

MILLSTONE TOWNSHIP COMPREHENSIVE FARMLAND PRESERVATION PLAN 2020



2020 COMPREHENSIVE FARMLAND PRESERVATION PLAN

TOWNSHIP OF MILLSTONE
Monmouth County, New Jersey

December 16, 2020

Prepared By:



Heyer, Gruel & Associates

Community Planning Consultants

236 Broad Street, Red Bank, NJ 07701

(732) 741-2900

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

A handwritten signature in black ink that reads 'Elena Gable'. The signature is written in a cursive style and is positioned above a horizontal line.

Elena Gable, A.I.C.P., P.P.#6356

Millstone Township Committee

Mayor Fiore Masci
Deputy Mayor Nancy Grbelja
Gary Dorfman
Al Ferro
Michael Kuczinski

Millstone Planning Board

Chairman Mitchell Newman
Vice Chairman Chris Pepe
Mayor Fiore Masci
Deputy Mayor Nancy Grbelja
Anthony Conoscenti
Stacie M. Curtis
Rose Oxley
Thomas Pado
Robert Beck
Jeffrey Ziner
Mary Pinney, Alternate I
Tony Arpaia, Alternate II

Matt Shafai, PE, PP, CME, Board Engineer
Michael B. Steib, Esq, Board Attorney
Pamela D'Andrea, Board Secretary

Millstone Agriculture Advisory Board

Chairwoman Pat Butch
George Asprocolas
Amy Butewicz
Randy Peck
Kate Posten
Shirley Pinhas, Alternate I
Nancy Grbelja, Township Committee Liaison

Heyer Gruel & Associates

Elena Gable, PP, AICP, CFM
McKinley Mertz, PP, AICP, LEED-GA
Lauren Purdom, AICP

Table of Contents

Introduction & Vision Statement.....	I-1
SECTION I. Agricultural Land Base of Millstone Township.....	I-1
A. Location and Size of Agricultural Land Base	I-3
B. Soil Types & Their Agricultural Capability	I-6
C. Number of Irrigated Acres & Available Water Resources.....	I-12
D. Farmland Assessment Statistics & Trends.....	I-18
SECTION II. Millstone Township’s Agricultural Industry—Overview.....	II-1
A. Trends in Market Value of Agricultural Products.....	II-1
B. Crop/Production Trends	II-3
C. Support Services within Market Region.....	II-9
D. Other Agricultural Related Industries.....	II-9
SECTION III. Land Use Planning Context.....	III-1
A. Relationship to State Plan.....	III-1
B. Special Resource Areas.....	III-5
C. Township Master Plan & Development Regulations.....	III-5
D. Current Land Use and Trends.....	III-7
E. Public Water & Sewer Service Areas.....	III-10
F. Township Zoning Policies & Provisions.....	III-11
SECTION IV. Millstone Township’s Farmland Preservation Program—Overview.....	IV-1
A. County Agricultural Development Areas.....	IV-1
B. Preserved Farmland to Date by Program.....	IV-1
C. Consistency with SADC Strategic Targeting Project.....	IV-3
D. Eight-Year Programs.....	IV-3
E. Coordination with Municipal and County Open Space Initiatives.....	IV-3
F. Farmland Preservation Program Expended to Date by Source.....	IV-4
G. Monitoring of Preserved Farmland.....	IV-4
H. Coordination with TDR Programs.....	IV-6
SECTION V. Future Farmland Preservation.....	V-1
A. Preservation Goals.....	V-1
B. Project Area Summaries.....	V-1
C. Municipal and County Minimum Eligibility Criteria Coordination.....	V-5
D. Municipal and County Ranking Criteria Used to Prioritize Farms.....	V-6
E. Municipal and County Policies Related to Farmland Preservation Applications.....	V-7
F. Funding Plan.....	V-9
G. Farmland Preservation Program & Administrative Resources.....	V-11
H. Factors Limiting Farmland Preservation Implementation.....	V-13
SECTION VI. Economic Development.....	VI-1
A. Consistency with NJ Department of Agriculture Economic Strategies and Other Regional Plans/Initiatives.....	VI-1
B. Agricultural Industry Retention, Expansion and Recruitment.....	VI-6

SECTION VII. Natural Resource Conservation.....VII-1

- A. Natural Resource Protection Agencies.....VII-1
- B. Natural Resource Protection Programs.....VII-2
- C. Water Resources.....VII-4
- D. Waste Management Planning.....VII-6
- E. Energy Conservation Planning.....VII-7
- F. Outreach & Incentives.....VII-8

SECTION VIII. Agricultural Industry Sustainability, Retention and Promotion.....VIII-1

- A. Existing Agricultural Industry Support.....VIII-1
- B. Other Strategies to Sustain, Retain & Promote Agriculture.....VIII-3

SECTION IX. Stakeholder Input.....IX-1

Appendices

- Appendix I. Local and Regional Agricultural Support Service Providers
- Appendix II. Targeted and Preserved Farmland by Project Area

Introduction & Vision Statement

The main objective of the 2020 Millstone Township Comprehensive Farmland Preservation Plan is to guide Millstone Township's continuing efforts to preserve its remaining farmland and maintain a viable agricultural industry. Farming is a significant component of the Township's economy, and farmland is an irreplaceable natural resource. The plan identifies project areas to target for preservation and sets preservation goals in 1-, 5- and 10-year increments.

The Millstone Township Master Plan was last adopted in 2017 and includes a section on farmland preservation. This Farmland Preservation Plan serves as a comprehensive update to the 2008 Farmland Preservation Plan and the 2017 Master Plan. This Plan reflects the current state of farmland within the Township and also meets the State Agriculture Development Committee's (SADC) requirements for the municipal Planning Incentive Grant (PIG) program.

The following vision statement is based on the Statement of Principle for open space and farmland preservation that was adopted as part of the 2017 Master Plan, with additional language to emphasize the importance of maintaining the economic viability of agriculture.

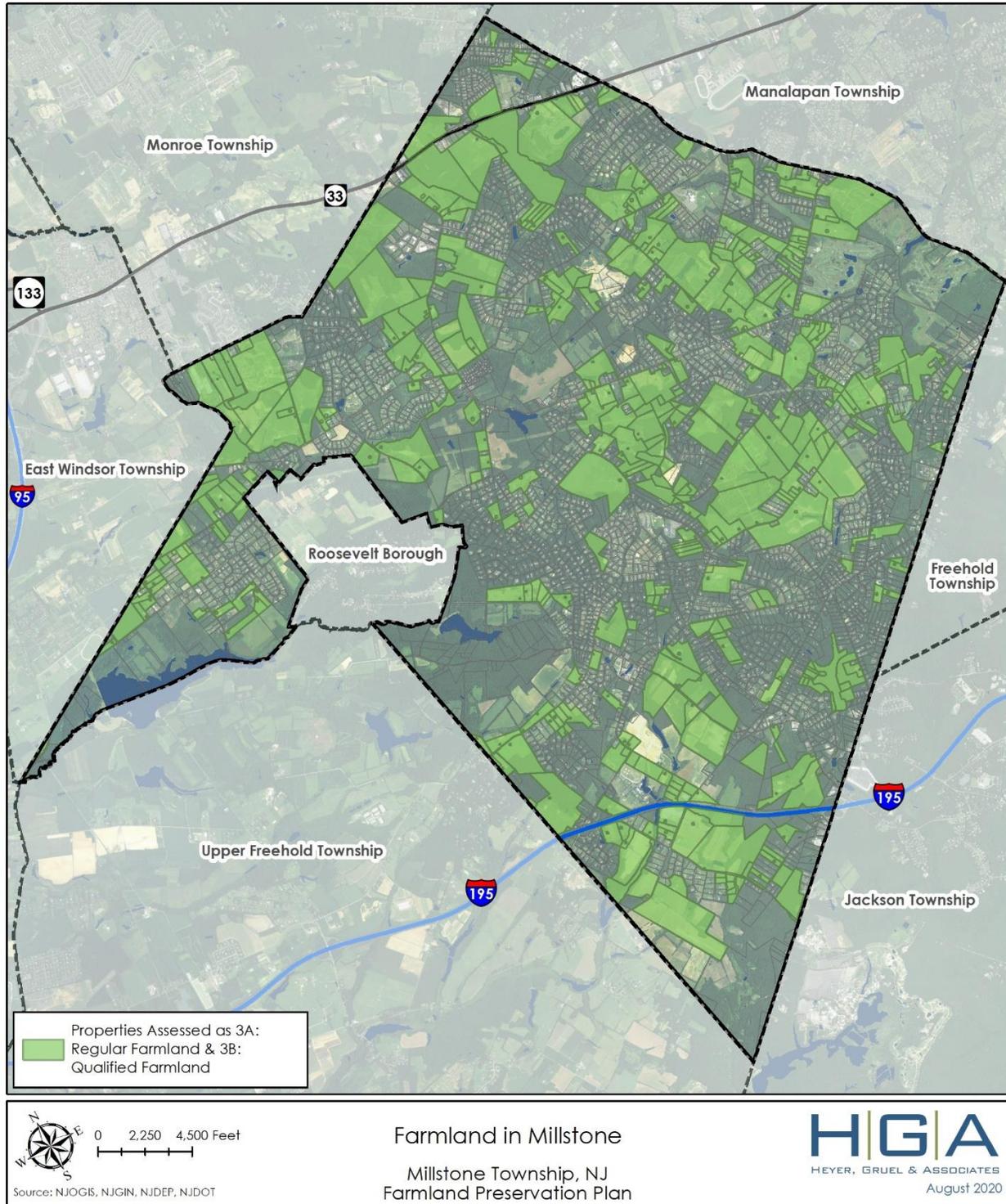
In 2027, Millstone is a thriving agricultural community, unique and identifiable by the extensive areas of farmland, open space, and environmentally sensitive features that have been preserved for future generations to use and enjoy. These natural, agricultural and environmental features give Millstone its rural aesthetic, which is highly valued by both residents and visitors alike. Millstone maintains these unique qualities by emphasizing "green" infrastructure over "grey" infrastructure. The Township accommodates development, but manages its location, intensity, and character through growth management techniques that preserve natural and rural areas from the extension of inefficient infrastructure systems and overdevelopment. A Township network of permanently preserved open spaces and farmland is needed to provide public recreation, to maintain biodiversity, to protect water quality, to support farming operations, to control flooding and to conserve the significant scenic, cultural and natural features. Efforts should be made to maintain the economic viability of the agricultural industry.

SECTION I. Agricultural Land Base of Millstone Township

Millstone Township is a rural community with a rich agricultural heritage. Preservation of farmland is a priority for the Township because maintaining a highly dense land area within the Township that is dedicated to agriculture will support the sustainability of farming within the community. Agricultural lands are found throughout Millstone Township, including significant acreage devoted to crop production, equine farms, and nursery operations.

Millstone Township is geographically situated within the heart of central New Jersey and in the western portion of Monmouth County. The Township contains approximately 37.4 square miles, or 23,936 acres, of land area. Despite tremendous growth pressure from the suburban expansion of both the Philadelphia and New York metropolitan areas, Millstone has retained its rural character. Regional growth and Millstone's attractive natural surroundings and bucolic environment continue to attract new residents. Pressure to develop residential dwellings and warehousing facilities remains high and threatens the loss of existing agricultural land, as does the often-associated friction between residential development and farmland.

The Township has over 7,800 acres of assessed farmland within the Township. As shown on the following map, "Farmland in Millstone", farms are located throughout the Township, often abutting more developed areas. These properties are either assessed as 3A: Regular Farmland or 3B: Qualified Farmland.



A significant portion of the Township is environmentally constrained, as shown on the "Environmental Constraints" map and efforts have been put into place to protect these resources. Preserving the steep slopes is particularly important in Millstone, since several regional streams have their headwaters in the central, hilly portion of the Township.

