, as well as to the north in the Whittingham Wildlife Management Area.



Following forested lands, agricultural uses comprise approximately 24.5 percent of the total land coverage. As of 2024, there are 52 parcels in Green Township that are preserved farmland acquired through either County or State funding. Land used in conjunction with agricultural purposes is present throughout the entirety of the Township and includes farms such as Pequest Cut-Off Farm, Honey Creek Farm, Tranquility Farms, and the LL Pittinger Farm.

Low-density residential uses comprise approximately 14.4% of the land coverage or 1,503.5 acres. Residential uses are generally present in clusters that reflect the various villages, hamlets, and neighborhoods that have emerged over the course of the Township's history, including Greendell and Tranquility.



Wetlands and water comprise 11.3 percent and 2.1 percent, respectively, of the Township's total acreage.

Other uses, including other urban or built-up land, and medium-density residential, each provide for under 2 percent of the land's uses. Uses that fall into this category include the Tranquil Valley Retreat Center property, cemeteries, stormwater basins, and utility infrastructure. Medium-density residential uses are almost exclusively present in the immediate vicinity of Lake Tranquility.



Recreational land, commercial/services, industrial, and airport facilities each account for under 1 percent of land usage. Commercial/services uses are generally located along the various County roads that traverse the municipality. In the area of Tranquility and Lake Tranquility, these uses include Pub 517, Tranquility Veterinary Clinic, Brix Liquor Store, and the Village Green Office Center. The Greendell area's commercial/services uses include the Green Township Fire House, Post Office, and the Green Apple Academy Preschool. Light industrial uses can be found along Airport Road, Whitehall Road and Brighton Road.

Recreational uses include Evergreen Park and the Lake Tranquility Community Club in the southern portion of the Township, The Great Divide Campground along the northern border shared with Andover Township, and the fields at Green Hills Elementary School. The decommissioned Trinca Airport is located on Airport Road (CR 603).

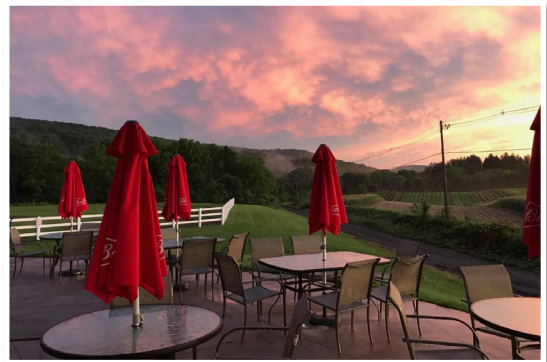
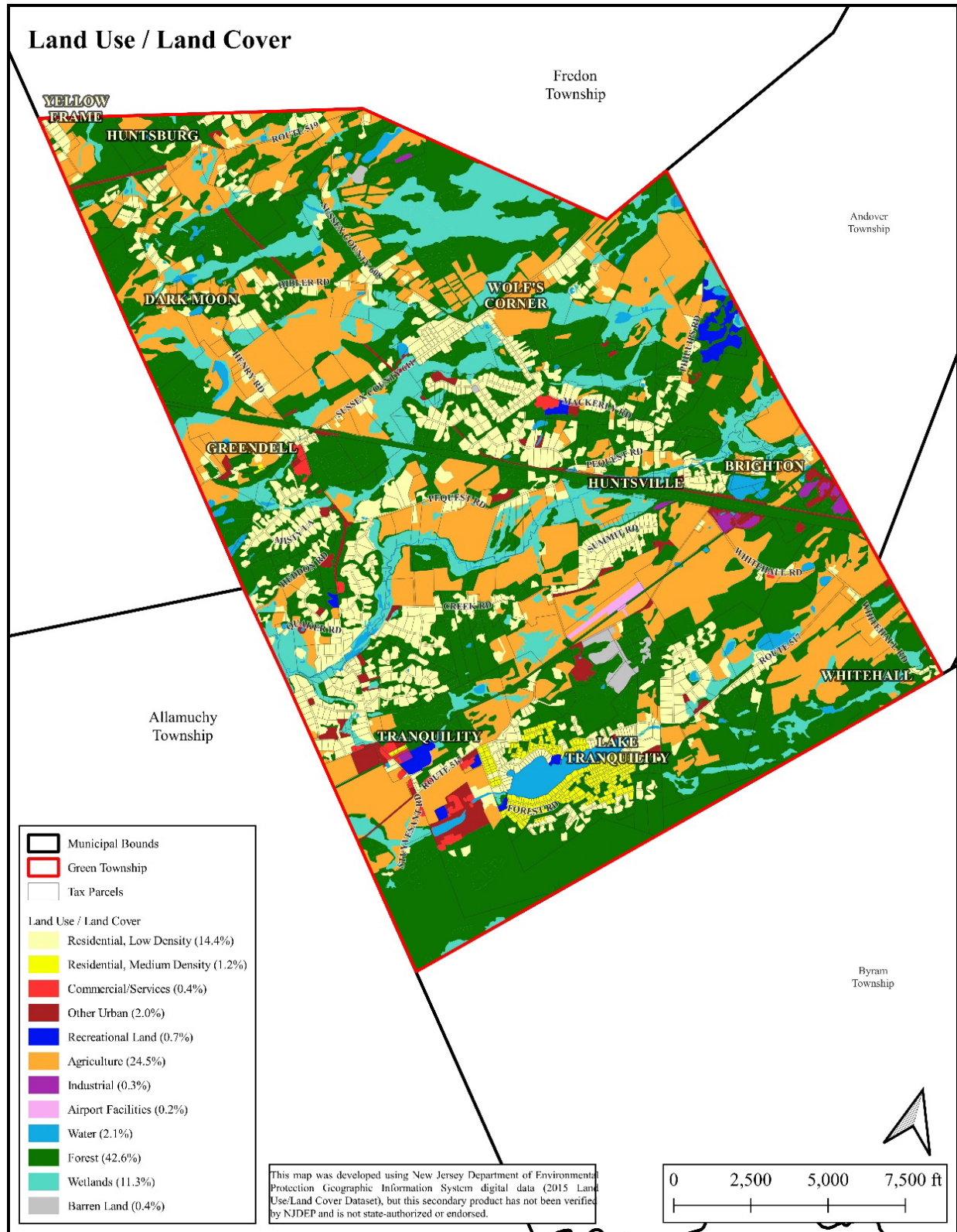


Exhibit 17 – Land Use / Land Cover



Existing Zoning

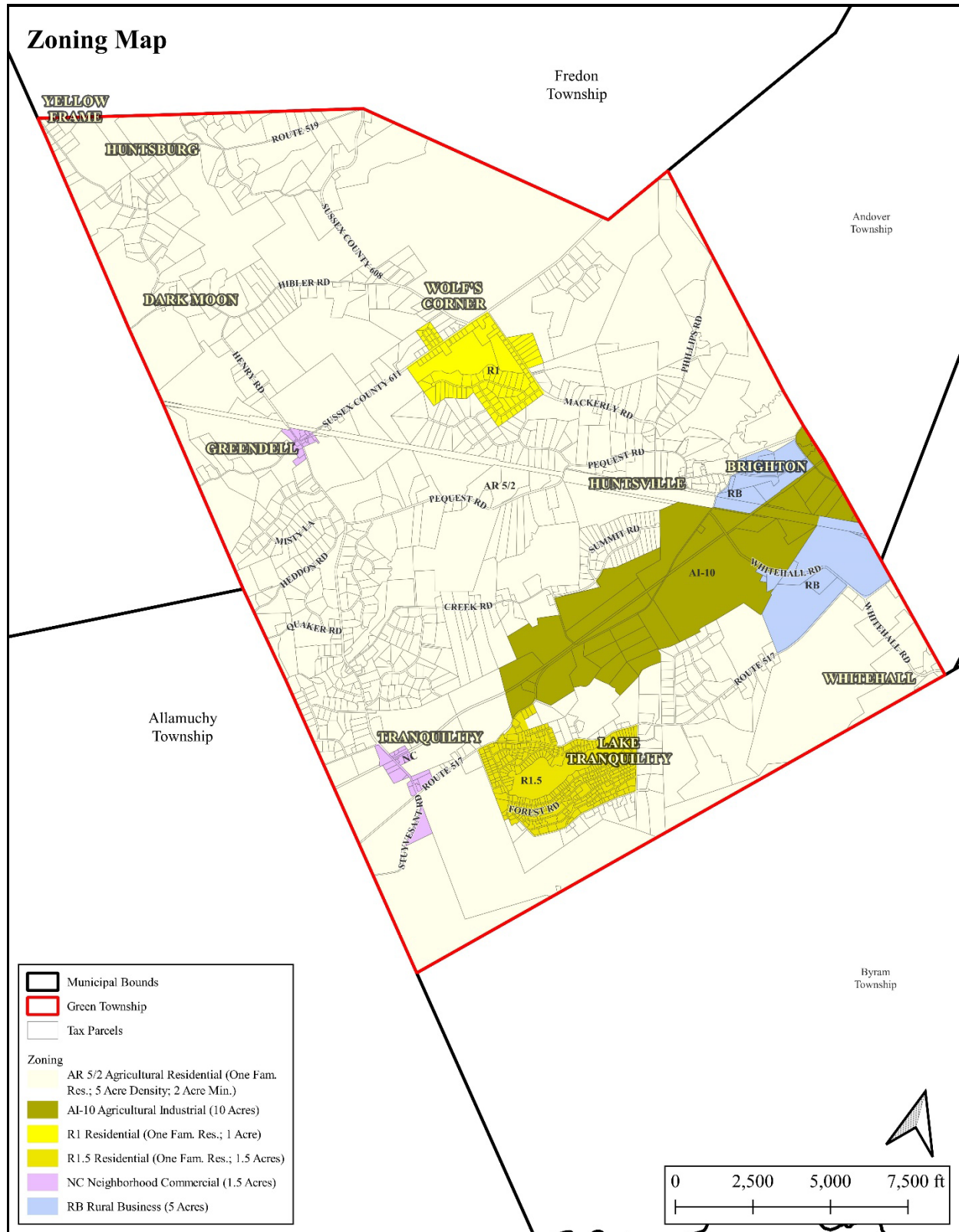
Green Township's Zoning Ordinance currently provides for six (6) different zoning districts, as depicted in **Exhibit 19**. **Exhibit 18** below provides the area and bulk requirements for each district. The districts are as follows:

AR-5/2	Agricultural Residential District
R-1	Single Family Residential District
R-1.5	Single Family Residential District
RB	Rural Business District
NC	Neighborhood Commercial District
AI-10	Agricultural Industrial District

Exhibit 18 – Current Zoning Requirements

Zone	Height (ft.)	Min. Lot Area (ac.)	Density/ FAR	Max. Depth (ft.)	Width (at street line, ft.)	Width (setback line, ft.)	Min. Setback (ft.)			Max Bldg Cov. (%)	Max. Impervious Cov. (%)
							Front	Rear	Side		
AR-5/2	35	2	1 unit/5.0 ac.	600	130	210	100	100	35	15	N/A
R-1	35	1	1 unit/1.0 ac.	285	95	160	60	75	25	20	N/A
R-1.5	35	1.5	1 unit/1.5 ac.	360	112	190	60	75	25	20	N/A
RB	35	5	0.25 FAR	500	200	200	60	100	25	N/A	25
NC	35	1.5	N/A	330	200	200	60	75	25	25	75
AI-10	50	10	N/A	1,000	435	440	200	200	100	30	60

Exhibit 19 – Zoning Map



Open Space and Recreation

Green Township was the first municipality in Sussex County to establish a municipal open space trust fund, overwhelmingly approved by voters in a ballot referendum in 1997. The fund can be utilized to acquire vacant land for the purpose of preserving open space, recreation, farmland preservation, and/or historic preservation. In 2017, voters approved a revision of the trust fund ordinance to allow up to 30% of fund monies to be used for construction and maintenance costs on open space properties. The Township updated its Open Space and Recreation Master Plan Element in 2009, with the goals of preserving existing farmland, developing wildlife corridors and other regional efforts, expanding recreational opportunities, protecting environmentally sensitive lands, and preserving the rural and scenic character of the Township. Green Township's petition for Highlands Plan Conformance in its Preservation Area, a 281-acre section of Allamuchy State Park, was approved with no conditions in 2011. Because these lands were entirely state-owned, and Plan Conformance would have no bearing on the municipal master plan or development ordinances, most requirements for approval were waived. Currently, Plan Conformance does not apply to the remainder of the Township in the Highlands Planning Area. Some areas are proposed for future farmland preservation such as Block 6, Lot 3 off Henry Road (see **Exhibit 20**).