A. Location and Size of Agricultural Land Base

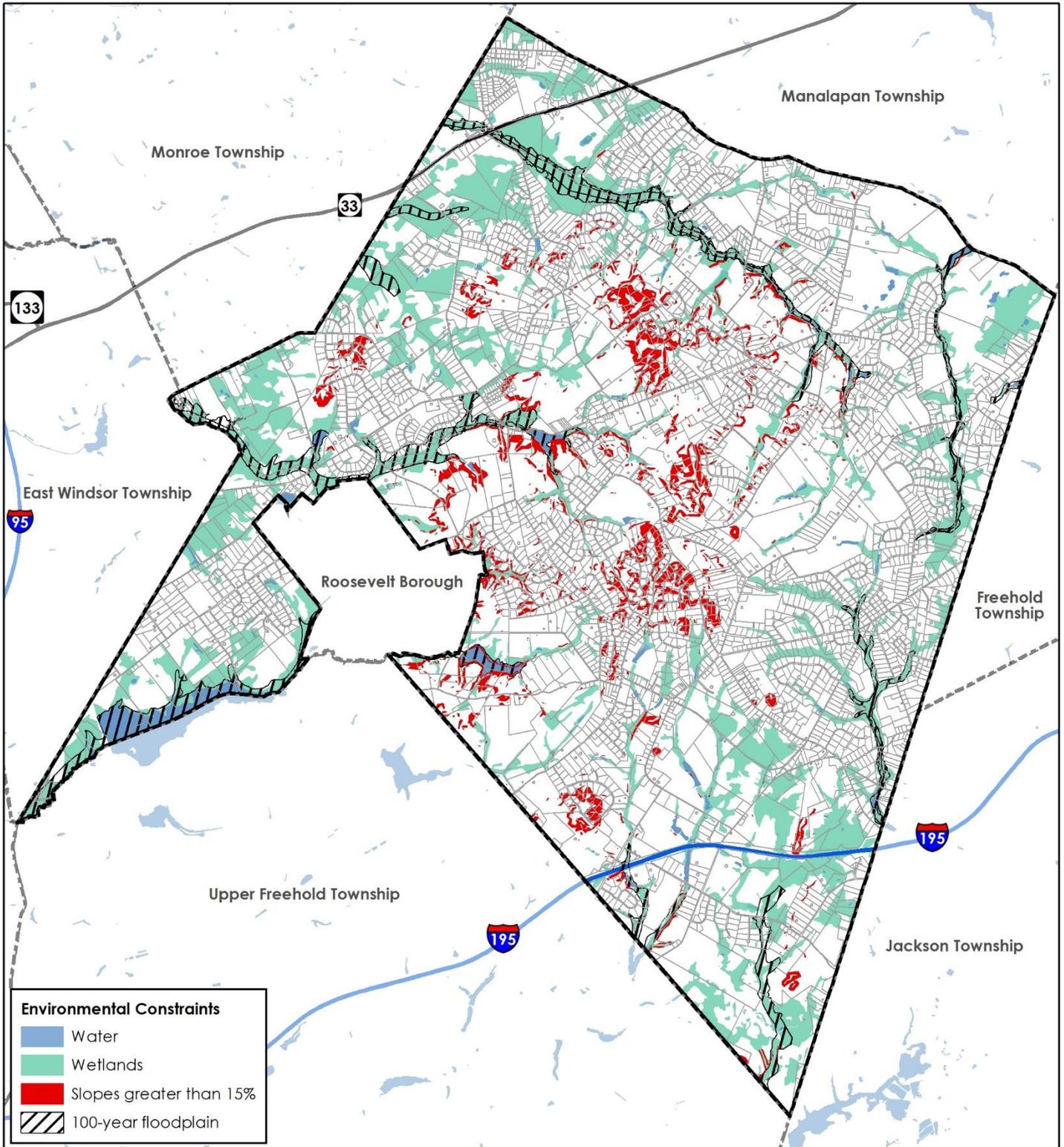
Farmland contributes significantly to the economic base of Millstone Township, is essential to the open rural landscape that characterizes much of the community and is important to maintain the community as a rural environmentally sensitive planning area. According to tax records, roughly 7,800 acres of the Township continues to be farmed, representing 32 percent of the Township's entire area. Millstone Township currently has approximately 1,445 acres of preserved farmland. To maintain its rural environment and landscape, the Township needs to preserve as much farmland as possible.

Agricultural lands are found throughout the Township as shown on the map entitled "2015 Land Use/Land Cover". The NJDEP's 2015 Land Use/Land Cover GIS layer indicates a total of 4,968 acres of agricultural land. The NJDEP considers woodland to be a separate land use category from agricultural land, accounting for some of the differences in the calculation of total farmland acreage.

Along the perimeters of the Township, ponds, streams, forests and woodlands are the primary natural features. Millstone contains a small section of the Pine Barrens in the southeastern portion of the Township. The Assunpink Watershed, a drainage area, is situated in the northwestern corner and south-central portion of Millstone. Assunpink Lake, located in the northwestern corner of Millstone, is the Township's largest lake. There are several additional smaller lakes scattered throughout the Township.

Land use is directly affected and limited by the steep slope conditions which occur in portions of the Township. Millstone is situated on a major divide which separates the major bodies of water that flow into the drainage basins.

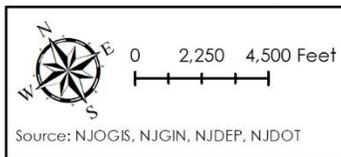
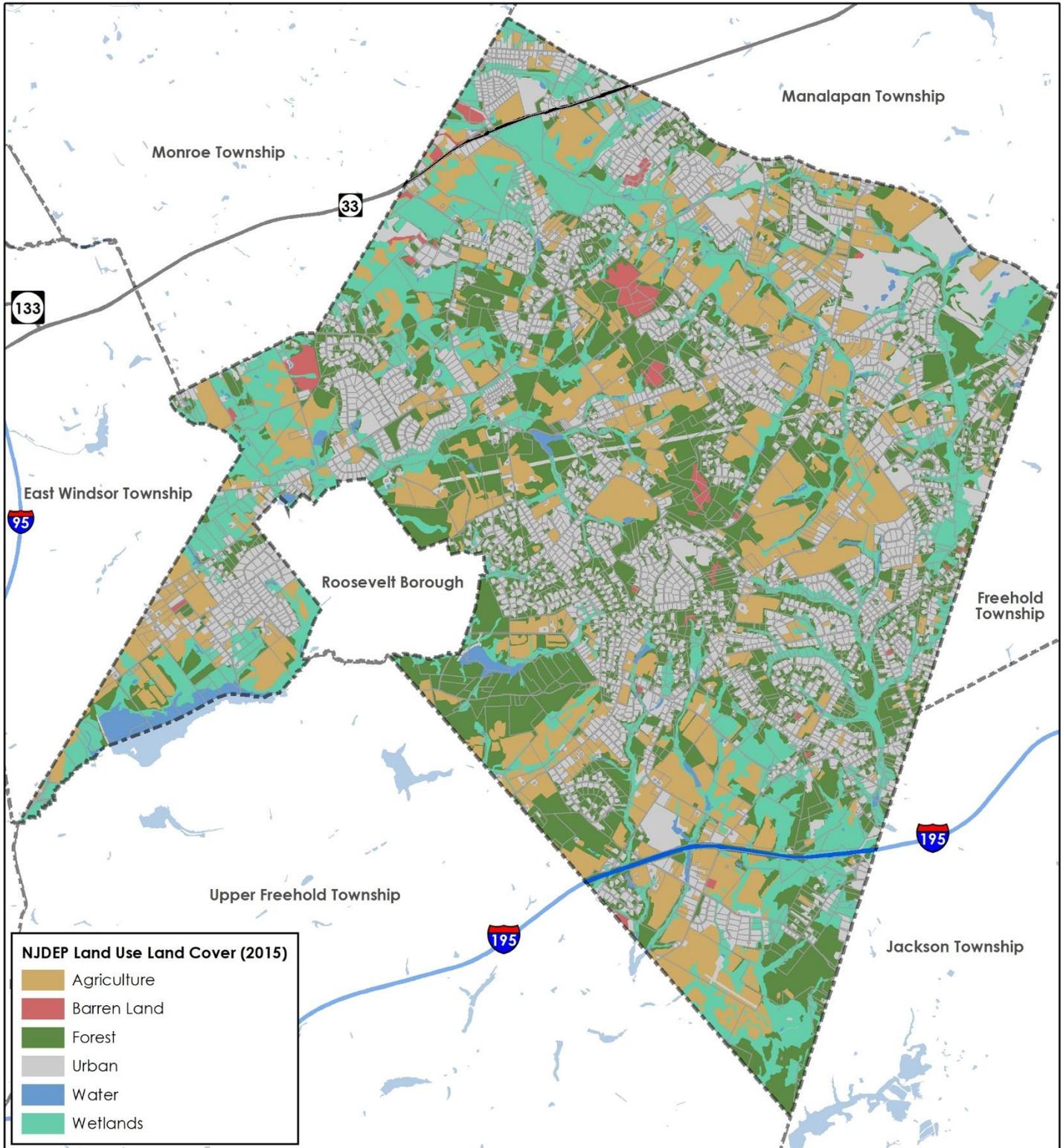
There are three primary drainage basins in Millstone Township: the Raritan River Drainage Basin located to the north, the Delaware River Drainage Basin located to the west, and the Atlantic Coastal Drainage Basin located to the east. Within these three major drainage basins, there are seven sub-drainage basins which account for approximately 45 percent of the total land area in Millstone.



0 2,250 4,500 Feet
Source: NJGIS, NJGIN, NJDEP, NJDOT

Environmental Constraints
Millstone Township, NJ
Farmland Preservation Plan





Land Use Land Cover
Millstone Township, NJ
Farmland Preservation Plan



B. Soil Types & Their Agricultural Capability

Millstone Township is noted for its topographic features, with some of the highest hills in the central New Jersey area. The highest point in the Township is Pine Hill, which is situated in the east central portion of Millstone, west of Stillhouse Road. Pine Hill is 372 feet above sea level. The lowest points in Millstone are along the streams along the perimeter of the Township, with the lowest being found in the Assunpink Creek at an elevation of 98 feet. The remaining land in Millstone has gently rolling hills and a relatively level landscape.

In the central portion of Millstone, there is a series of steep slopes, or "cuestas", which dominate the overall landscape of the Township. A cuesta is a ridge or hill with a steep slope on one side and a gentle slope on the other side. The steep land in Millstone generally is located in the area of Pine Hill Road, surrounding Perrineville Lake, and near the intersection of Sweetman's Lane and Backbone Hill Road, near Roosevelt Borough and Upper Freehold Township.

Slope of the land is a critical factor in agricultural productivity. Steep slopes are prone to erosion while little to no slope has poor drainage. Generally, farm equipment can operate on slopes up to 5 percent, while steeper slopes can accommodate pastureland, nurseries, or field crops that are cultivated by hand.

The 2019 Soils Map of Millstone Township identifies eighty-five specific soil types. The primary soil type in Millstone Township is sandy loam. Soils in the Township also include sand deposits with some clay, silt and gravel. The wide range of soil types can be attributed to the Township's varied topography. An important soil type in Millstone is hydric soil, which is distributed throughout most of the Township. This soil type is usually associated with the presence of freshwater wetlands. Slow drainage, frequent flooding, and a shallow water table are characteristic traits of hydric soils.

An important factor for agriculture is the productivity of the soil. The Natural Resources Conservation Service (NRCS) classifies certain soils as "Prime", of "Statewide Importance", or "Unique" based on their agricultural productivity.

Prime farmland soils rest on land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops. They have the quality, growing season and moisture supply needed to produce sustained high yields of crops when treated and managed according to acceptable farming methods. Prime soils are not excessively erodible or saturated with water for a long period of time, and they either flood infrequently or are protected from flooding.