Evergreen Trail & Evergreen Park

A notable open space and recreation success is the 2.3-mile Evergreen Trail which runs between Airport Road and Kennedy Road, passing through agricultural fields, lightly wooded areas, and Evergreen Park (illustrated as red in **Exhibit 20**). It is also known as the County Connector Trail because it is intended to eventually connect to additional communities in Sussex and Warren Counties. This trail project was highlighted in the 2016 Sussex County Open Space and Recreation Plan Update. The trail is located on what used to be the Lehigh and Hudson River Railway, which was a bridge line that ran across northwestern New Jersey. The trail surface is a mix of crushed stone, dirt, grass, and gravel, making it suitable for walking, mountain biking, and horseback riding. The municipally-owned Evergreen Park on the southern end offers a playground, picnic tables, sports fields, basketball courts, and a tennis court. The Township intends to expand the existing trail to the southwest along Tranquility Farms and then further into Warren County to connect to its trail network. The trail may also be expanded northeast towards Whitehall Road.

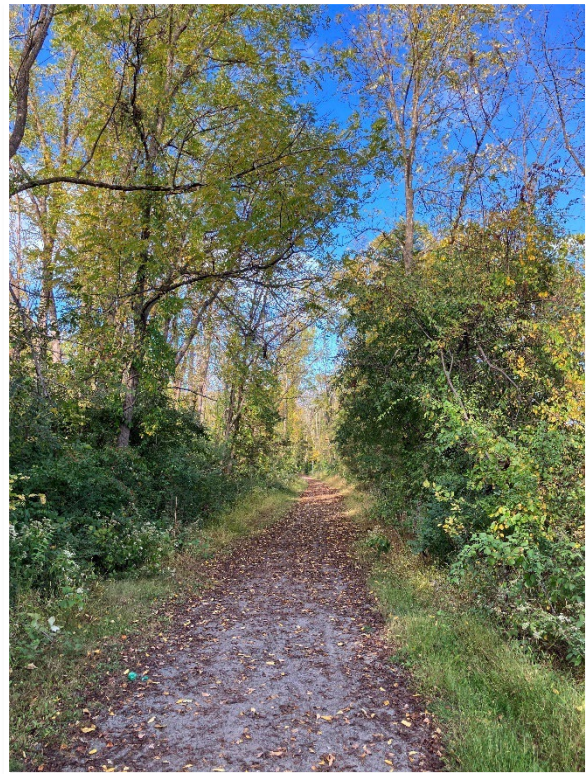
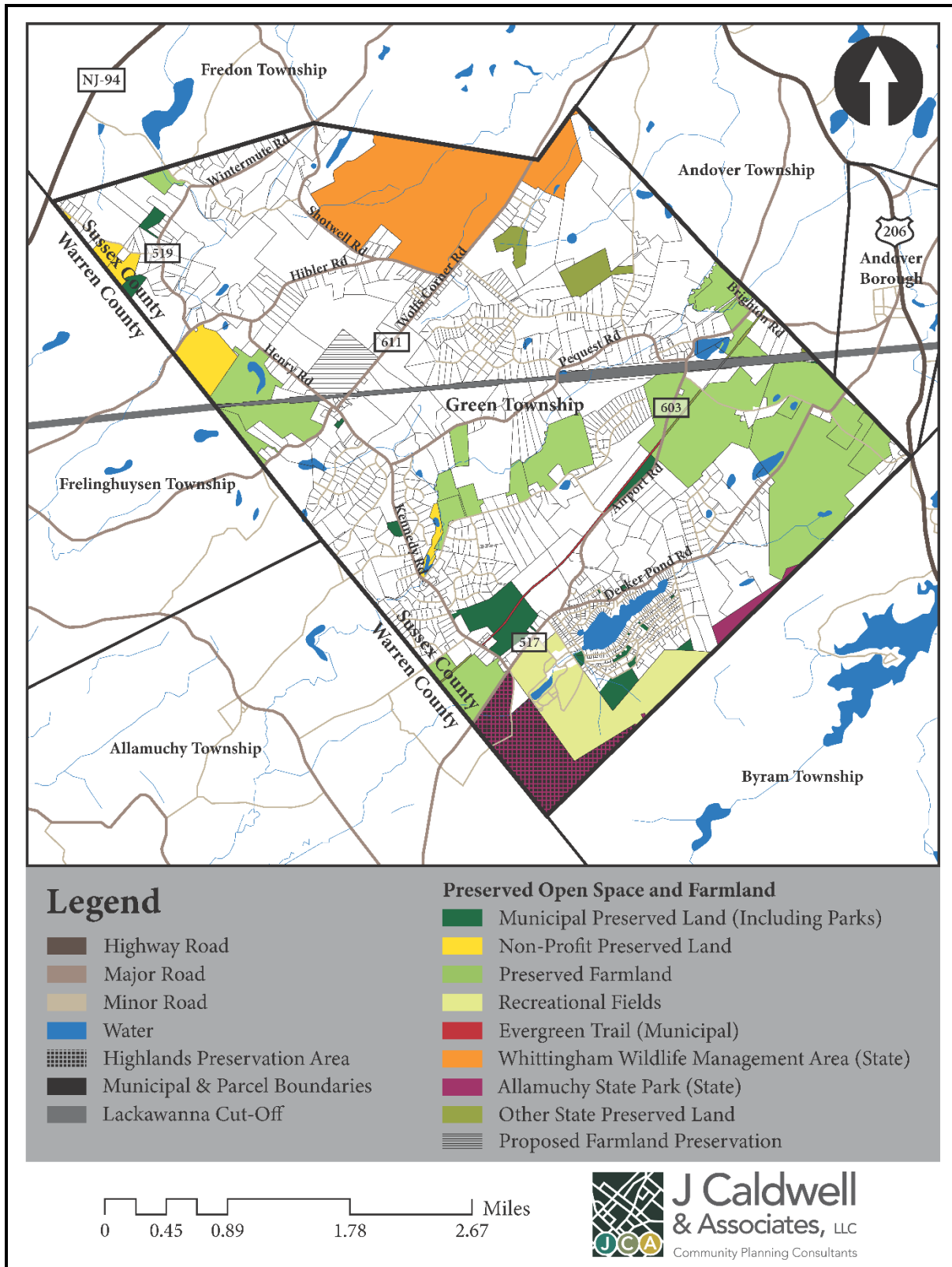


Exhibit 20 – Preserved Open Space and Farmland



Natural Resources and Environmental Hazards

Highlands Region

Green Township is approximately 16.3 square miles, with 97.5 percent (10,171 acres) of its land located within the Highlands Planning Area (**Exhibit 21**). The remaining 2.5 percent (260 acres) is located in the Highlands Preservation Area. The Preservation Area portion of the Township is part of Allamuchy State Park (**Exhibit 20**) situated in the southernmost corner of the Township, around Stuyvesant Road. The Township submitted its Petition for Plan Conformance for only the lands within the Preservation Area on December 7, 2009,⁸ and this Petition was approved by the Highlands Council on January 20, 2011. Though the Planning Area lands were excluded from this Petition, the Township may Petition for Plan Conformance for the remaining Planning Area lands at any time. The Preservation Area land within the Township is an entirely State-owned undeveloped portion of Allamuchy Mountain. A section of Trout Brook, a Category 1 waterway, runs through the Preservation Area.

Hydrology

Green Township contains several ecologically important hydrologic features within its bounds (**Exhibit 22**). The municipality falls within seven (7) HUC14 subwatersheds, 29.7 miles of Category 1 (C-1) waterways, two (2) Water Quality Management Planning Areas, and 693.8 acres of wellhead protection areas.

Watersheds and HUC14 Subwatersheds

The NJDEP defines a watershed as the area of land that drains into a body of water such as a river, lake, stream, or bay. Green Township lies within the Upper Delaware Watershed Management Area (WMA), which is further divided into several subwatersheds. The Township lies within seven (7) of them. These subwatersheds are as follows:

1. Bear Brook (Sussex/Warren Co) (02040105080010)
2. New Wawayanda Lake/Andover Pond trib (02040105070020)
3. Pequest River (above Brighton) (02040105070030)
4. Bear Creek (02040105080020)
5. Pequest River (Trout Brook to Brighton) (02040105070040)
6. Trout Brook/Lake Tranquility (02040105070050)
7. Cranberry Lake/Jefferson Lake & tribs (02040105150060)

Watersheds influence the quality of water that flows through rivers, lakes, and streams by filtering pollution and sediments, as well as influencing the flow of this water. Watersheds assist in managing runoff and reducing the risk of flooding through the absorption of rainwater, slowing down runoff, and managing the distribution of runoff. Subwatersheds

⁸ Township Committee of the Township of Green, Resolution 09-173 Submission of Petition for Plan Conformance to the Highlands Water Protection and Planning Council for Land in the Preservation Area.

provide for more localized impacts, such as hosting unique ecosystems and species. In the context of land use planning, subwatersheds can highlight areas that need protection or areas that can support sustainable development.

Water and Wetlands

There are approximately 29.7 miles of C-1 waterways, 1,394.7 acres of waterbodies, and approximately 1,175 acres of wetlands present in Green Township (**Figures 22 and 23**). The waterways within the Township include Trout Brook in the south, Pequest River which runs through the Township centrally and connects the northeast and southwest municipal borders, and Bear Brook in the northwest. Waterbodies include Lake Tranquility in the south, Buckmire Pond and Turtle Pond in the east, Grass Pond in the northwest, and Brighton Lake in the east.



Wellhead Protection Areas

Wellhead protection areas consist of the lands around public water supply wells. This results in the need to prevent and monitor any entry of contaminants into the areas. These wells are separated into community and non-community wells.

Community wells supply water to users other than year-round residents for at least sixty days of the year. There are three (3) community public water supply wells with wellhead protection areas present in the Township that include Tiers 1 through 3, covering 693.8 acres (6.7%) of the total land area. Tier 1 within these wellhead protection areas has a recharge level of two (2) years, meaning the extent of groundwater that is recaptured. Tier 2 areas have a five-year recharge level, and Tier 3 areas have a 12-year recharge level. There are also nine (9) non-community water supply wells throughout the Township, and one (1) partially within the Township but primarily in Andover Borough, and they collectively cover approximately 321.7 acres of land within the Township. These wells are primarily located around Lake Tranquility, although they are present throughout the municipality.

Exhibit 21 – Highlands Preservation and Planning Areas

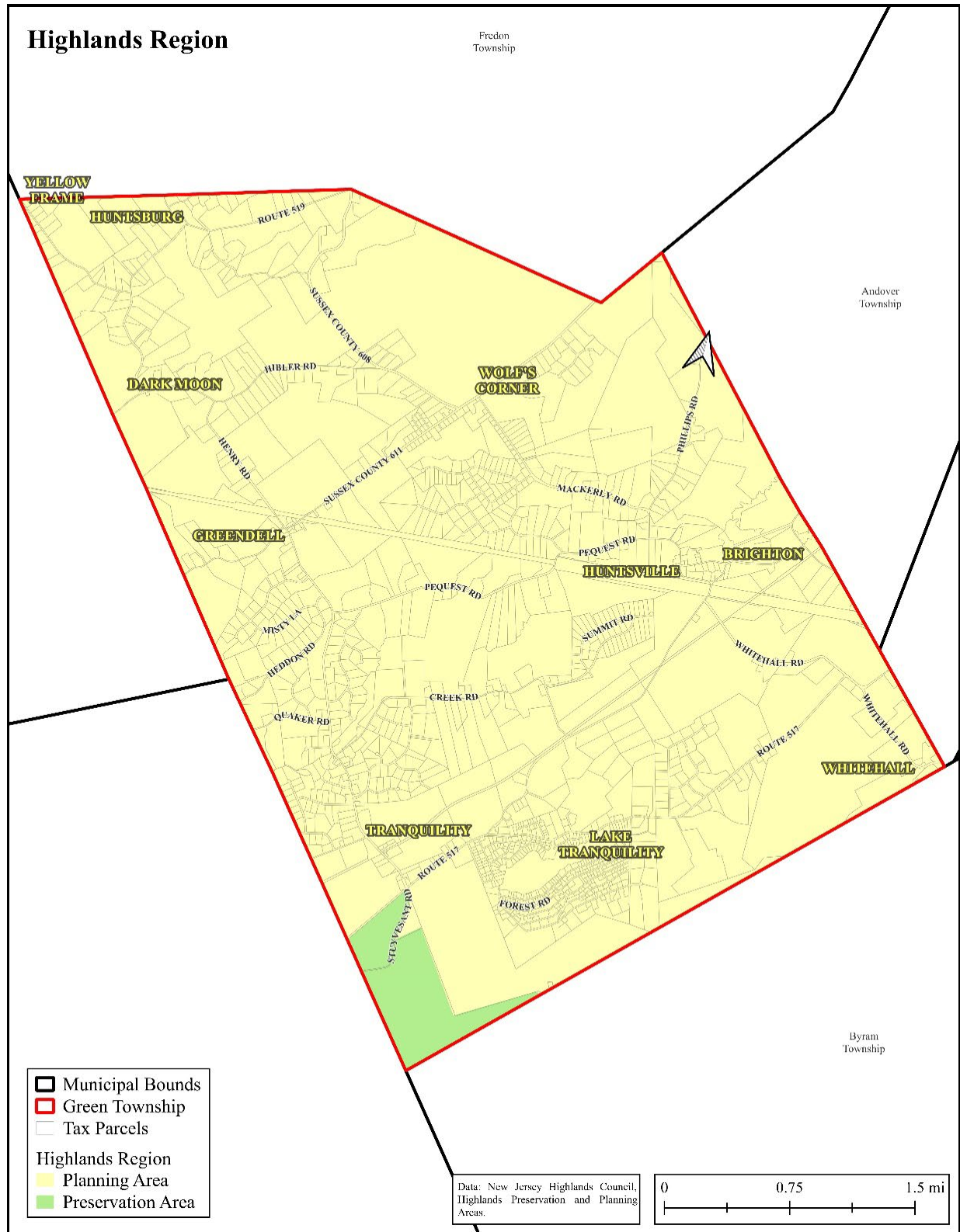


Exhibit 22 – Hydrology and Wellhead Protection Areas

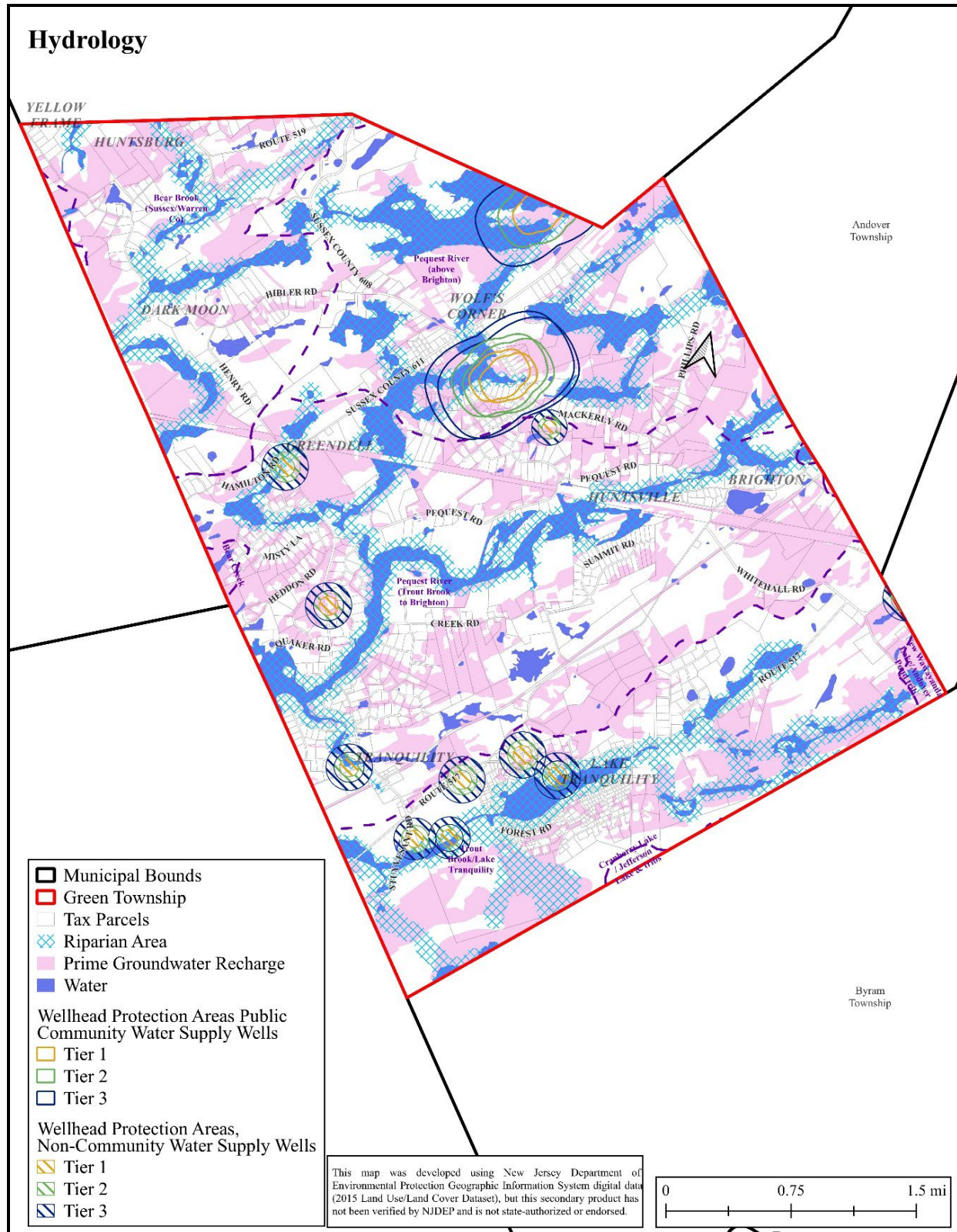
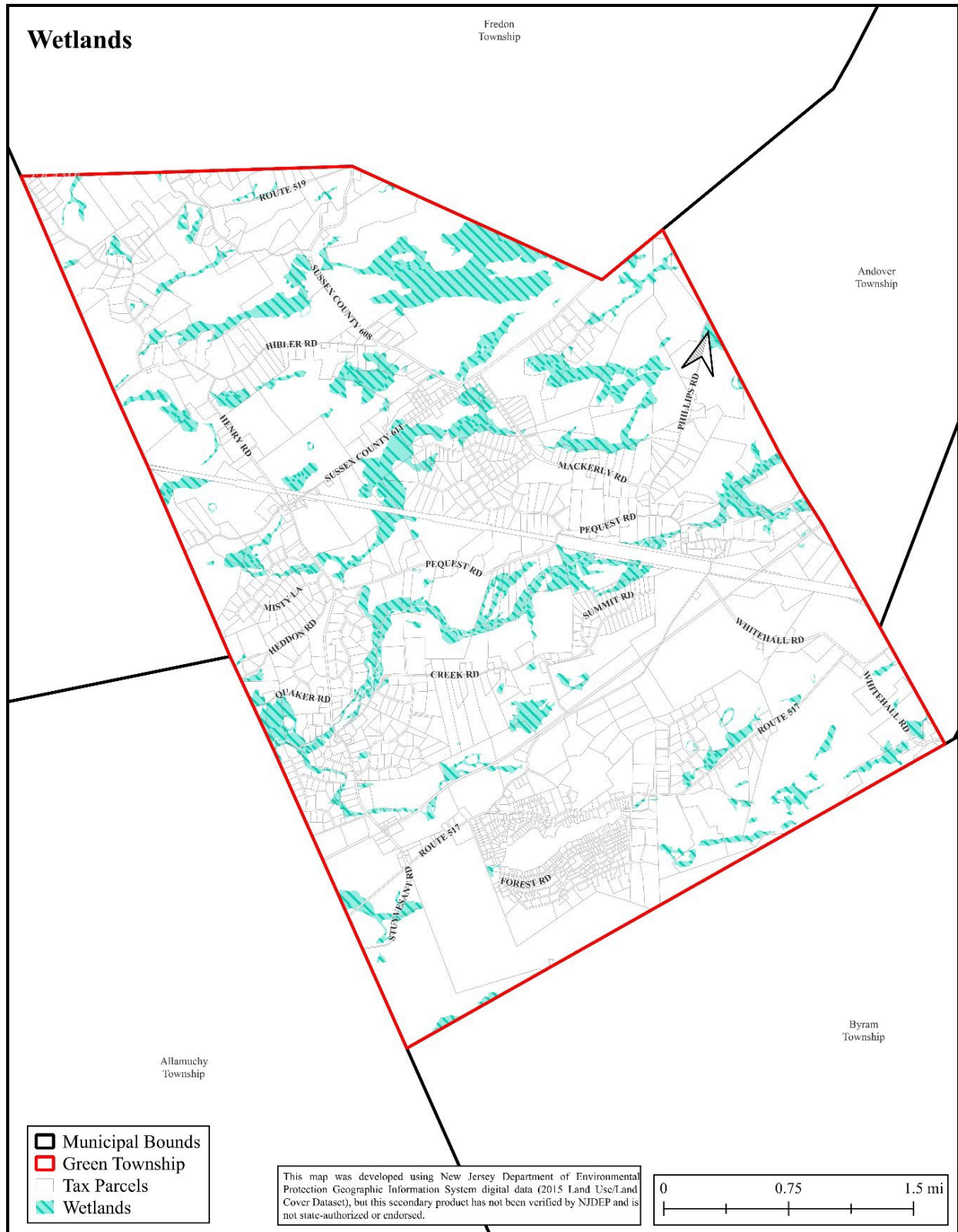
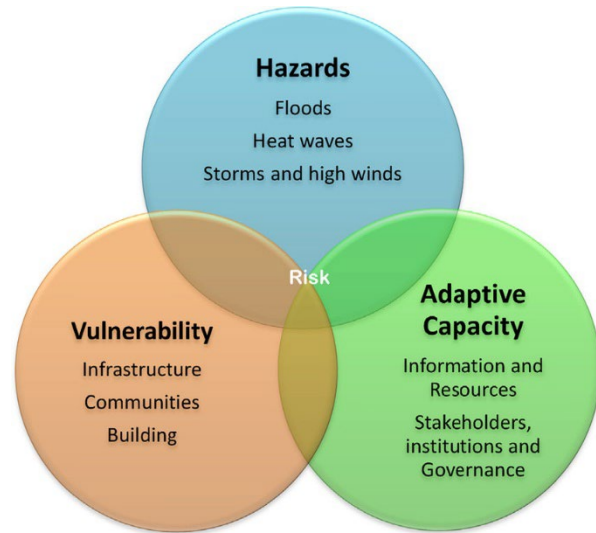