Farmland soils of Statewide Importance produce high yields of crops when treated and managed according to acceptable farming methods but have yields that are not as high as prime soils. Unique soils exhibit specific qualities that may be favorable to the production of specialized crops such as blueberries.

Prime, Statewide, and Unique farmland soils cover 74 percent of Millstone Township. As shown on the "Agricultural Soils" map, these agricultural soils are found in abundance throughout the Township. These soils are less common within wetland areas and bordering the Township's principal waterways.

Knowledge of soil types, characteristics, and their geographic distribution can inform planning and policy processes. It can also influence the smart growth and development of a community.

Data on soil depth, permeability, water table and other physical properties are useful when determining the suitability of soils for foundation construction, location of septic fields, landscaping, and construction of roads, athletic fields, and parks.

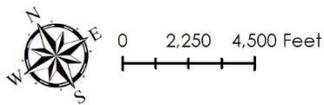
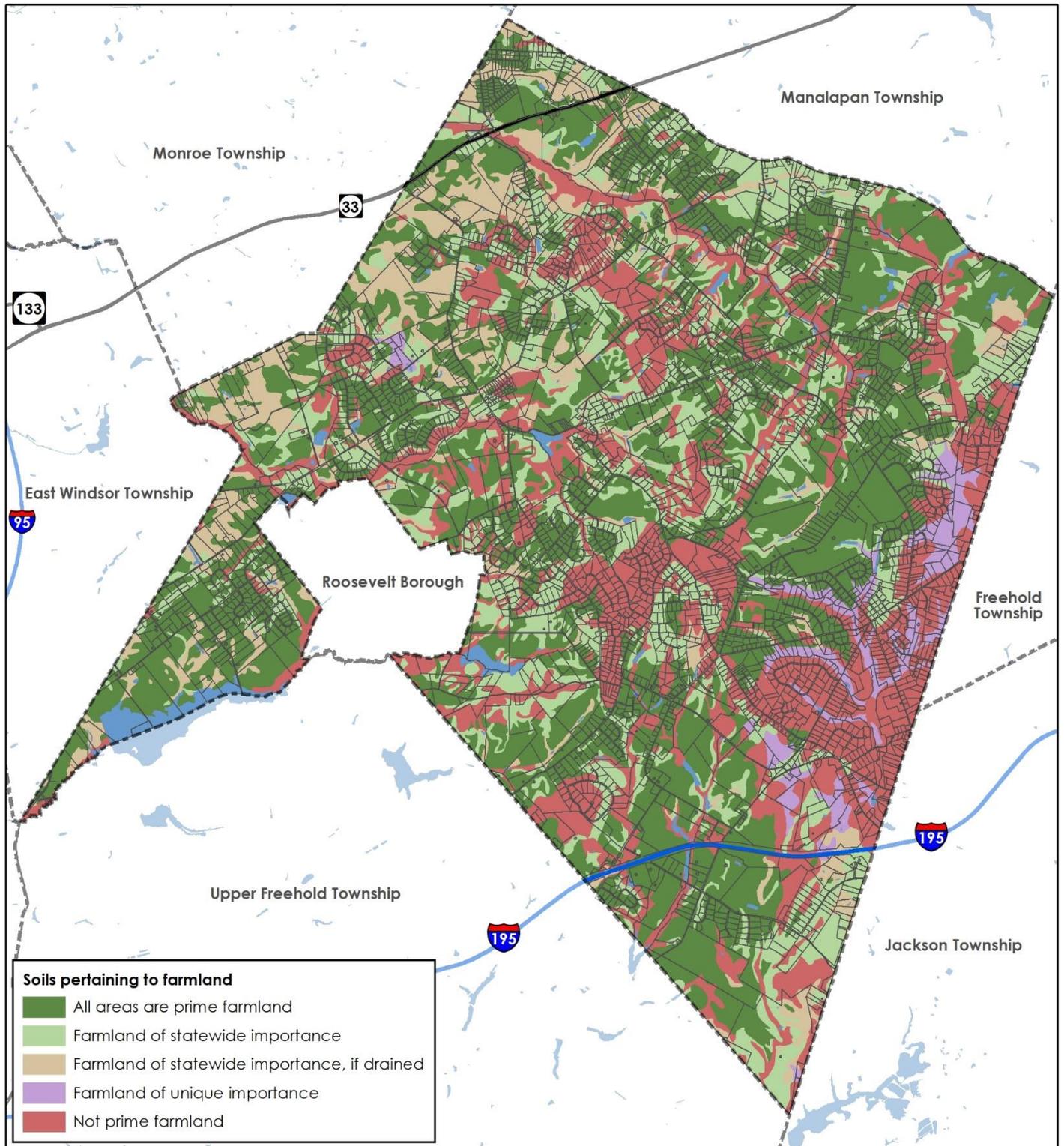
An important consideration in farmland preservation is the quality of soils for agricultural production. The major advantages of prime agricultural soils are their fertility and lack of limitations for crop production purposes. Prime soils will support almost any type of agriculture common to this region. Soil limitations include steep slopes, extreme stoniness or wetness, shallow depth to bedrock and poor percolation properties, all of which may hinder cultivation. Prime agricultural soils produce superior crop yield on a consistent basis due to this high fertility content, when measured against those soils not rated as prime.

The soil data provided in this report is provided by the Natural Resource Conservation Service (NRCS) of the United States Department of Agriculture (USDA), which started conducting national soil surveys in 1935 and continues today. The farmland classification prescribed by SADC identifies map units as prime farmland soils, farmland soils of statewide importance, farmland soils of unique importance, or other soils that are not suitable for agriculture. Farmland classification identifies the location and extent of most suitable soils for producing food, feed, fiber, forage, and oilseed crops. This identification is useful in the management and maintenance of the resource base that supports the productive capacity of American agriculture.

Millstone Township has some of the best soils in the state for agriculture. The following table compares the total acreage of soil in the Township to that of the active farmland within the Township. The active farmland was derived from using the NJDEP's 2015 Land Use Land Classification. As shown below, approximately 36 percent of the agricultural land consists of prime farmland soils and about 5 percent of agricultural land is considered "not prime" for agriculture.

Active Farmland by Category			
Soil Classification	Total Acres	Active Farmland	% of Total Acres
Prime Farmland Soils	9,580	3,462	36.1%
Statewide Importance Soils	5,032	1,206	24.0%
Statewide Importance Soils, if drained	2,382	156	6.5%
Soils of Unique Importance	628	6	0.9%
Not Prime Farmland Soils	6,182	300	4.9%
Total	23,803	5,130	21.6%

Source: USDA NRCS WSS, NJDEP LULC 2015. Acreage calculated in GIS



Source: NJOGIS, NJGIN, NJDEP, NJDOT

Agricultural Soils

Millstone Township, NJ
Farmland Preservation Plan

HGA
HEYER, GRUEL & ASSOCIATES
August 2020

Prime Farmland Soil

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. SADC Prime Farmland Soils include all those soils in the USDA Land Capability Class I and selected soils from USDA Land Capability Class II. USDA Class I soils have slight limitations that restrict their use. USDA Class II soils have moderate limitations that reduce the choice of plants or require moderate limitations that reduce the choice of plants or require moderate conservation practices. SADC Prime Farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses.

The criteria for prime farmland designation include: an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges from 0 to 6 percent.

According to the NRCS, some areas of prime farmland may require measures that overcome a hazard or limitation, such as flooding, wetness, and drought. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. In Millstone Township, the following SADC Prime Farmland Soils are found:

Prime Farmland Soils		
Soil Description	Acreage	Percent
Adelphia loam, 0-2% slopes	232.30	2.4%
Adelphia loam, 2-5% slopes	326.13	3.4%
Collington loam, 0-2% slopes	119.52	1.2%
Collington sandy loam, 2-5% slopes	932.19	9.7%
Colts Neck sandy loam, 2-5% slopes	87.90	0.9%
Downer sandy loam, 0-2% slopes, Northern Tidewater Area	6.46	0.1%
Freehold loam, 0-2% slopes	236.75	2.5%
Freehold loamy sand, 0-5% slopes	171.61	1.8%
Freehold sandy loam, 2-5% slopes	3,070.49	32.1%
Holmdel sandy loam, 0-2% slopes	144.44	1.5%
Holmdel sandy loam, 2-5% slopes	831.32	8.7%
Keyport sandy loam, 0-2% slopes	1.34	0.0%
Keyport sandy loam, 2-5% slopes	127.93	1.3%
Marlton loam, 2-5% slopes	421.86	4.4%
Matapeake loam, 0-2% slopes	<0.01	<0.01%
Sassafras gravelly sandy loam, 2-5% slopes	33.34	0.3%
Sassafras loam, 0-2% slopes	362.07	3.8%
Sassafras sandy loam, 2-5% slopes, Northern Coastal Plain	1,864.29	19.5%

Soil Description (continued)	Acreage	Percent
Woodstown loam, 0-2% slopes, Northern Coastal Plain	139.83	1.5%
Woodstown sandy loam, 2-5% slopes, Northern Coastal Plain	469.82	4.9%
Total Prime Soils	9,579.61	100.0%

Source: United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey

Unique Soils

Unique soils are soils other than prime farmland soils that are used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods. Examples of such crops are citrus, tree nuts, olives, cranberries, and other fruits and vegetables. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

Unique Soils		
Soil Description	Acreage	Percent
Atsion sand, 0-2% slopes, Northern Coastal Plain	249.38	39.7%
Atsion sand, 0-2% slopes, Northern Tidewater Area	134.51	21.4%
Manahawkin muck, 0-2% slopes, frequently flooded	244.21	38.9%
Total Unique Soils	628.09	100.0%

Source: United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey

Soils of Statewide Importance

SADC Soils of Statewide Importance include those soils in the USDA Land Capability Class II and Class III that do not meet the criteria as SADC Prime Farmland Soils. USDA Class II soils have moderate limitations that reduce the choice of plants or require moderate conservation practices. Class III soils have severe limitations that reduce the choice of plants or require special conservation practices, or both. These soils can economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce yields as high as SADC Prime Farmland if conditions are favorable. Criteria for defining and delineating this land are to be determined by the appropriate State agency or agencies. In some States, additional farmlands of statewide importance may include tracts of land that have been designated for agriculture by State law.

Soils of Statewide Importance		
Soil Description	Acreage	Percent
Collington sandy loam, 5-10% slopes, eroded	261.81	5.2%
Colts Neck sandy loam, 5-10% slopes	20.91	0.4%
Colts Neck sandy loam, 5-10% slopes, eroded	41.70	0.8%
Downer loamy sand, 0-5% slopes, Northern Coastal Plain	30.90	0.6%
Downer loamy sand, 5-10% slopes, Northern Coastal Plain	20.02	0.4%
Downer loamy sand, 5-10% slopes, Northern Tidewater Area	2.17	<0.01%
Freehold loamy sand, 5-10% slopes	218.57	4.3%

Soil Description (continued)	Acreage	Percent
Freehold sandy loam, 5-10% slopes	207.22	4.1%
Freehold sandy loam, 5-10% slopes, eroded	525.08	10.4%
Hammonton loamy sand, 0-5% slopes	33.77	0.7%
Keyport sandy loam, 5-10% slopes	52.87	1.1%
Klej loamy sand, 0-5% slopes	133.64	2.7%
Klej loamy sand, clayey substratum, 0-5% slopes	4.42	0.1%
Marlton sandy loam, 5-10% slopes	133.81	2.7%
Mattapex and Bertie loams, 0-5% slopes	0.01	<0.01%
Pemberton loamy sand, 0-5% slopes	328.06	6.5%
Sassafras gravelly sandy loam, 5-10% slopes	9.42	0.2%
Sassafras sandy loam, 10-15% slopes	258.90	5.1%
Sassafras sandy loam, 5-10% slopes, Northern Coastal Plain	576.85	11.5%
Tinton loamy sand, 0-5% slopes	1,440.19	28.6%
Tinton loamy sand, 5-10% slopes	731.90	14.5%
Total Statewide Importance Soils	5,032.21	100.0%

Source: United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey

The following chart indicates the soils of statewide importance if drained. These soils can be capable of producing yields as high as state wide important soils when drained.

Soils of Statewide Importance if Drained		
Soil Description	Acreage	Percent
Elkton loam, 0-2% slopes, rarely flooded	237.61	10.0%
Fallsington loams, 0-2% slopes, Northern Coastal Plain	464.48	19.5%
Kresson loam, 2-5% slopes	30.47	1.3%
Shrewsbury sandy loam, 0-2% slopes	1,649.48	69.2%
Total Statewide Importance Soils if Drained	2,382.04	100.0%

Source: United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey

Soils of Local Importance

Soils of local importance include those soils that are not prime or of statewide importance and are used for the production of high value food, fiber or horticultural crops. In some local areas, certain farmlands are not identified as having national or statewide importance. Where appropriate, these lands are identified by the local agency or agencies concerned as important to local agricultural production. These may also include tracts of land that have been designated for agriculture by local ordinance. Millstone does not have any soils of local importance.

Not Prime Farmland Soils

Not Prime Farmland Soils include those soils that are not prime farmland, of statewide importance, unique, or of local importance. These soils lack the physical and chemical which allow for agricultural crops to thrive. The following table shows the SADC Soils of Not Prime Farmland:

Not Prime Farmland Soils		
Soil Description	Acreage	Percent
Colemantown loam, 0-2% slopes, occasionally flooded	407.45	6.6%
Collington sandy loam, 10-15% slopes, severely eroded	112.12	1.8%
Colts Neck sandy loam, 10-15% slopes, eroded	56.11	0.9%
Colts Neck sandy loam, 15-25% slopes, eroded	26.47	0.4%
Evesboro sand, 0-5% slopes	853.60	13.8%
Evesboro sand, 10-15% slopes	247.73	4.0%
Evesboro sand, 15-25% slopes	381.83	6.2%
Evesboro sand, 5-10% slopes	414.00	6.7%
Fluvaquents, loamy, 0-3% slopes, frequently flooded	0.97	<0.01%
Freehold sandy loam, 10-15% slopes	18.69	0.3%
Freehold sandy loam, 10-15% slopes, eroded	328.66	5.3%
Freehold sandy loam, 15-25% slopes, eroded	329.80	5.3%
Holmdel-Urban land complex, 0-5% slopes	1.14	<0.01%
Humaquepts, 0-3% slopes, frequently flooded	935.10	15.1%
Keyport sandy loam, 10-15% slopes	21.46	0.3%
Lakehurst sand, 0-5% slopes	154.49	2.5%
Lakewood sand, 0-5% slopes	479.64	7.8%
Lakewood sand, 5-10% slopes	92.59	1.5%
Phalanx loamy sand, 10-25% slopes	10.78	0.2%
Phalanx loamy sand, 5-10% slopes	65.36	1.1%
Sassafras sandy loam, 15-25% slopes	202.13	3.3%
Tinton loamy sand, 10-25% slopes	404.27	6.5%
Udorthents, 0-8% slopes	97.03	1.6%
Udorthents-Urban land complex, 0-8% slopes	16.29	0.3%
Pits, sand and gravel	230.02	3.7%
Water	293.78	4.8%
Total Not Prime Farmland Soils	6,181.51	100.0%

Source: United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey

C. Number of Irrigated Acres & Available Water Resources

Irrigation is a technique used by farmers to create viable agricultural land in areas previously unsuited for intensive crop production. Irrigation transports water to crops to increase yield, keeps crops cool under excessive heat conditions, and to prevent freezing.

According to the 2017 SADC Farmland Assessment data, the Township had a total of 53 irrigated acres. Approximately 18 acres are irrigated for field crops, 22 acres are ornamental irrigated acres, 7 acres are fruit irrigated acres, and 6 acres of vegetable irrigated acres. This represent a drastic reduction to the Township's 2004 SADC Farmland Assessment data, where 226 acres were reported as irrigated. It is important to note that the irrigated acres are reported annually by farmers on the FA-1 form. The acreage may be underreported by the individual farms. In addition, many farms in Millstone changed production to crops such as corn, soybeans, or other grain crops

that do not require irrigation as did the vegetables previously grown. Some reasons for these changes are 1) availability and cost of labor; 2) rising average age of the farmer; 3) no succession family members to take over the farm; and 4) land leased to off-site grain farmers.

According to the US Census of Agriculture for Monmouth County, the overall number of irrigated farms has decreased since 1987. Irrigated farms between 1 to 49 acres in size peaked in 1997 at 181 farms and decreased to 34 farms in 2012. In 2017, there were a total of 36 farms between 1 to 49 acres that utilized irrigation techniques. In 2002, there were 58 farms between 50 and 499 acres that utilized irrigation, which decreased significantly in 2017, when only 4 farms within this size category remained. Farms greater than 500 acres peaked in 1987 when there were 12 farms, and in 2012 and 2017, only 3 farms utilized irrigation.

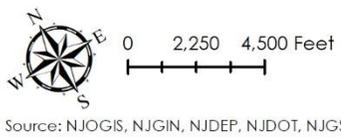
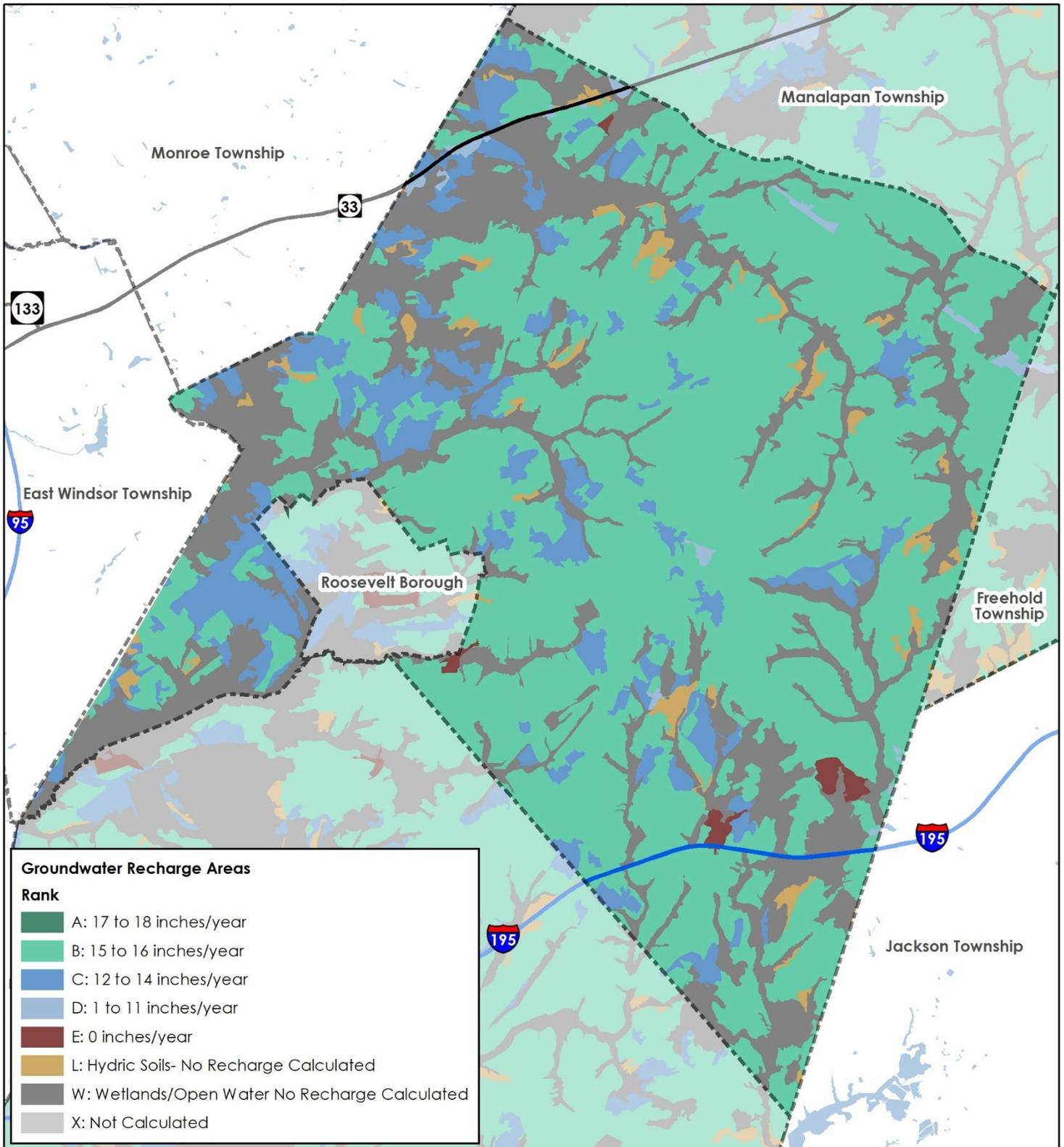
Monmouth County Irrigated Farms by Farm Size						
Year	1-49 acres		50-499 acres		500+ acres	
	Number	Percent Change	Number	Percent Change	Number	Percent Change
1987	114	-	53	-	12	-
1992	128	12.3%	44	-17.0%	8	-33.3%
1997	181	41.4%	41	-6.8%	10	25.0%
2002	159	-12.2%	58	41.5%	11	10.0%
2007	174	9.4%	36	-37.9%	11	0.0%
2012	34	-80.5%	7	-80.6%	3	-72.7%
2017	36	5.9%	4	-42.9%	3	0.0%

Source: Census of Agriculture

The "Groundwater Recharge Areas" map shows the ground water recharge areas, determined by the New Jersey Geological Society. As shown on the map and the table below, more than half of the Township is classified as having a groundwater recharge rank of B which provides 15 to 16 inches of recharge annually. It is important to note that over 27 percent of the Township is classified as wetlands, open water areas and hydric soils and does not provide any recharge utilizing this data set.

Groundwater Recharge		
Rank	Acres	Percent
A: 17 to 18 inches/year	0.0	0.0%
B: 15 to 16 inches/year	14,375.4	60.5%
C: 12 to 14 inches/year	2,465.2	10.4%
D: 1 to 11 inches/year	164.8	0.7%
E: 0 inches/year	126.4	0.5%
L: Hydric Soils- No Recharge	486.0	2.0%
W: Wetlands/Open Water	6,134.7	25.8%
X: Not Calculated	1.5	0.0%
Total	23,754.0	100.0%

Source: New Jersey Geological Survey



Groundwater Recharge Areas
 Millstone Township, NJ
 Farmland Preservation Plan



The 2008 Farmland Preservation Plan notes that farmers in the Township rely upon precipitation to nourish their crops during the growing season, while others have man-made ponds that assist with irrigation.