Exhibit 23 – Wetlands



Climate Change-Related Hazard Vulnerability Assessment

In February 2021, the New Jersey State Legislature passed, and the Governor signed, new legislation that amends the required components of a municipal master plan to incorporate climate change risks and adaptation strategies. The MLUL now requires land use elements to include a climate change-related hazard vulnerability assessment, that at a minimum addresses the impacts of coastal storms, shoreline erosion, flooding, storm surges, and wind. For Green Township, the primary climate-related hazards include those listed in **Exhibit 24**.



This vulnerability assessment will identify ways to mitigate the overall risk to the Township by identifying ways to reduce the impacts from hazards, mitigate vulnerabilities, and increase the Township's adaptive capacity to hazard generating events.

The hazards generated by climate change including floods, extreme heat or cold, increased storms and high winds, and forest fires, are essentially out of the Township's control. One way to address the increase in intensity and frequency of these hazards is to identify and mitigate vulnerabilities, while simultaneously increasing the Township's adaptive capacity to these hazards. The vulnerabilities include impacts to infrastructure, buildings, and vulnerable communities such as seniors who may not be as mobile during a storm event.

For example, an extreme storm with heavy rain and high winds hits the Township causing flooding, downed trees, and loss of power. Adaptive capacity would include the Township's improvement of its storm drainage system to mitigate back-ups and allow for increased capacity during a storm event. Heating/cooling stations would be used for any weather events resulting in extreme temperatures. Additionally, methods for providing access to potable water, food, shelter locations, etc., would increase the adaptive capacity of the Township. While this is a land use element and the overarching purpose of this element is to identify land use goals, objectives and policies, there may be broader policy goals identified in this assessment that would carry over to other areas of governance in the Township.

The Sussex County Hazard Mitigation Plan (HMP) provided Hazard Rankings and Hazard Area Maps, Identified Issues and Mitigation Actions that informed the Climate Change-Related Hazard Vulnerability Assessment (CCRHVA). The HMP does not provide guidance of what to do when a disaster occurs, but rather focuses on actions that can be

implemented prior to a disaster to reduce or eliminate damage to property and people that can be accomplished through emergency management planning.

Hazard Ranking

The HMP identified, and the Township confirmed, the following hazards of concern with their corresponding risk to Green Township (**Exhibit 24**). The Township agreed with most of the hazard rankings developed during the hazard ranking review of the HMP process. According to the findings from the HPM, the Township's greatest threats are those related to intense storms such as Nor'easters, Severe Weather, and Severe Winter Weather. Other hazards that pose moderate risk to the Township include Dam Failure, Geological Hazards, Hazardous Materials, and Hurricanes. During the CCRHVA process, the Township decided to increase Drought, Infestation, and Wildlife from Low to Medium. Drought and Wildfire were increased because between September and November 2024, New Jersey experienced little to no rain causing significant drought conditions and wildfires throughout the region. Infestation was increased from Low to Medium due to infestation of Gypsy Moths and the Emerald Ash Borer, which cause significant tree damage in the Township. The HMP also found that Green Township has a moderate adaptive capacity to each of these hazards, meaning that capacity might exist, but is not used or could use some improvement.

Exhibit 24 – Green Township Hazard Ranking

Hazard	Sussex County HMP Ranking	Green Township Ranking
Dam Failure	Medium	Medium
Disease Outbreak	Low	Low
Drought	Low	Medium
Earthquake	Low	Low
Flood	Low	Low
Geological Hazards	Medium	Medium
Hazardous Materials	Medium	Medium
Hurricane	Medium	Medium
Infestation	Low	Medium
Nor'easter	High	High
Severe Weather	High	High
Severe Winter Weather	High	High
Wildfire	Low	Medium

FEMA Flood Hazard Areas

Flood hazard areas identified by FEMA are classified as Special Flood Hazard Areas (SFHAs). These areas are defined as being inundated by a flood event having a one-percent chance of being equaled or exceeded in any given year. The one-percent annual chance flood is also referred to as the base flood or 100-year flood. Moderate Flood Hazard Areas (MFHAs), labeled Zone B or Zone X (shaded), are areas between the limits of the base flood and the 0.2-percent annual chance, or 500-year flood. Areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded).

Exhibit 25 – FEMA Flood Hazard Designations

Flood Hazard Designation	Flood Zones
Special Flood Hazard Areas	A, AO, AH, A1-A30, AE, A99, AR, AR/AE, AR/AO, AR/A1-A30, AR/A, V, VE, V1-V30
Moderate Flood Hazard Areas	B, X [shaded]
Areas of Minimal Flood Hazard	C, X [unshaded]

Exhibit 26 below illustrates Green's Flood Hazard Area designations over a satellite ariel map, including areas classified as A (SFHA), which are shaded as blue, and AE (SFHA), which are shaded as pink, within its borders. Not surprisingly, some of the "land" depicted in these SFHAs include existing surface water features in the municipality including Lake Tranquility, Pequest River, Bear Brook, Turtle Pond, and portions of Whittingham Wildlife Management Area. Nonetheless, the areas in the lowest elevations directly adjacent to these lakes, rivers, and ponds are presumed to be the most at-risk during significant rainfall events. Specifically, and as mentioned above by definition, they have a one-percent chance of being equaled or exceeded in any given year by the inundation of a flood event. The remaining majority of Green's land is classified as X (Area of Minimal Flood Hazard) and unshaded. By definition, this land is outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood. The Sussex County HMP also illustrated these flood areas in addition to a sinkhole area in the Township (**Exhibit 27**). This shows an abandoned mine land area northeast of Lake Tranquility. The map also shows all areas with carbonate rock in addition to a variety of community facilities.

Critical facilities in the Township that are located in the identified floodplains include the Tranquility Church Dam and the Tranquility Mill Dam. In addition, the Lake Tranquility Dam is identified as a high hazard dam according to the HMP. A revised Emergency Action Plan (EAP) is to be used during an emergency with this dam which includes an Emergency Notification Flowchart, Emergency Detection, and Preparedness.

Exhibit 26 – FEMA Flood Hazards Areas Map

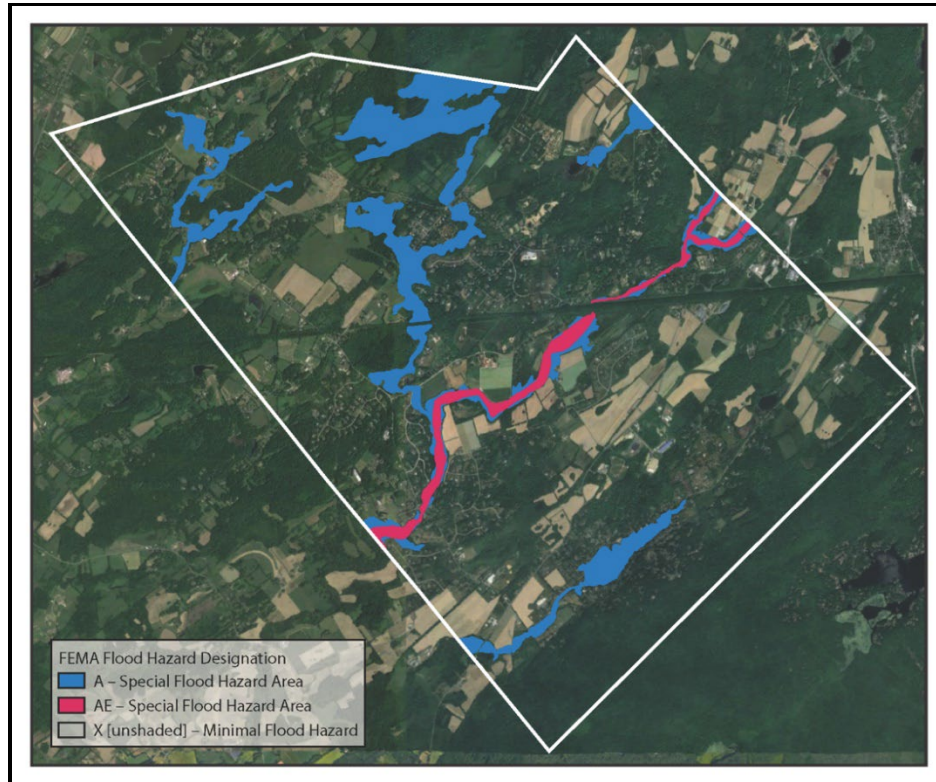
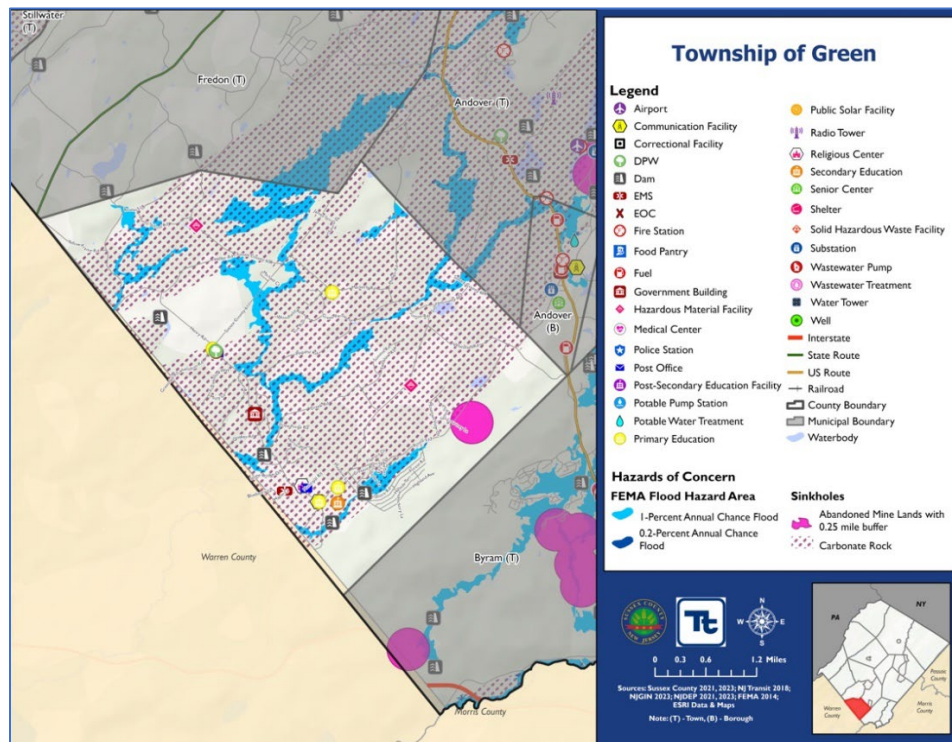