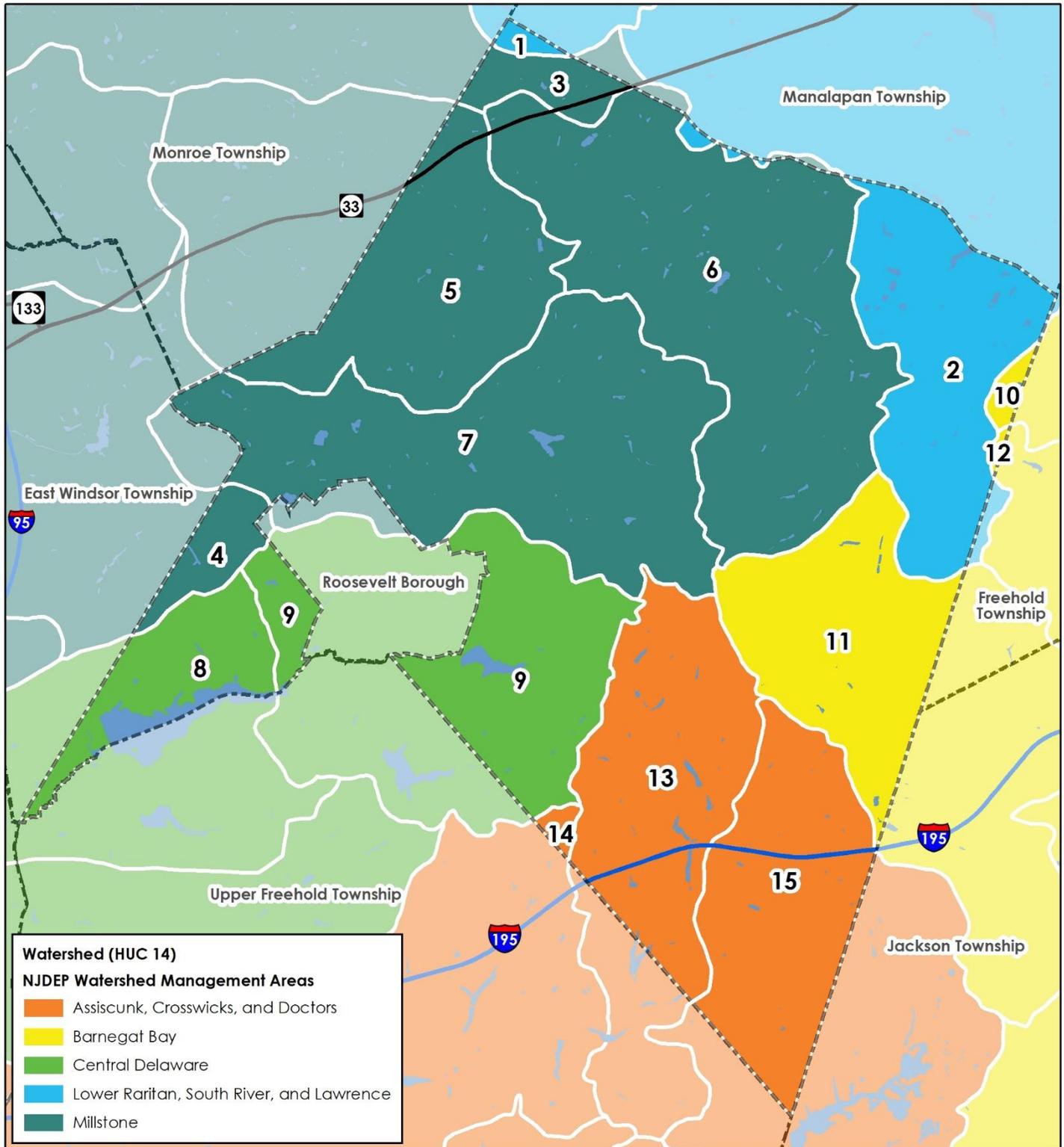
The 2017-2022 New Jersey Water Supply Plan notes that the Agriculture, Aquaculture and Horticulture Water Usage Certificate govern the water usage by the agricultural community. Certification holders are required to submit a record of the amount of water withdrawn annually to the NJDEP to ensure consistency with the irrigated acreage and previously reported totals. However, it is often difficult to determine if the amount of water reported as most of the agricultural diversions are not metered as the Township does not have potable water infrastructure.

However, the State Water Supply Plan also notes that based upon agricultural water use data reported in 2015, agricultural users are using only about 30 percent of their allocation. The NJDEP is continuing to work with the State Agriculture Development Committee, the Department of Agriculture, Rutgers Agricultural Agents, and other agricultural stakeholders to obtain a solution for gathering better agricultural water use data.

Watersheds and Hydrology

A watershed is an area that drains into a common waterway such as a stream, lake, estuary, wetland, or, ultimately, the ocean. The watershed includes both the waterway itself and the entire land area that drains into it. Geographic features such as hills and slopes separate distinct watershed systems. Watershed Management Areas (WMAs) are the regulatory units of the NJDEP's Division of Watershed Management for categorizing, managing and protecting watersheds throughout the State. Millstone is split between five watershed management areas: Lower Raritan, South River, and Lawrence WMA, Millstone WMA, Central Delaware WMA, Barnegat Bay WMA and Assiscunk, Crosswicks, and Doctors WMA.

There are 15 sub watersheds within the Township: Manalapan Bk (incl LkManlpn to 40d16m15s), Cranbury Brook (above NJ Turnpike), Rocky Brook (below Monmouth Co line), Millstone R (Applegarth road to Rt 33), Manalapan Brook (above 40d 16m 15s), Millstone River (above Rt 33), Rocky Brook (above Monmouth Co line), Assunpink Ck (NewSharonBr to/incl Lake), Assunpink Ck (above Assunpink Lake), Metedeconk R NB(above I-195), Doctors Creek (above 74d28m40s), Toms River (above Francis Mills), Metedeconk R SB (above I-195 exit 21 rd), Doctors Creek (Allentown to 74d28m40s) and Lahaway Creek (above Prospertown). These sub watersheds are shown on the following "Watershed Management Areas & Subwatersheds" Map.



Source: NJOGIS, NJGIN, NJDEP, NJDOT, NJGS

**Watershed Management Areas
& Subwatersheds**
 Millstone Township, NJ
 Farmland Preservation Plan

The table below details each of the subwatersheds' acreage within Millstone Township:

Watershed Management Areas in Millstone					
Watershed Management Area	Watershed	Sub-watershed	Acres	Percent	Map Key*
Lower Raritan, South River, and Lawrence WMA	Manalapan Brook	Manalapan Bk(incl LkManlpn to 40d16m15s)	67.2	0.3%	1
		Manalapan Brook (above 40d 16m 15s)	2219.4	9.3%	2
Millstone WMA	Millstone River (above Carnegie Lake)	Cranbury Brook (above NJ Turnpike)	359.8	1.5%	3
		Rocky Brook (below Monmouth Co line)	364.5	1.5%	4
		Millstone R (Applegarth road to Rt 33)	2264.0	9.5%	5
		Millstone River (above Rt 33)	4707.1	19.8%	6
		Rocky Brook (above Monmouth Co line)	4022.9	16.9%	7
Central Delaware WMA	Assunpink Creek (above Shipetaukin Ck)	Assunpink Ck (NewSharonBr to/incl Lake)	978.8	4.1%	8
		Assunpink Ck (above Assunpink Lake)	2071.3	8.7%	9
Barnegat Bay WMA	Metedeconk River NB	Metedeconk R NB (above I-195)	91.6	0.4%	10
	Toms River (above Oak Ridge Parkway)	Toms River (above Francis Mills)	2071.5	8.7%	11
	Metedeconk River SB	Metedeconk R SB (above I-195 exit 21 rd)	19.3	0.1%	12
Assiscunk, Crosswicks, and Doctors WMA	Doctors Creek	Doctors Creek (above 74d28m40s)	2347.2	9.9%	13
		Doctors Creek (Allentown to 74d28m40s)	66.0	0.3%	14
	Crosswicks Ck (Doctors Ck to New Egypt)	Lahaway Creek (above Prospertown)	2149.9	9.0%	15

*Note: The Map Key column corresponds to the Watershed Management Areas & Subwatersheds Map in this Plan and should not be confused with NJDEP's Watershed Management Areas.

D. Farmland Assessment Statistics & Trends

The Township's agricultural land has been decreasing since 1983. In 1983, the acreage of total agricultural land was 13,941 acres, decreasing to 7,105 acres in 2017. The figure below shows the trends of farmland by type as well as the total acreage of agricultural lands.

Agricultural Land in Millstone Township												
Year	Cropland		Woodlands		Pastureland		Equine		Renewable Energy		Total Agricultural Land	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	% Change
1983	8,978	64.4%	3,947	28.3%	1,005	7.2%	0	0.0%	0	0.0%	13,941	-
1990	8,499	67.0%	3,337	26.3%	880	6.9%	0	0.0%	0	0.0%	12,684	-9%
2000	6,388	61.9%	3,125	30.3%	703	6.8%	107	1.0%	0	0.0%	10,323	-19%
2004	5,254	57.2%	3,104	33.8%	740	8.1%	84	0.9%	0	0.0%	9,182	-11%
2017	3,655	51.4%	2,695	37.9%	694	9.8%	60	0.8%	1	0.0%	7,105	-23%

Source: Farmland Assessment Report via SADC

The chart above shows the agricultural land in the Township by type, acreage, and percentage for the years 1983, 1990, 2000, 2004, and 2017. The table reiterates that woodland has remained around 30 percent since 1983, with a recent spike to 37.9 percent in 2017. Cropland has consistently comprised most of all agricultural land in the Township since 1983, but the total acreage has declined in recent years, reaching 51.4 percent as of 2017. Additionally, between 2004 and 2017, the total agricultural land decreased by 6,836 acres, representing an overall loss of 23 percent. The total acreage of agricultural land in 2017 is the lowest it's been since 1983.

Although no data is available on the Township level, the number of farms in Monmouth County was on the rise until 2007. Between the years 1992 and 1997, the number of farms increased by 22.2 percent. However, the number of farms has decreased significantly between 2007 and 2012, by 13.6 percent, or 30 farms. The table below shows the number of farms within Monmouth County over the past thirty years.

Number of Monmouth County Farms		
Year	Number	Percent Change
1987	179	-
1992	180	0.6%
1997	220	22.2%
2002	228	3.6%
2007	221	-3.1%
2012	191	-13.6%
2017	199	4.2%

Source: Census of Agriculture

The average size of farms has been decreasing over the last thirty years. The decrease was significant from 1987 to 2007. In 1987, the average size of farms was 78 acres. That number

dropped steadily throughout the subsequent years until it reached 47 acres in 2007. The average size of farms has remained at 47 acres through 2017.

Monmouth County Average Farm Size		
Year	Acres	Percent Change
1987	78	-
1992	69	-11.5%
1997	68	-1.4%
2002	53	-22.1%
2007	47	-11.3%
2012	47	0.0%
2017	47	0.0%

Source: Census of Agriculture

The median farm size fluctuated between as high as 15 acres and as low as 11 acres from 1997 to 2017. In 1997, the median farm size was 13 acres, which spiked in 2002 to 15 acres. Since 2002, however, the median size of farms has decreased. In 2007, the median farm size dropped to its lowest point of 11 acres. In 2012 and 2017, the median farm size has remained at 12 acres.

Monmouth County Median Farm Size		
Year	Acres	% Change
1997	13	-
2002	15	15.4%
2007	11	-26.7%
2012	12	9.1%
2017	12	0.0%

Source: Census of Agriculture

The size of farms within Monmouth County has overall experienced a decreasing trend since 1987, likely due to farmland being subdivided and developed with other land uses. Farms between 1 to 49 acres increased consistently between 1987 through 2007, peaking at 805 farms within this size category. In 2012, this category decreased to 678 farms before increasing to 715 farms in 2017.

Farms within the 50 to 499 acres category experienced a continuous decrease since 1987. In 1987, there were 193 farms and in 2017, there were 105 farms. The largest loss of farmland within this category occurred between 2002 and 2007, when there were 30 percent fewer farms in this category than 5 years prior.

Farms greater than 500 acres peaked in 1997 to 31 farms, and decreased to its lowest amount in 2012, when there were only 10 farms remaining that were greater than 500 acres. However, in 2017, there were a total of 18 farms that were greater than 500 acres in Monmouth County.

These trends indicate that larger farms are being subdivided into smaller lots, which results in smaller farms and contribute to the loss of farmland throughout Monmouth County.