Exhibit 27 – Flood and Sinkhole Hazard Areas (Sussex County HMP)



Forest Fires and Tree Resource Management

Exhibit 28 illustrates the variable wildfire fuel hazard areas in Green Township. The New Jersey Forest Fire Service (NJFFS) developed the wildfire fuel hazard ranking based on the NJDEP's 2002 Land Use/Land Cover and the 2002 10-meter Digital Elevation Grid datasets. In areas with a land use/land cover derived ranking of 1-4 and a slope of 30% or higher, the wildfire fuel hazard was increased by one value. The ranking system is as follows along with Green's respective wildfire fuel hazards sub-area percentage totals:



- 0 – Water: 1.6%
- 1 – Low: 36.7%
- 2 – Moderate: 19.4%
- 3 – High: 4.1%
- 4 – Very High: 3.3%
- 5 – Extreme: 5.3%
- 6 – Urban: 4.5%
- 7 – Agriculture: 24.7%
- 8 – Barren Land: 0.4%

While a wildfire can burn almost anywhere, areas depicted as red and orange are where wildfires are more likely to occur in the Township. Notable areas where high, very high, and extreme wildfire fuel hazards are located include the Equine Tranquility Wellness Center area, the forested and higher elevation terrain above Creek Road and Green Tree Drive, as well as portions adjacent to the Lackawanna Cut-Off.

To address the protection, enhancement, and safety of Green's urban and community forests, the Township recommends the following strategies:

- Creating a Forestry Management Plan through a USGA grant;
- Conducting an Environment Resource Inventory (ERI);
- Pursuing a grant for tree clearing management (removal of dead ash trees);
- Expanding and publicizing Regroup Emergency Alert Notifications (described at the end of the CCRHVA section) for all residents; and
- Using Regroup and Social Media platforms during forest fire events.

The Sussex County HMP also illustrated these wildfire hazard areas in addition to hazardous material sites in the Township (**Exhibit 29**). One of these includes explosive storage materials. This also shows buffer areas around the two (2) hazardous sites.

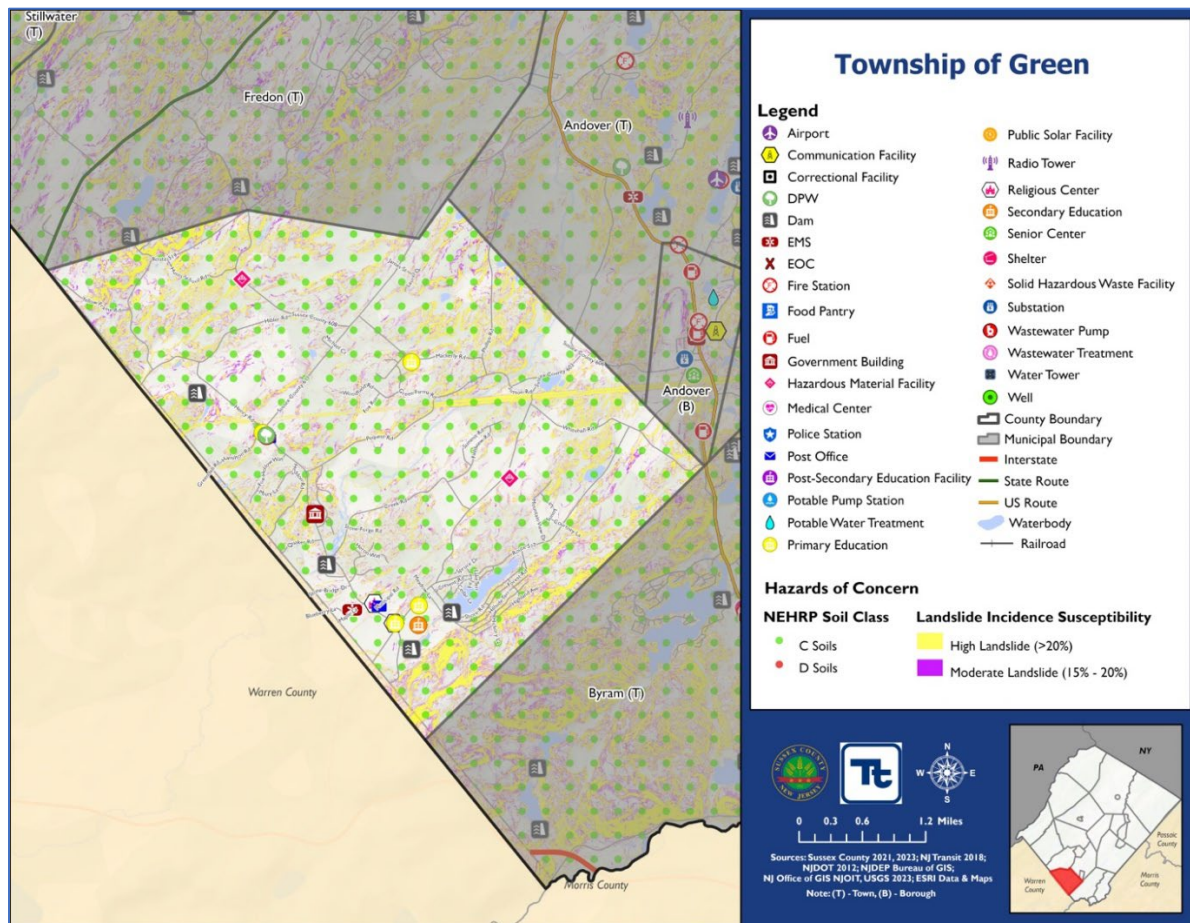
Energy Utilities

Green Township is located within the Jersey Central Power & Light (JCP&L) service territory. For natural gas service, the Township is serviced by Elizabethtown Gas Company. The Township is heavily reliant on these two entities for their energy needs. The Township may consider establishing stronger lines of communication with these utilities so that during future power outages, information can be more easily accessed and shared with Township residents.

Landslide Risk

The Sussex County HMP also illustrated areas of the Township with landslide risk denoted as “Landslide Incidence Susceptibility” in **Exhibit 30** with high landslide risk (>20%) concentrations in the far northwestern portion of the Township and the southern portion including areas within and near Allamuchy State Park. The map also illustrates National Earthquake Hazards Reduction Program (NEHRP) soil classes “c” and “d.” The classification is based on the average shear wave velocity of the soil or rock in the top 30 meters. “C Soils” have very dense soil and soft rock such as sandstone, of which is prevalent throughout the entire Township.

Exhibit 30 – Landslide and Soil Hazard Areas (Sussex County HMP)



Identified Issues of Concern

The following includes the Sussex County HMP identified issues and vulnerabilities after their review of Green's hazard event history, hazard rankings, hazard locations, and current capabilities:

- Lake Tranquility properties are prone to high ground water tables. Ground water seepage can impact basement and ground-level storage areas and living conditions. Flooded roadways around Lake Tranquility can impact evacuation routes, prevent emergency responders from reaching a location, and impede on necessary medical appointments or needs for vulnerable populations;
- Public water systems are limited in Green Township, therefore the need for a water source to combat fires is paramount. The Township lacks stand pipes at draft stations for emergency equipment which could impact the ability to combat and extinguish fires;
- The Township should consider a Disaster Debris Management Plan to address post disaster cleanup. The plan would identify resources to properly address debris and identify locations for debris storage;
- Hunts School Road drainage pipes could be improved to reduce flooding. Flooded roadways can impact evacuation routes, prevent emergency responders from reaching a location, and impede on necessary medical appointments or needs for vulnerable populations;
- Backup power sources are necessary to maintain critical services for critical facilities. The Tranquility Post Office (28 Kennedy Road) and the Greendell Post Office (243 Kennedy Road) should be provided with backup power to maintain operations in the event of an emergency. High winds associated with hurricanes, nor'easters, severe weather, and severe winter weather are known to cause power outages, which would impact the continuity of operations at both critical facilities;
- The Township should consider mapping its drainage system to help identify and solve problem areas. Information on drainage systems can be used to optimize stormwater management efforts and monitor potential overflows during floods and severe storm events. Not having this information readily available presents an obstacle to comprehensive stormwater management;
- A recent audit of New Jersey's model ordinances by FEMA for conformance with NFIP, resulted in a review of existing local flood damage prevention ordinances. Based upon FEMA's review, specific language related to NFIP regulations was not consistent. Additionally, it was determined that better coordination was needed between the three sets of regulations that regulate development and

construction in the floodplain. The Township's Flood Damage Prevention Ordinance lacks the state mandated freeboard requirement;

- The municipality should consider creating a Substantial Damage Management Plan that creates a formal process for conducting substantial damage determinations. The municipality should consider a formal process and plan to provide a framework for conducting such inspections and determinations;
- The Township should consider creating a formalized list of damaged properties or property owners which may be interested in flood mitigation measures, such as elevation or acquisition. Maintaining these lists can assist the Township in identifying and prioritizing properties to mitigate;
- The Tranquility Church Dam and Tranquility Mill Dam, both critical infrastructures, are located in the 1- and 0.2-percent flood hazard areas. The Township also has a high-hazard potential dam, the Lake Tranquility Dam, within its jurisdiction. These structures have the potential to impact persons and structures within inundation areas if dams are breached during hazard events;
- The Township should consider having a certified floodplain managers (CFM) on staff. Becoming a CFM increases the depth of understanding when dealing with FEMA floodplains. The certification ensures that there is someone on the municipal level that understands the regulatory requirements and procedures needed to make floodplain management work effectively and efficiently at the community level; and
- The Township should consider partnering with organizations that conduct outreach to socially vulnerable populations and underserved populations. Such an organization could assist the Township with identifying where socially vulnerable populations are located. Identifying and educating these populations can increase resiliency in the Township and potentially reduce the number of emergency calls during hazardous events.

Hazard Mitigation Actions and Priorities

The following includes the local mitigation actions identified by the Sussex County HMP, which included a workshop with Green to address hazards of concern. **Exhibit 31** indicates the range of proposed mitigation action categories. The four (4) FEMA mitigation action categories and the six (6) Community Rating System (CRS) mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected. **Exhibit 32** provides a summary of the prioritization of all proposed mitigation actions for the HMP update. A numeric rank is assigned for each of the evaluation criteria to assist with rating each mitigation action as high, medium, or low priority.



Exhibit 31 – Analysis of Mitigation Actions by Hazard and Category (Sussex County HMP)

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X		X	X		X			X
Disease Outbreak		X		X			X			X
Drought		X		X			X			X
Earthquake	X	X		X	X		X			X
Flood	X	X	X	X	X		X	X	X	X
Geological Hazards	X	X		X	X		X			X
Hazardous Materials	X	X		X	X		X		X	X
Hurricane	X	X	X	X	X		X	X	X	X
Infestation				X			X			
Nor'easter	X	X	X	X	X		X	X	X	X
Severe Weather	X	X	X	X	X		X	X	X	X
Severe Winter Weather	X	X		X	X		X			X
Wildfire	X	X		X	X		X			X

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

Public Information (PI)—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.

Exhibit 32 – Summary of Prioritization of Actions (Sussex County HMP)

A description of each project is provided on the following page.

Project Name	Scores for Evaluation Criteria															High / Medium / Low
	Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
Lake Tranquility Drainage Study	1	1	1	1	1	0	1	1	1	1	1	1	0	0	11	High
Stand Pipes at Draft Sites	1	1	1	1	1	0	1	1	1	0	1	1	1	0	11	High
Disaster Debris Management Plan	0	1	1	1	1	1	1	0	1	1	1	1	0	1	11	High
Hunts School Road Drainage Improvements	1	1	1	1	1	0	1	1	1	0	1	1	0	0	10	Medium
Emergency Generators at Critical Facilities	1	1	1	1	1	0	0	1	1	1	0	1	1	0	10	Medium
Drainage System Mapping	0	1	1	1	1	1	1	0	1	1	1	1	1	1	12	High
Code Coordinated Ordinance	1	1	1	1	1	1	1	1	1	0	1	1	0	0	11	High
Substantial Damage Management Plan	0	1	1	1	1	1	0	1	1	1	1	1	1	0	11	High
Flood Mitigation Interest	1	1	1	1	1	1	1	1	1	0	1	1	1	1	13	High
Dam Owner Partnership	1	1	1	1	1	1	0	1	1	0	1	1	1	0	11	High
Certified Floodplain Manager Training	1	1	1	1	1	1	0	1	1	1	1	1	0	1	12	High
Socially Vulnerable Populations Outreach	1	0	1	1	1	1	0	1	1	1	1	1	1	1	12	High

Note: Volume I, Section 21 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).

Lake Tranquility Drainage Study – The Township Engineer will conduct a drainage study of the entire lake community and determine if actions can be taken to address groundwater flooding in Lake Tranquility. Once actions are identified, the Township will carry out the cost-effective options, either through Public Works or a hired contractor. A potential action would be to implement a storm water runoff management system for 350 homes in Lake Tranquility area as funding and private cooperation permit. Drainage easements need to be created allowing the Township the authorization to access and maintain.

Stand Pipes at Draft Sites – Additional areas for the installation of a stand pipe or draft stations will be researched and determined. Once the locations are established funding and or easements will need to be secured.

Disaster Debris Management Plan – The municipality will develop a disaster debris management plan. This plan will establish procedures and guidelines for managing disaster debris in a coordinated, environmentally responsible, and cost-effective manner. The plan will identify responsibilities for execution of the plan. The plan will align with permitted temporary collection areas.

Hunts School Road Drainage Improvements – The Township Engineer will complete an engineering survey of drainage systems on Hunts School Road that are below capacity and contribute to flooding to determine strategies which would provide relief from floods. The Township Public Works will complete the necessary work.

Emergency Generators at Critical Facilities – The Township's Engineer will assess the needs of the buildings to determine the capacity required for the generator. Following this determination, the generator and all necessary components and accessories will be installed at both the Tranquility Post Office (28 Kennedy Road) and the Greendell Post Office (243 Kennedy Road). The employees at the post office will be responsible to perform, or hire a contractor to perform, the needed maintenance for these generators.

Drainage System Mapping – The Township will contract with an engineering firm to create detailed mapping of all drainage infrastructure.

Code Coordinated Ordinance – After obtaining the appropriate review and concurrence by the NFIP State Coordinator and the FEMA Regional Office, the municipality will update and adopt the Code Coordinated Ordinance.

Substantial Damage Management Plan – The municipality will develop a Substantial Damage Management Plan, following the six-step planning process in 2021 Developing a Substantial Damage Management Plan.⁹ This plan will outline responsibilities for

⁹ https://crsresources.org/files/500/developing_subst_damage_mgmt_plan.pdf

Substantial Damage determinations, determining market value, and permit approval processes following a disaster event.

Flood Mitigation Interest – The Floodplain Administration will develop a list for inventorying systems or properties damaged by flood events and property owners who are interested in flood mitigation measures, such as elevation or acquisition.

Dam Owner Partnership – The Township will work with the owners of the dams to ensure inspections and safety procedures are up-to-date. EAPs will be collected by Township OEM and shared with the County OEM.

Certified Floodplain Manager Training – Provide training and/or certification for Township staff with NFIP regulations and floodplain management ordinances. Encourage staff to become Certified Floodplain Managers via the Association of State Floodplain Manager's CFM Certification Program.

Socially Vulnerable Populations Outreach – Create outreach materials, or utilize those from Sussex County, on hazard risks for socially vulnerable populations. Methods of distribution may include Township events, the Township newsletters, social media, the Township website, and having the materials on display for the public at Township libraries and offices. Consider hiring staff to work directly with socially vulnerable populations. Work with Sussex County to identify and create a list of socially vulnerable populations utilizing Register Ready¹⁰.

Additional Recommendations

Considering that Green's Community Emergency Response Team (CERT) was recently dissolved, the Township is considering coordination with Sussex County to create a team that performs "Wellness Checks" on vulnerable populations and/or residents who may voluntarily want more oversight and communication during emergencies. Sussex County has a list for people with disabilities, but further coordination by the Township is planned to broaden existing lists to include seniors and group homes, for example. Outreach is planned to be conducted to foster volunteerism to facilitate in this endeavor.

Emergency Shelters

The Green Township Fire Department, also known as the Fire House, is the Township's Emergency Shelter. The address is 243 Kennedy Road, Greendell, NJ 07839 and phone number is (973) 383-4334. The Fire House has a backup generator, shower, and kitchen.

¹⁰ "Register Ready – New Jersey's Special Needs Registry for Disasters" allows New Jersey residents with disabilities or access and functional needs and their families, friends, caregivers and associates an opportunity to provide information to emergency response agencies so emergency responders can better plan to serve them in a disaster or other emergency. <https://www-lps.state.nj.us/SpecialNeeds/Signin>

It should also be noted that Green Hills School, located at 69 Mackerley Road, Greendell is used as a staging area, which is a temporary location of available emergency response resources. If needed, this is where personnel, supplies, and equipment can be temporarily housed, parked, or moored while awaiting an operational assignment.

Emergency Alert Notifications

Regroup is to be used as a warning system for emergencies and hazard events. Regroup is a mass notification system primarily operated by the Sussex County Sheriff's Office. Representatives from Green Township such as the Green Emergency Management Coordinator also have access to the system. This QR code can be used to sign up for these alerts which are designed to be received in many forms including texts, emails, and phone calls/voicemails. The Township also has access to Facebook, X, and NextDoor for social media education and outreach.



Proposed Land Use Plan & Future Land Use Map

Green Township conducted a review of potential areas to expand its non-residential zones to accommodate future development. The existing districts are nearing build-out capacity and many parcels are preserved for farmland or open space. **Exhibit 33** illustrates the proposed expansions, additions, and adjustments to the Township's zoning. Significant developments include the expansion of commercial districts throughout the Township including the following:

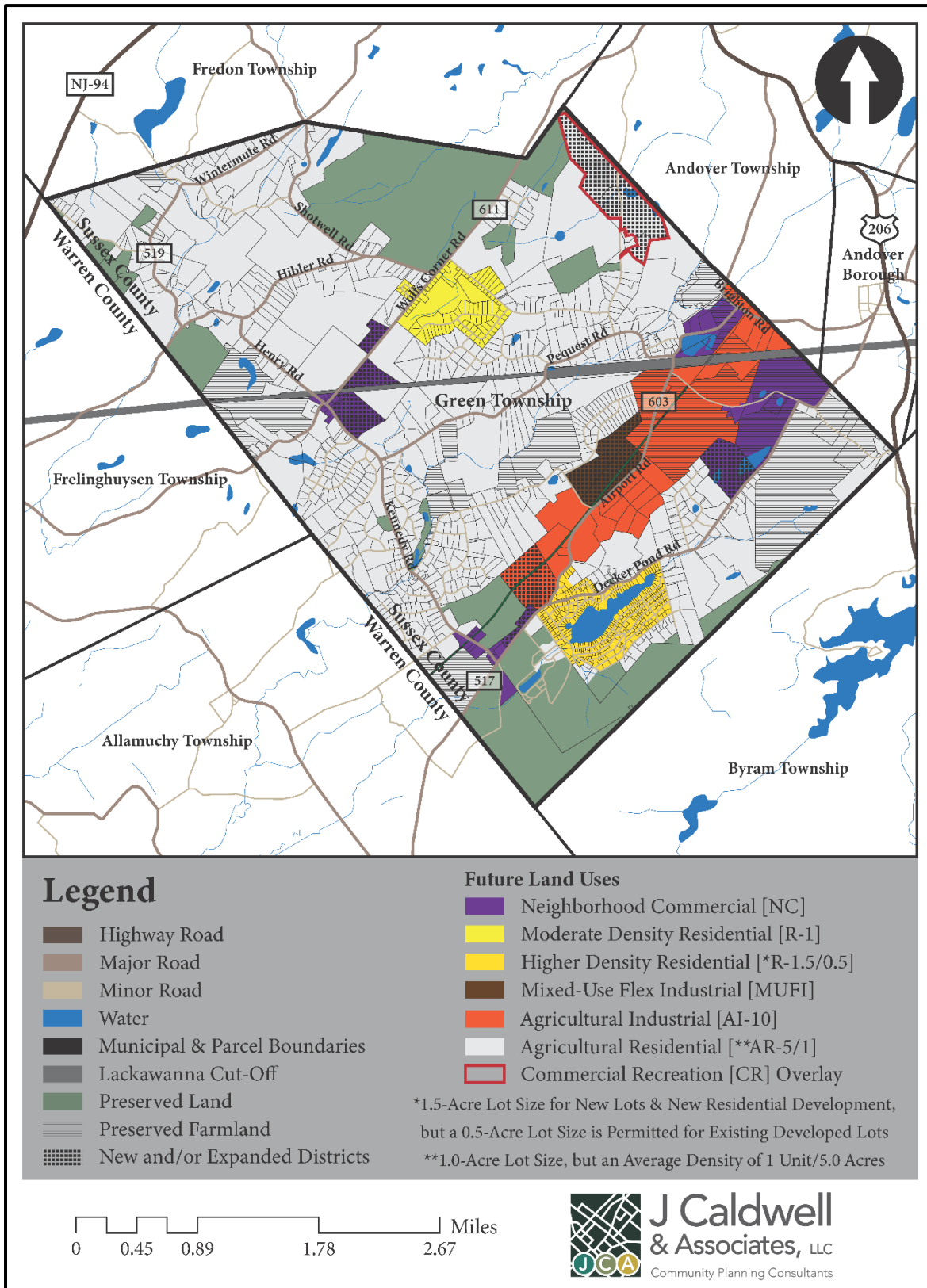
- NC Neighborhood Commercial District at the corner of Decker Pond Road and Kennedy and Stuyvesant Roads are proposed to include more lots. These would be located along Decker Pond Road towards Lake Tranquility including Block 35, Lots 3.01, 4, 4.01, 5.01, 5.02, 6, 7, 11 (a small sliver) & 14;
- NC Neighborhood Commercial District near the corner of Wolf's Corner Road and Henry Road including Block 17, Lots 6 & 14 and Block 18, Lots 1, 1.01, 2, 3.01 & 3.04;
- NC Neighborhood Commercial District along Decker Pond Road near Buckmire Pond including Block 31, Lots 8, 8.01 & 8.03; and
- AI-10 Agricultural Industrial District along Airport Road near the corner of Decker Pond Road including Block 16, Lot 20, and Block 35, Lot 3.02.