Monmouth County Farms by Farm Size						
Year	1-49 acres		50-499 acres		500+ acres	
	Number	Percent Change	Number	Percent Change	Number	Percent Change
1987	618	-	193	-	29	-
1992	653	5.7%	170	-11.9%	27	-6.9%
1997	699	7.0%	144	-15.3%	31	14.8%
2002	718	2.7%	150	4.2%	24	-22.6%
2007	805	12.1%	105	-30.0%	22	-8.3%
2012	678	-15.8%	125	19.0%	10	-54.5%
2017	715	5.5%	105	-16.0%	18	80.0%

Source: Census of Agriculture

SECTION II. Millstone Township's Agricultural Industry—Overview

A. Trends in Market Value of Agricultural Products

Due to higher production costs related to land values, property taxes and labor costs, New Jersey farmers are at a disadvantage compared to farmers in other areas of the country. However, Millstone benefits from its geographic location and soil productivity. Among the trends experienced by Millstone's agricultural and farming community are increases in the attractiveness of buying local, pick-your-own farmers markets, and backyard or hobby farming operations.

Previously, Asian crops had been a successful crop for the Township, but changes within the farming community have shifted away from these crops as the average farmer age is getting older and there are fewer young family members to whom to pass on the farm. However, the Township is seeing a new pattern emerging. Farmers are seeking to grow specialty crops such as leafy greens, okra, ethnic produce, as well as return to grain crops.

The following table summarizes the state and national ranking of Monmouth County's farm commodities. Monmouth County is 3rd in the State for the production of livestock, poultry and products, and 7th in the state for crops production. The agricultural products grown in Monmouth County that had the most significant impact on the state and national ranking were horses, ponies, mules, burros and donkeys (#1 in the state and #13 in the country) and nursery, greenhouse, floriculture and sod (#2 in the state and #52 in the country). The local trends for the farm commodities are addressed in the following section of this plan.

Monmouth County's Agricultural Industry in a State and National Context			
Commodity	Sales	Rank in State	Rank in US
Crops	\$67,389,000.00	7	876
Grains, oilseeds, dry beans, dry peas	\$3,813,000.00	7	1,733
Tobacco	-	-	-
Cotton and cottonseed	-	-	-
Vegetables, melons, potatoes, sweet potatoes	\$5,475,000.00	10	318
Fruits, tree nuts, berries	\$3,363,000.00	8	249
Nursery, greenhouse, floriculture, sod	\$53,267,000.00	2	52
Cultivated Christmas trees, short rotation woody crops	\$23,000.00	5	164
Other crops and hay	\$1,241,000.00	7	1,675
Livestock, poultry, and products	\$13,244,000.00	3	1,942
Poultry and eggs	N/D	N/D	N/D
Cattle and calves	\$167,000.00	12	2,654
Milk from cows	-	-	-
Hogs and pigs	\$5,000.00	14	1,690

Commodity	Sales	Rank in State	Rank in US
Sheep, goats, wool, mohair, milk	\$149,000.00	7	996
Horses, ponies, mules, burros, donkeys	\$8,604,000.00	1	13
Aquaculture	N/D	N/D	N/D
Other animals and animal products	\$1,319,000.00	1	138

N/D = Withheld to avoid disclosing data for individual operations.
Source: 2017 U.S. Census of Agriculture

Utilizing the US Agricultural Census data, trends in the market value of agricultural products are only available at the County level. The following table shows the total value of the goods produced by farms within Monmouth County.

Market Value of Products Sold in Monmouth County				
Year	Total	Percent Change	Average Per Farm	Percent Change
1987	\$56,598,000	-	\$97,378	-
1992	\$50,945,000	-11.1%	\$59,935	-62.5%
1997	\$68,841,000	26.0%	\$70,461	14.9%
2002	\$81,551,000	15.6%	\$91,425	22.9%
2007	\$105,413,000	22.6%	\$113,104	19.2%
2012	\$84,411,000	-24.9%	\$102,565	-10.3%
2017	\$80,633,000	-4.7%	\$96,221	-6.6%

Source: U.S. Census of Agriculture

In 2017, crop sales accounted for \$67,389 (83.6%) of the total market value, and livestock sales made up the remaining \$13,244 (16.4%). Sales decreased by approximately \$24.8 million (-23.5%) between 2007 and 2017.

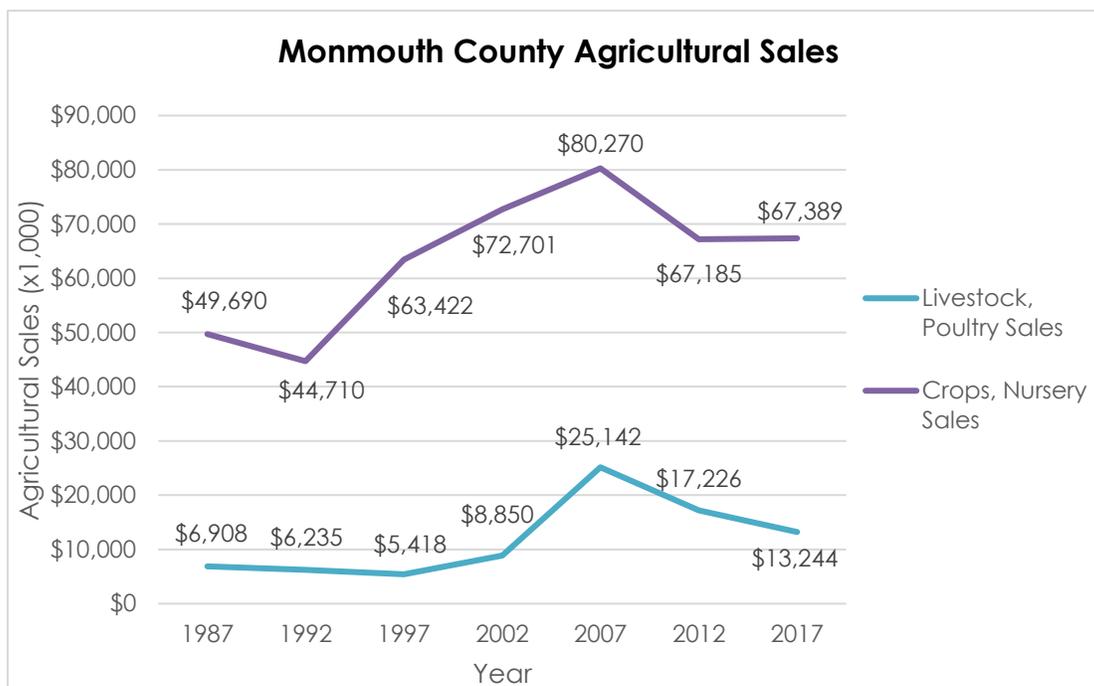
Field Crop & Livestock Sales in Monmouth County						
Year	Total Sales	% Change	Livestock, Poultry Sales	% Change	Crops, Nursery Sales	% Change
1987	\$56.598	-	\$6.908	-	\$49.690	-
1992	\$50.945	-11.1%	\$6.235	-10.8%	\$44.710	-11.1%
1997	\$68.840	26.0%	\$5.418	-15.1%	\$63.422	29.5%
2002	\$81.551	15.6%	\$8.850	38.8%	\$72.701	12.8%
2007	\$105.412	22.6%	\$25.142	64.8%	\$80.270	9.4%
2012	\$84.411	-24.9%	\$17.226	-46.0%	\$67.185	-19.5%
2017	\$80.633	-4.7%	\$13.244	-30.1%	\$67.389	0.3%

Source: U.S. Census of Agriculture

Note: All sales figures are listed in millions.

The following chart gives a visual representation of agricultural sales in Monmouth County as a total, as well as in the categories of livestock/poultry sales and crops/nursery sales. Livestock and poultry sales have remained the County's most profitable agricultural sector over the past 30

years, bringing in at least \$40 million more than crops and nursery sales each year. 2007 was a peak for both livestock/poultry sales and crops/nursery sales, earning \$80.3 million and \$25.1 million respectively. However, as shown in the following chart, after 2007, the sales for both sectors began to drop, particularly in crops and nursery sales.



Source: 2017 U.S. Census of Agriculture

B. Crop/Production Trends

Township Trends—Field Crops

As indicated on the following table, the most commonly produced field crop in Millstone Township is soybeans. The soybean is planted on more than one-third of the Township's cropland- 882 acres in 2017. Millstone Township primarily produces soybeans, rye for grain and other hay as field crops.

Acreage of Field Crops within Millstone Township, 2017		
Field Crop	Acreage	Percentage
Corn/Grain	204	9.0%
Corn/Silage	8	0.4%
Hay/Alfalfa	100	4.4%
Hay/Other	430	19.0%
Wheat	10	0.4%
Soybeans	882	38.9%
Rye for Grain	433	19.1%
Sorghum	65	2.9%
Other Field Crops	135	6.0%
Total Field Crop Acreage	2,267	100.0%

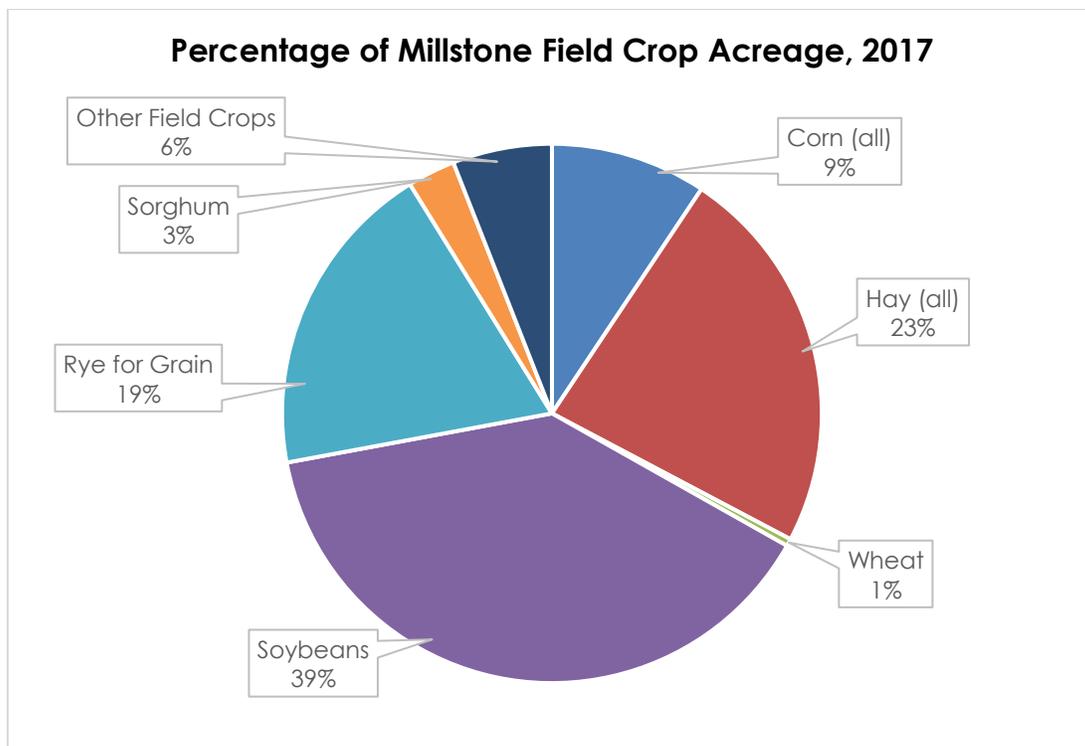
Excluded: Barley, Grass for Silage & Oats for Grain (both 0)
 Source: NJ Farmland Assessment Records, SADC

Soybeans have been a steady majority of crop production since 1983, making up more than half of the total acreage of field crops from 1983 to 1990, but dropping in 2000 and 2004 to 31.9 percent and 33 percent respectively. The Township is now experiencing a slight increase in soybean production as of 2017 (882 acres, or 38.9%).

Alfalfa and other hay combined make up the second largest sector of crop production in the Township, totaling 23.4 percent as of 2017. All hay production was steadily decreasing by 18-20 percent between the years of 1983 to 2004. However, 2017 saw a decrease in hay production of only 7 percent. Other hay production has consistently surpassed that of alfalfa. 1990 was a low point for other hay production, making up approximately 6.5 percent of total crop land in Millstone. As of 2017, other hay contributed approximately 19 percent of field crop production in the Township.

While still a small component of field crop production, rye for grain acreage slightly increased between 2000 and 2017. Throughout the years, rye for grain has experienced similar ebbs and flows to those of other hay. As of 2017, rye for grain makes up approximately 19.1 percent of field crop acreage in Millstone.

Historically, corn for grain was a major crop for the Township, with a total of 720 acres in 1983. That figure dropped to roughly 450 acres from 1990 to 2004. As of 2017, only 204 acres are currently producing corn for grain, representing 9 percent of total crop land in the Township. Corn for silage, while consistently much lower than corn for grain, experienced a spike in 1990, with 183 acres (4.8%). Corn for silage hovered between 38 and 39 acres from 2000 to 2004 and dropped down to a total of 8 acres (0.4%) in 2017. Corn for both grain and silage currently comprises only 9.4 percent of total crop land in the Township, compared to 24 percent in 2004.



Source: SADC 2018 / New Jersey Farmland Assessment Data 2017

The following table shows trends in field crop production from 1983 to 2017. The acreage of soybean crops has decreased in land space since its peak in 1983, but remains the primary crop, as it consistently occupies the most acreage. Hay crops are the second largest sector of crop production, steadily decreasing until 2017 when they experienced a growth of 7 percent. In 2017, rye for grain accounted for 433 acres, or 43.6 percent of total crop production. In 1983, corn for grain and silage made up 16.4 percent of total crop production, but now only accounts for 9.4 percent.

Field Crop Acreage in Millstone Township 1983-2017					
Commodity	1983	1990	2000	2004	2017
Barley	72	188	100	0	0
Corn/Grain	720	488	444	447	204
Corn/Silage	21	183	38	39	8
Grass/Silage	29	0	0	0	N/D
Alfalfa	278	445	123	91	100
Hay/Other	561	247	459	402	430
Rye/Grain	42	111	459	244	433
Sorghum	46	0	26	40	65
Soybeans	2,342	2,036	1,021	667	882
Wheat	401	113	507	88	10
Other Field Crops	8	7	23	5	135
Total Field Crop Acreage	4,520	3,818	3,200	2,023	2,267

Excluded: Oats for Grain (0)

N/D: No data available

Source: New Jersey Farmland Assessment Data 2017

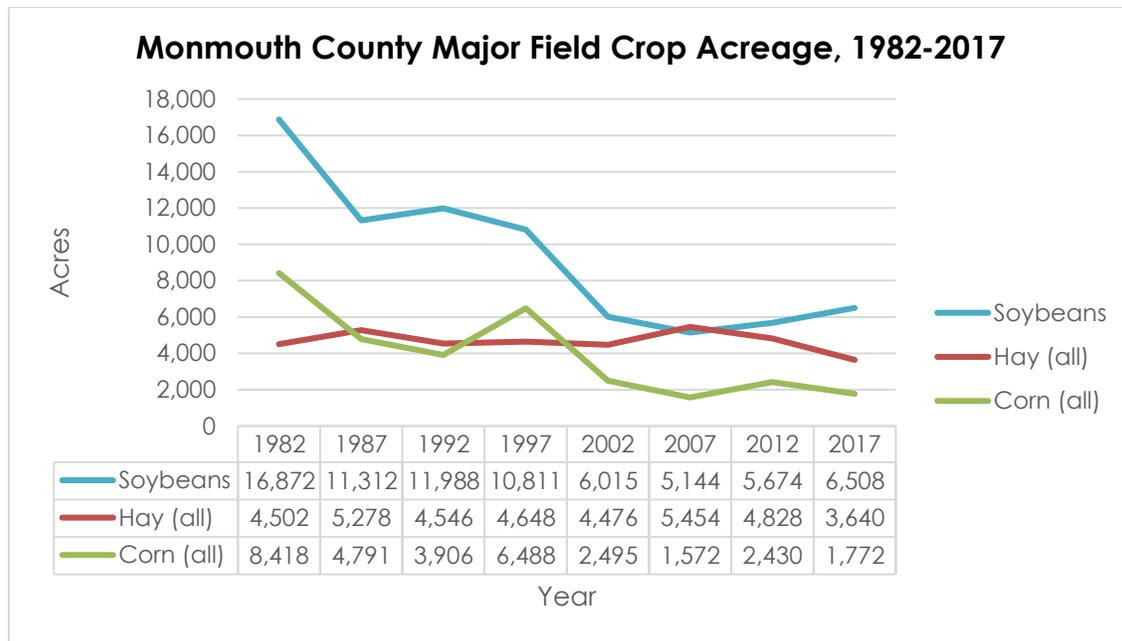
The role of nursery operations within Millstone Township comprises a large sector of the local agricultural industry and is on the rise. This is likely due to the presence of Halka Nursery, which is located in the Township. According to the NJ Farmland Assessment data, the number of acres devoted to nursery operations doubled between 2000 and 2004. The largest segment of the nursery operations in Millstone Township is trees and shrubs, which currently accounts for 75.4 percent of the land area devoted to nursery.

Millstone Township Nursery Acreage 1983-2017						
	1983	1990	2000	2004	2010	2017
Bedding Plants	2	9	56	27	58	30
Cut Flowers	23	1	52	60	2	65
Trees & Shrubs	1,641	1,840	444	1,161	308	948
Cultivated Sod	246	220	34	77	119	111
Christmas Trees	52	78	66	88	62	66
Other Ornamental Crops	15	14	6	12	14	37
Total Nursery Acreage	1,978	2,162	658	1,425	563	1,257

Source: New Jersey Farmland Assessment Data 2017

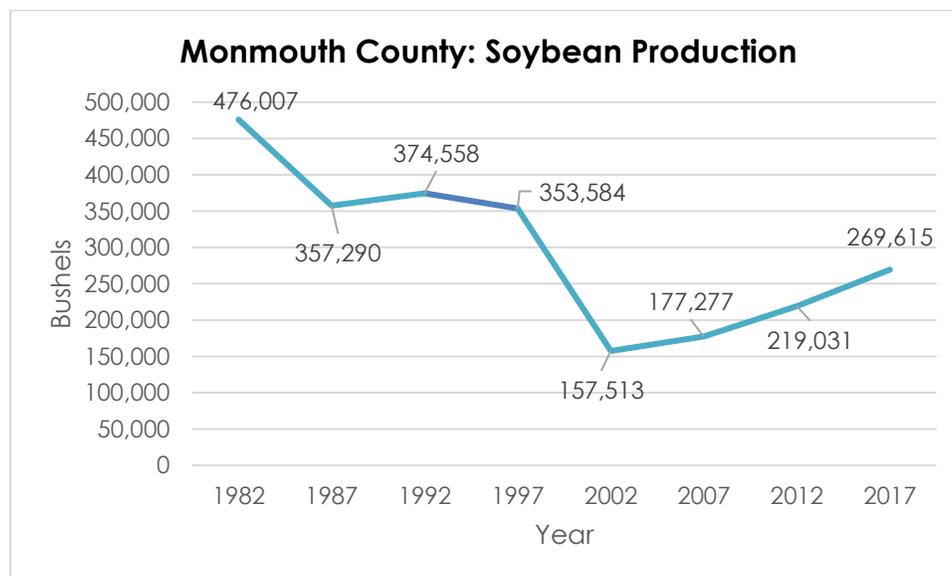
County Trends—Field Crops

The chart below shows the trends in county crop production over the last 35 years. This chart illustrates that while soybean and corn production are beginning to become more popular, hay production continues to decline.



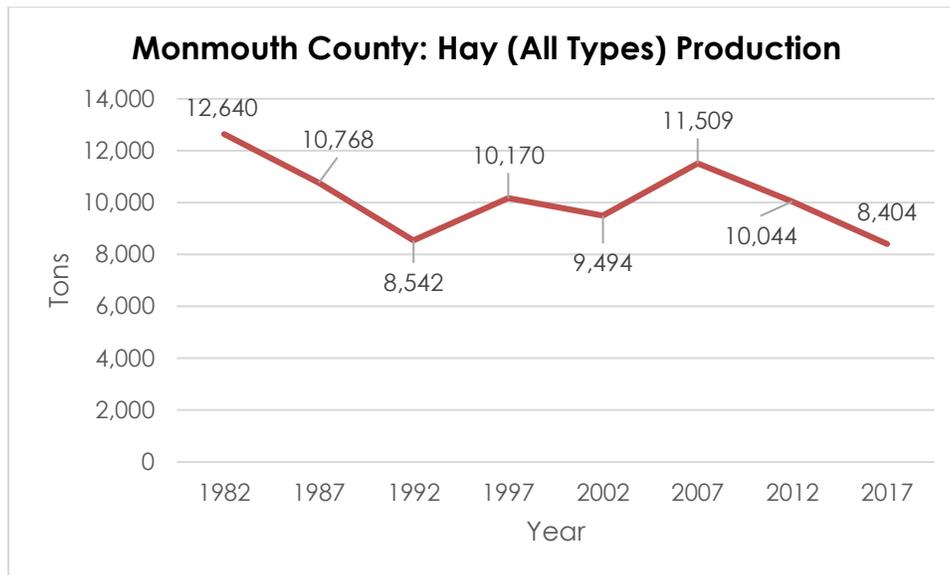
Source: U.S. Census of Agriculture

Soybean production has been Monmouth County's second-most successful agricultural sector over the past 35 years. Although it only occupies 9.8 percent of the total agricultural land base, soybean production has been increasing since 1972. As shown in the following chart, soybean production peaked in 2004 at 291,000 bushels, and while it fluctuated over the years, declining to 157,513 bushels in 2002, production has since increased to 275,000 bushels in 2012.



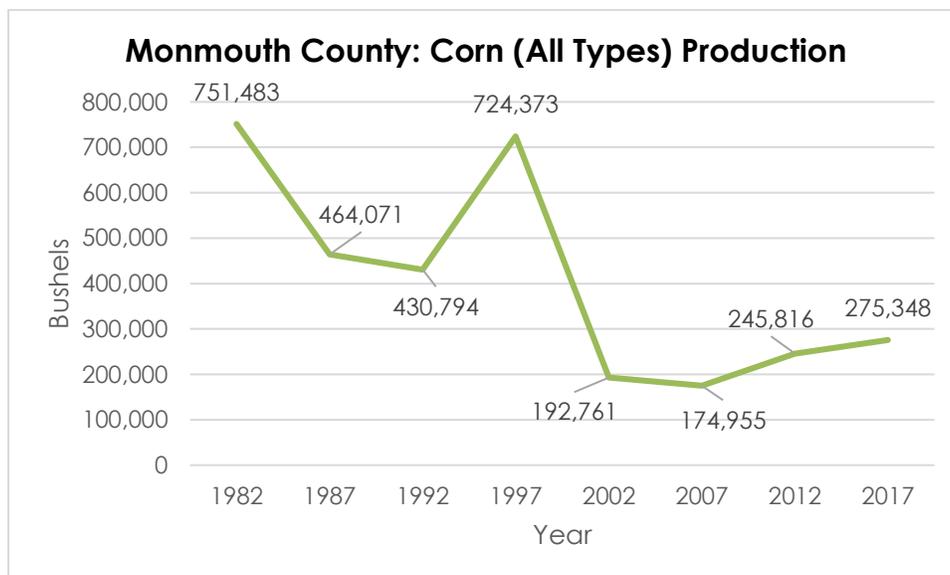
Source: U.S. Census of Agriculture

Overall, hay production within Monmouth County has been decreasing for the past 35 years. Similar to corn, hay production peaked in 1982 at 12,640 tons. As shown in the chart below, between 1992 and 2007, hay production fluctuated between 8,000 and 11,000 tons. Since then, however, the production has decreased to 8,404 tons in 2017.