It is also proposed that the RB Rural Business District be replaced with the NC Neighborhood Commercial District for greater consistency amongst the Township, including the areas along Decker Pond Road and along Pequest Road near Turtle Pond.

In addition to expanding the existing commercial zones, the Township proposes to rezone the 112-acre decommissioned airport portion of the Township into the MUFI Mixed-Use Flex Industrial District. This area was previously part of the larger AI-10 Agricultural Industrial District. Established in 1939, the Trinca Airport located on Airport Road (CR 603) closed operations in 2020. Owned by the Township since 2002, the 112-acre flat and cleared property presented an opportunity to encourage redevelopment of the property to provide additional non-residential development in the community, while also providing more public space for residents. As a mixed-use district, the MUFI District proposes planned industrial development in tandem with natural and recreational amenities such as parks and walking trails. The MUFI District also provides opportunities for flex space and small businesses, including commercial recreation. Light industrial uses should be reviewed based on activity level to determine what can be accommodated on local roadways. Evergreen Trail currently bisects the proposed MUFI District area and future development is required to provide access points to this amenity. The specific parcels in the new MUFI District include Block 19, Lots 15 & 15.01, and Block 32, Lot 1.

Furthermore, the Township proposes a CR Commercial Recreation Overlay District in the northern part of the Township, near Andover Township and east of the Whittingham Wildlife Management Area. The new CR Overlay District promotes low-intensity, passive outdoor recreation in harmony with the surrounding natural environment. As the name implies, permitted uses include those related to commercial recreation, which includes campgrounds, mountain bike tracks, ropes courses and other similar uses. As an Overlay District, the permitted uses in the zone will continue to be permitted. The specific parcels in the CR Overlay District include Block 21, Lots 2, 3, 3.02 & 16, and Block 22, Lots 14.01 & 17, which are collectively located along Huntsville Road/Phillips Road.

Exhibit 33 – Future Land Use Map



Proposed Land Use Districts

The Future Land Use Map identifies seven (7) Land Use Districts. **Exhibit 33** above provides the proposed location of each district. The districts are as follows:

AR-5/1	Agricultural Residential District
R-1	Single Family Residential District
R-1.5/0.5	Single Family Residential District
NC	Neighborhood Commercial District
AI-10	Agricultural Industrial District
MUFI	Mixed-Use Flex Industrial District
CR	Commercial Recreation Overlay District

AR-5/1 Agricultural Residential District

The purpose of the AR-5/1 Agricultural Residential District is to provide areas within the Township where agricultural, horticultural, and residential uses can be developed in conjunction with one another; to reduce the conflict between such uses; and protect existing agricultural operations.

The AR-5/1 District covers the largest area of the Township and provides for various agricultural and horticultural uses. Single-family detached dwelling units; public parks, recreation areas, and open spaces; and municipally owned or operated facilities are the permitted uses in this zone. This zone also provides standards for properties where horses or other large animals are kept. The AR-5/1 requires a minimum lot size of 1.0-acre to promote development on smaller lots with an average density of 5.0 acres.

R-1 Residential District

The purpose of the R-1 Residential District is to preserve the moderately forested character of this section of the Township and, at the same time, provide areas for single-family residential development and related uses with a minimum 1.0-acre lot size.

The R-1 District permits single family residences; public parks, recreation areas, and open space areas; and municipally owned or operated facilities. The R-1 District requires a 1.0-acre minimum lot size. Flag lots are not permitted. This zone is located in the central portion of the Township at the intersection of Wolf's Corner Road (CR 511) and encompasses approximately 217.7 acres (2.1%) of the Township's land.

R-1.5/0.5 Residential District

The purpose of the R-1.5/0.5 Residential District is to preserve the lake residential and community character of the Lake Tranquility section of the Township and, at the same time, provide for improvements to residences on existing improved undersized lots.

The R-1.5/0.5 District requires a minimum 1.5-acre lot size for new lots and for new residential development. A 0.5-acre minimum lot size is proposed for existing developed residential properties and bulk standards in keeping with a 0.5-acre lot size should be developed to permit improvements to existing residences in the District. Flag lots¹¹ should be prohibited in this District in order to limit subdivisions of irregularly shaped properties.

NC Neighborhood Commercial District

The purpose of the NC Neighborhood Commercial District is to provide areas for retail, retail services, business, business services, professional, medical and general offices, commercial uses and commercial services uses, agricultural and horticultural uses. Given the rural character of Green Township, residential uses should be permitted in the NC District to echo the established villages and hamlets in the community.

The NC District regulates properties located at the intersection of Wolf's Corner Road, Henry Road, Kennedy Road, and Hamilton Road (the Greendell area), several properties at the intersection of Decker Pond Road, Stuyvesant Road, and Kennedy Road (the Tranquility area), and along Pequest Road and Decker Pond Road in the East. The NC District requires a 1.5-acre minimum lot size. Uses related to hazardous materials such as those with fuel service or propane depots are prohibited.

AI-10 Agricultural Industrial District

The purpose of the AI-10 Agricultural Industrial District is to provide a large area within the Township wherein the importance of agricultural and horticultural uses is still encouraged, but due to the unique character of large swaths of impervious coverage, flat land, and/or proximity to County and State roads, certain light industrial and related non-residential activities are simultaneously acknowledged as being appropriate to this section of the Township. The AI-10 District provides standards for the larger properties along Airport Road (CR 603) and Whitehall Road. This includes uses related to agricultural and horticultural, farmers markets and agricultural retail, and retail self-storage. If conducted within the confines of a building, the AI-10 District also permits uses related to manufacturing, science and research, offices, data processing and data storage, flex space and governmental uses. The AI-10 District requires a 10-acre minimum lot size.

¹¹ A flag lot is a lot that does not meet minimum frontage requirements and where access to the adjacent roadway is via a driveway stem, known as the "flag pole" and the remaining lot is at the end of the flag pole, resembling the "flag" portion of the lot. These types of lots are typically created behind a lot with full frontage along the road.

MUFI Mixed-Use Flex Industrial District

The purpose of the MUFI Mixed-Use Flex Industrial District is to revitalize the decommissioned Trinca airport in the central part of the Township by promoting mixed-uses including low impact light industrial development, flex space, offices, commercial recreation, public recreation amenities and small businesses.

The MUFI District covers the former Trinca Airport property located on Airport Road (CR 603). The 112-acre property presents an opportunity for a planned development that includes a variety of potential uses including commercial recreation and public recreation opportunities in combination with valuable business uses in the Township. Light industrial uses or low impact warehouses that align with the scale of development activity in the AI-10 District should be encouraged. Zoning for this area should take into consideration the various types of light industrial uses and focus on permitting uses that can be accommodated on local roadways. As a mixed-use district, uses should be developed in tandem with natural and recreational amenities such as parks and walking trails. Evergreen Trail currently bisects the proposed MUFI District area and any future development is required to provide access points to this amenity. In combination with the public facing amenities on this property, electric vehicle charging stations should be considered for use by the travelling public. The MUFI District includes Block 19, Lots 15 & 15.01, and Block 32, Lot 1.



CR Commercial Recreation Overlay District

The purpose of the CR Commercial Recreation Overlay District is to promote low-intensity commercial recreation in harmony with the surrounding natural environment. This zone is proposed as an overlay zone on the AR 5/1 in this area, allowing existing residential and agricultural uses to continue under underlying zone.

The CR Overlay District permits commercial recreation uses, which includes campgrounds, mountain bike tracks, ropes courses and other similar commercial recreational uses. The CR Overlay District encompasses areas in the northern portion of the Township, near Andover Township and east of the Whittingham Wildlife Management Area. This includes the area of what is now The Great Divide Campground. This includes Block 21, Lots 2, 3, 3.02 & 16, and Block 22, Lots 14.01 & 17, which are collectively located along Huntsville Road/Phillips Road.

Transportation Recommendations

Rail Service

The closest New Jersey Transit stations to Green Township are the Hackettstown, Mount Olive, Netcong, Lake Hopatcong, and Mount Arlington Train Stations. These are all about a 15- to 25-minute drive towards the south and southeast depending on where you are in the Township. Each of these train stations includes commuter trains that connect southeast towards Newark and Penn Station in New York City.

For over a decade, plans and construction have been underway for a new Andover Station, as part of a New Jersey Transit expansion. This expansion would restore passenger railroad service on the Lackawanna Cut-Off line, which was originally built in the early 20th Century. The new Andover Station will be built at a site on Andover Township's Roseville Road, which is located east of Green Township just off of US Route 206. Once constructed, most residents would be located about a 10-minute drive from a New Jersey Transit stop. When complete, this new line extension will split off from the Lake Hopatcong stop and pass through the Roseville Railroad Tunnel to reach Andover Station.

Electric Vehicles

Governor Murphy signed into law on July 9, 2021, P.L. 2021, c.171, which requires EVSE and Make-Ready parking spaces to be designated as permitted accessory uses in all zoning or use districts and establishes associated installation and parking requirements. Effective in all New Jersey municipalities upon DCA publication on September 1, 2021, regardless of whether a municipality adopted the Model Ordinance. Electric Vehicle Supply Equipment (EVSE)¹² and Make-Ready¹³ parking spaces count toward minimum parking mandates, giving a two-for-one credit for the EV parking, up to 10% of the total required parking. All calculations for EVSE and Make-Ready spaces are rounded up to the next full parking space. The Township must also consider opportunities to prioritize and incentivize EVSE installation for public charging stations.

Recommended locations for public EVSE charging stations in Green Township include the Green Township Municipal Building, Evergreen Park, and the MUFI District in conjunction with any public amenities developed on the property.

¹² "Electric vehicle supply equipment" or "electric vehicle service equipment" or "EVSE" means the equipment, including the cables, cords, conductors, connectors, couplers, enclosures, attachment plugs, power outlets, power electronics, transformer, switchgear, switches and controls, network interfaces, and point of sale equipment and associated apparatus designed and used for the purpose of transferring energy from the electric supply system to a plug-in electric vehicle. "EVSE" may deliver either alternating current or, consistent with fast charging equipment standards, direct current electricity. "EVSE" is synonymous with "electric vehicle charging station."

¹³ "Make-Ready" means the pre-wiring of electrical infrastructure at a parking space, or set of parking spaces, to facilitate easy and cost-efficient future installation of Electric Vehicle Supply Equipment or Electric Vehicle Service Equipment, including, but not limited to, Level Two EVSE and direct current fast chargers. Make Ready includes expenses related to service panels, junction boxes, conduit, wiring, and other components necessary to make a particular location able to accommodate Electric Vehicle Supply Equipment or Electric Vehicle Service Equipment on a "plug-and-play" basis.

Consistency with Adjoining Municipalities and Relevant Plans

The Municipal Land Use Law (N.J.S.A 40:55D-28.d) requires that community Master Plans consider their relationship to the Master Plans of adjoining municipalities, as well as to the County Plan, any Regional Plans and the State Development and Redevelopment Plan. There are six (6) communities that adjoin the Township of Green (see Exhibit 34) and whose Master Plans are reviewed below: Fredon Township, Sussex County; Andover Township, Sussex County; Andover Borough, Sussex County; Byram Township, Sussex County; Allamuchy Township, Warren County; and Frelinghuysen Township, Warren County. Green Township is located in Sussex County but lies along the border with Warren County, and thus the Master Plans for both Counties are considered. Green Township is located within the Highlands Region of New Jersey governed by the Highlands Regional Master Plan (RMP) and therefore consistency with the Highland RMP is considered. Additionally, consistency with the State Development and Redevelopment Plan is considered below.

Fredon Township

Fredon Township is located to the north and northwest of Green Township. Fredon Township's Master Plan was adopted in 1975 and updated Master Plans were adopted in 1993 and 2007. Reexamination Reports were completed in 2004, 2013, and 2023. Fredon Township's Master Plan includes Agricultural-Residential (westerly¹⁴) and Conservation (easterly including Whittingham Wildlife Management Area) Zones along Green's border. This is consistent with Green's Agricultural Residential District (westerly) and state-preserved land (easterly including Whittingham Wildlife Management Area).

Andover Township

Andover Township is located to the north and northeast of Green Township. Andover Township's Master Plan was last updated in 1992. Reexamination Reports were completed in 1982, 1994, 2000, 2005, 2007, 2010, 2011, and 2023. Andover Township's Master Plan includes Single Family Residential (northwesterly) and Industrial (southeasterly) Zones along Green's border. This is consistent with Green's Agricultural Residential District (northwesterly), proposed Commercial Recreation Overlay District (far northwesterly), and Agricultural Industrial District (southeasterly).

¹⁴ There is vocabulary used in this consistency section which corresponds to the localized general direction of the specific municipal border being analyzed.

Andover Borough

Andover Borough is located to the east and northeast of Green Township. The Borough's Master Plan was adopted in 1977 and updated Master Plans were adopted in 1988 and 2017. Reexamination Reports were completed in 1996, 2006, and 2017. Andover Borough's Master Plan includes Industrial (northwesterly), Single Family Residential (central), and Commercial/Business (southeasterly) Zones along Green's border. This is consistent with Green's Neighborhood Commercial District (northwesterly) and Agricultural Residential District (central and southeasterly).

Byram Township

Byram Township is located to the east and southeast of Green Township. Byram's Master Plan was adopted in 1988 and an updated Master Plan was adopted in 2004. Reexamination Reports were completed in 1996, 2002, 2012, and 2022. Recent Housing Elements and Fair Share Plans were adopted in 2007, 2008, 2010, and 2016. Byram Township's Master Plan includes Single Family Residential Zones including Allamuchy State Park towards the southwest along the municipal border with Green. This is consistent with Green's Agricultural Residential District including Allamuchy State Park towards the southwest.

Allamuchy Township

Allamuchy Township is located to the south and southwest of Green Township. Allamuchy Township's Master Plan was last fully updated in 1999-2000. Reexamination Reports were completed in 1999, 2003, and 2005, 2013, 2015 and 2023. Allamuchy Township's Master Plan includes Single Family Residential (northwesterly) and Conservation (southeasterly) Zones along Green's border. This is consistent with Green's Agricultural Residential District including Allamuchy State Park towards the southeast.

Frelinghuysen Township

Frelinghuysen Township is located to the west of Green Township. Frelinghuysen Township's Master Plan was adopted in September 2007 and last updated in 2020. Frelinghuysen's Master Plan includes an Agricultural Residential Zone along Green's border. This is consistent with Green's Agricultural Residential District.

Sussex County

Sussex County adopted its Strategic Growth Plan in 2005 which was updated in 2014. The County completed an Open Space and Recreation Plan in 2003, along with an Open Space Plan Update in 2016, which highlights Green Township for its coordination efforts with neighboring Andover and Allamuchy Townships in the creation of a trail along the defunct Lehigh and Hudson River Railroad. The County is currently in the process of updating its Hazard Mitigation Plan, which was used to inform the Climate Change-Related Hazard Vulnerability Assessment of this Master Plan. Sussex County's Strategic Growth Plan, Open Space Plan and Hazard Mitigation Plan are consistent with Green Township's Master Plan.

Warren County

Warren County completed a Strategic Growth Plan in 2004 (Revised 2005), Transportation Plans in 1982, 2021, and 2023, and County Open Space Plans in 1974, 1980, 1998, 2008, and 2018. Green Township's Master Plan is consistent with various open space and preservation goals including the preservation of Allamuchy State Park, which extends into Warren County.

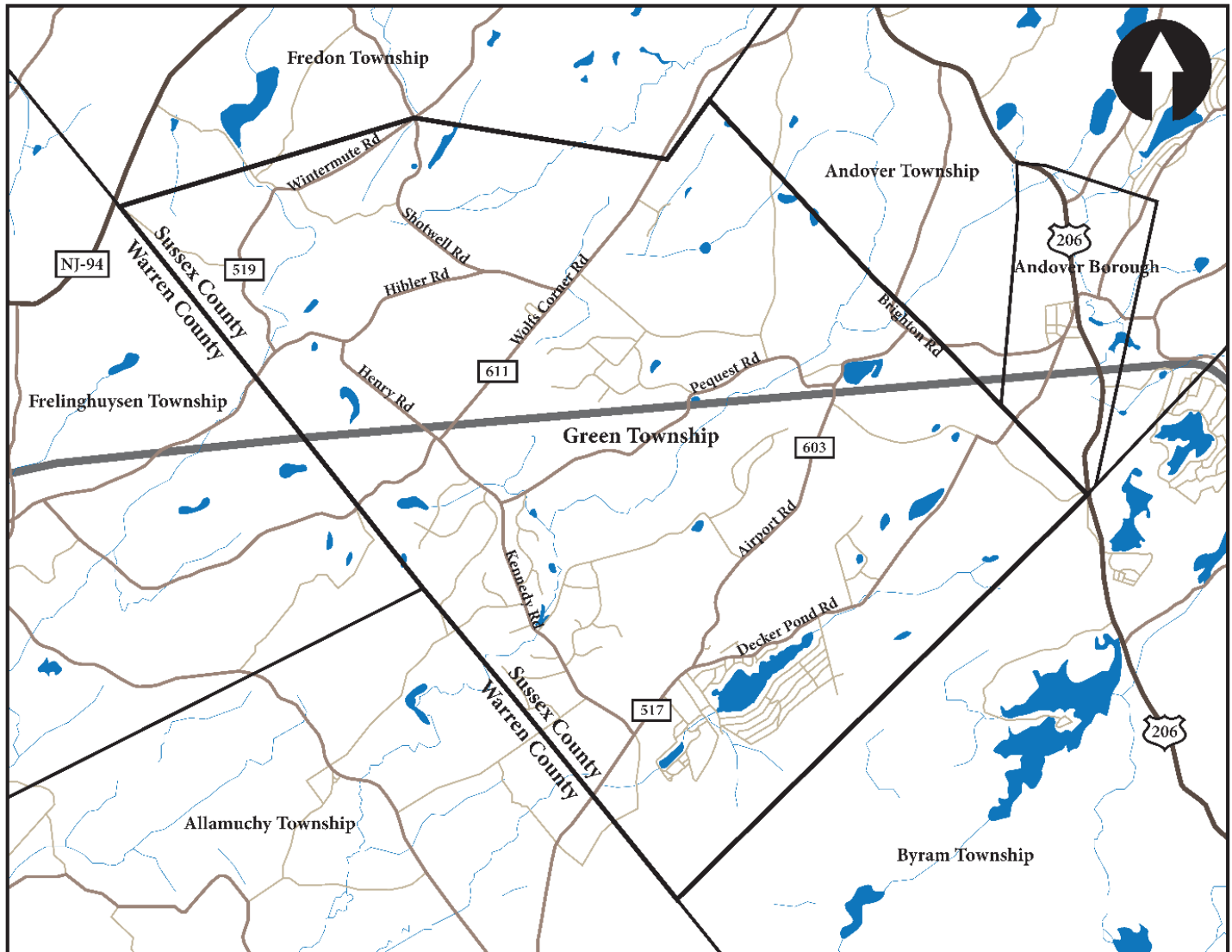
Highlands Regional Master Plan

The Highlands Regional Master Plan, adopted in 2008, contains a variety of goals that are consistent with this Master Plan including those related to protecting and identifying Natural Resources (Goals 1A, 1B & 1C), Critical Habitat Areas (Goals 1F & 1G), Lake Management (Goals 1L & 1M), Water Resources (Goals 2A, 2B & 2I), and Scenic Resources (Goal 4B). Green Township's Master Plan is consistent with the goals and objectives of the Highlands Regional Master Plan, particularly for the Preservation Area and generally for the Planning Area.

State Development and Redevelopment Plan

The New Jersey State Development and Redevelopment Plan, adopted in 2001, contains a variety of goals that are consistent with this Master Plan including Goal #2 (Conserve the State's Natural Resources and Systems), Goal #4 (Protect the Environment, Prevent and Clean Up Pollution), and Goal #7 (Preserve and Enhance Areas with Historic, Cultural, Scenic, Open Space and Recreational Value).

Exhibit 34 – Area Map with Surrounding Municipalities



Legend

- | | |
|--------------|----------------------|
| Highway Road | Municipal Boundaries |
| Major Road | Lackawanna Cut-Off |
| Minor Road | Water |

0 0.45 0.89 1.78 2.67 Miles



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