Source: U.S. Census of Agriculture

As illustrated in the following chart, the production of corn for grain has fluctuated drastically over the past 35 years but has consistently remained the most active agricultural sector in Monmouth County. In 1982, 751,483 bushels of corn were produced for both grain and silage. Corn for silage production has been consistently less than that of corn for grain, with the maximum production occurring in 1982 with 16,247 tons produced, followed by a period of rapid decline. A spike in production occurred in 2012 when 2,375 tons were produced. Corn for grain peaked in 1997 at 721,844 bushels, before a drastic decline occurred in 2002, when only 192,761 bushels were grown. Since 2007, corn for grain production has slowly begun to increase again. In 2017, 275,348 bushels were collected within the County, all of which were for the purposes of grain production.



Source: U.S. Census of Agriculture

Equine

There are currently 299 equine farms within Monmouth County, with a total of 3,818 horses and ponies across 299 farms, generating \$8.6 million in 2017, according to the US Census of Agriculture. Monmouth County has the most horses and ponies in New Jersey. The number of farm animals within Millstone Township is on the rise. There were 2,234 farm animals reported on farmland assessment farms in 2004. Of those, equine accounted for nearly half of all farm animals. According to the 2017 farmland assessment data, there are approximately 500 heads of horses, ponies, mules, burros and donkeys within Millstone Township.

As shown in the table below, "Millstone Township Farm Animals 1983-2017", equine production has been the Township's most active sector of farm animal production since 1983. However, in 2017, equine production is only half of what it was in 1983, resulting in a significant decline for the equine business.

Cattle/Calve Production

Overall, the Township has historically relied more on beef cattle production rather than that of dairy cattle. In 1983, 126 units of beef were produced versus four for dairy cattle. 1990 to 2000 was a period of decline for both beef and dairy cattle. Dairy cattle production remained at zero between 2000 and 2010, while beef production dropped from 46 in 2000 and 2004 to 24 in 2010. As of 2017, there are 36 beef cattle and two young dairy cattle in the Township.

Poultry/Egg Production

According to the 2017 SADC Farmland Assessment data, Millstone Township's poultry sector has grown significantly over the past several decades. The Township has the second highest number of egg chickens in Monmouth County, totaling 1,317, which makes up approximately 20 percent of the County's egg chicken population. The Township also has 481 meat chickens, which is over four times the amount in 2010. Similar to egg chickens, Millstone Township also has the second highest number of meat chickens in the County, based upon the 2017 Farmland Assessment data.

Millstone Township Farm Animals 1983-2017						
	1983	1990	2000	2004	2010	2017
Cattle/Beef	126	109	46	46	24	36
Cattle/Dairy	4	1	0	0	0	2
Equine	857	726	1,003	1,016	951	494
Sheep	47	266	165	213	165	227
Swine	1,558	1,013	13	3	8	17
Beehives	26	34	27	21	46	369
Ducks	95	49	54	61	45	240
Fur Animals	0	63	0	41	14	29
Goats	8	31	131	165	221	144
Chickens/Meat	100	155	152	135	101	481
Chickens/Egg	328	566	325	428	639	1,317
Turkeys	4	50	20	67	67	29
Other Livestock	105	43	100	38	341	168
Total Farm Animals	3,258	3,106	2,036	2,234	2,622	3,553

Source: NJ Farmland Assessment Data via SADC

As of 2017, the most active category of farm animal production is chickens for eggs, followed by equine, chickens for meat, and beehives. Beekeeping in the Township is currently experiencing a surge in activity, with 369 units in production compared to 26 to 46 over the period of 1983 to 2010.

Sheep, beehives, ducks and chickens for both meat and eggs have increased over the past thirty years. However, equine, goats, turkey and other livestock have experienced a declining trend. Swine production, which produced 1,558 units in 1983, experienced a significant decrease in 2000 and has yet to recover. Fur animal production has consistently been modest over this period of time.

C. Support Services within Market Region

There are several local and regional vendors and market venues that serve the agricultural community in Millstone Township. One such vendor is the Farmer's Brokerage and Supply in Upper Freehold Township, which serves a large portion of New Jersey through the sales of seed, hardware, parts for tillage equipment, chemicals and fertilizers.

Farmers in need of equipment and machinery typically use dealers in Cumberland or Salem Counties or travel to Lancaster County, Pennsylvania. Many also buy used equipment advertised in regional farm journals and on the internet. Locally, there are a number of facilities that serve the local farmers. A full list of local and regional service providers is available in Appendix I.

The equine industry has its own network of suppliers that grow and sell hay and feed, and offer veterinary and farrier services, some of which are located within Millstone Township. Several nationally ranked drivers, trainers, and breeders of thoroughbred and standardbred horses reside in the Township. There are facilities for boarding, training and showing horses, as well as facilities which offer public and private lessons. In addition, the industry is tied to the county's two racetracks- Freehold Raceway and Monmouth Park, as well as the Meadowlands and racetracks outside of New Jersey. The New Jersey Horse Park is also located just outside of the Township in Upper Freehold Township. Additionally, the New Jersey Equine Clinic, located within the Township, is a nationally renowned equine hospital and rehabilitation center that has been featured in nationally televised documentaries.

D. Other Agricultural Related Industries

Millstone Township's agricultural industry continues to respond to market demands and evolve as its support system shifts and its economic base changes. Innovation is important for Millstone farmers. Many of the Township's farming operations already have diversified and stabilized their products in response to changing industry and market conditions. Agri-tourism facilities such as hayrides, corn mazes, pick-your-own, direct marketing, agricultural festivals, agri-educational events, and special events are available in Millstone Township. These activities appeal to the growing residential population in the region and provide farmers with an opportunity to generate additional farm income.

Other trends that are creating financial opportunities for Millstone farmers to diversify include renewable fuels, emerging crop breeds developed at Rutgers and organic products. Due to an emerging market for renewable fuel sources, there is an increasing demand for corn production for ethanol and for soybean production for bio-diesel fuel. The prices for these commodities have increased as the demand has increased. The market should continue to be strong, particularly if an ethanol or bio-fuel production facility is built.

The New Jersey Department of Agriculture produced its most recent Economic Development Strategies in 2011, wherein they indicated that the nationwide consumer demand for organically grown food continues to increase annually. Consumers are seeking a greater variety of organic products and have demonstrated a willingness to pay more for these products. As organic items represent a growing proportion of their sales, restaurants are responding to these consumer demands by seeking out organic suppliers. It is expected that the trend of local organic farms emerging in Millstone and Roosevelt Borough will continue to grow in the future.

Farmers Markets

According to the Grown in Monmouth directory, Monmouth County has 17 farmers markets, most of which are centered around the Jersey Shore area. These farmers markets provide the farmers with a place to sell products directly to the consumer.

The following farmers markets are located within Monmouth County:

- Asbury Park Market
- Sunset Farmers Market, Asbury Park
- Farmers Market at Kennedy Park, Asbury Park
- Atlantic Highlands Farmers Market
- Bell Works Farmers Market, Holmdel
- Downtown Freehold Farmers Market
- Farmingdale Farmers' Market
- Highlands Farmers Market
- Keyport Farmers Market
- Long Branch Pier Village
- Long Branch (West End) Farmers Market
- Manasquan Farmers Market
- Marlboro Farmers Market
- Oceanport Farmers Market
- Red Bank Farmers Market
- Sea Bright Farmers Market
- Howell Farmers Market

A number of farmers in the Township also participate in the Tri-County Cooperative Auction Market. Tri County is composed of over 55 farmers from Monmouth, Middlesex and Mercer Counties that sell their Jersey Fresh products wholesale to not only wholesale customers, but also to the general public. Millstone farmers also participate in out of county markets where they sell their products at retail.

Pick-Your-Own

Pick-your-own farm stands are another way to attract customers, allowing the farmers to receive a maximum profit. There are currently 13 pick-your-own farms within Monmouth County. The Township has one pick-your-own farm called The Earth Friendly Organic Farm, located 17 Olde Noah Hunt Road. The Sandy Acre Farm, located at 93 Disbrow Hill Road, is northwest of the Township in Hightstown, and Bullock Farms, located at 83 Emley's Hill Road, is southwest of the Township in Cream Ridge.

Equine Industry

The most recent farmland assessment data indicates that there is a total of 60 acres devoted to equine facilities such as boarding, rehab and training. The 2020 Directory of Equine Facilities prepared by the New Jersey Equine Advisory Board indicates that there are currently 25 equine-related facilities within Monmouth County. Equine-related facilities within Millstone Township include the Bright Meadows Farms, New Jersey Equine Clinic, Golden Gait Farm and Chestnut Ridge Equestrian Center.

Organic

Monmouth County has three USDA National Organic Program-certified farms as of 2017, generating product sales of roughly \$30,000, compared to \$14,000 in 2012. Millstone has one organic farm: the Hans Farm on Woodville Road.

Community Supported Agriculture (CSA)

Community Support Agriculture (CSA) is an increasingly popular way in which consumers can buy local, seasonal food directly from a farmer. Generally speaking, a farmer offers a certain number of memberships to the public prior to the start of the growing season. The memberships are generally paid up front, which assists the farmer with their cash flow. Each week, the farmers prepares a package for each membership, consisting of that week's harvest, for the length of the farming season. The memberships share the risks and benefits of food production with the farmer. CSAs are increasingly popular, as it allows the consumer to directly meet the farmer and see where their food is grown, as well as receive fresh produce on a weekly basis. Some CSAs opt to deliver each share weekly.

According to the Grown in Monmouth website, there are a total of 11 CSAs in Monmouth County, one of which are located in Millstone Township called Asprocolas Acres. Mendies Family Farm, located just outside the Township in Roosevelt, is also used by Township residents.

Grown in Monmouth

Grown in Monmouth is a program by the Monmouth County Board of Chosen Freeholders which identifies new markets, connects growers and consumers, provides business skills assistance and develops a preference for Monmouth-grown products. The aim of the program is to help retain and grow the County's agricultural industry. Grown in Monmouth hosts a directory on their website which identifies operations ranging from restaurants, equine farms, pick-your-own farms, farmers markets, nurseries and garden centers, as well as community gardens and community supported agriculture (CSA) operations which have been certified under Grown in Monmouth. The directory currently lists nine CSAs, 18 community gardens, 17 farmers markets, 13 pick-your-own farms, 20 equine farms, 52 restaurants and 13 Christmas tree farms participating in the Grown in Monmouth Program.

In addition, the program also hosts a certification program for farmers with respect to the Food Safety Modernization Act, to provide educational resources in food safety procedures.

Bee Keeping

Bee keeping, also known as apiculture, is a growing trend within New Jersey as well as Millstone Township. As noted in the table above, Millstone experienced significant growth within this agricultural sector. In 2010, the Township had 46 beehives, and has since exponentially grown to 369 hives in 2017. Bees can be raised to for their honey and other products that the hive produces,

including beeswax, propolis, flower pollen, bee pollen, and royal jelly, as well as to pollinate crops or to produce bees to sell to other beekeepers.

Wineries

The practice of viticulture is another growing practice of agriculture in New Jersey. Local wineries often offer wine tastings, tours of the winery fields, and provide direct business with their consumers. Some wineries use sustainable practices, which include using little to no water (dry farming), composting, and energy use (solar panels). Some wineries also provide protective habitat for native species of birds, plants, and wildlife.

SECTION III. Land Use Planning Context

The 2017 Millstone Township Master Plan includes the Open Space, Recreation and Conservation Plan Element. In general, the Township has limited development to low density and low intensity uses. To conserve open space, farmland and rural areas, and in harmony with the State Development and Redevelopment Plan (SDRP), the Township does not permit the extension of infrastructure within Millstone, particularly sewers.

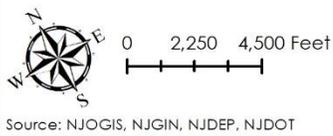
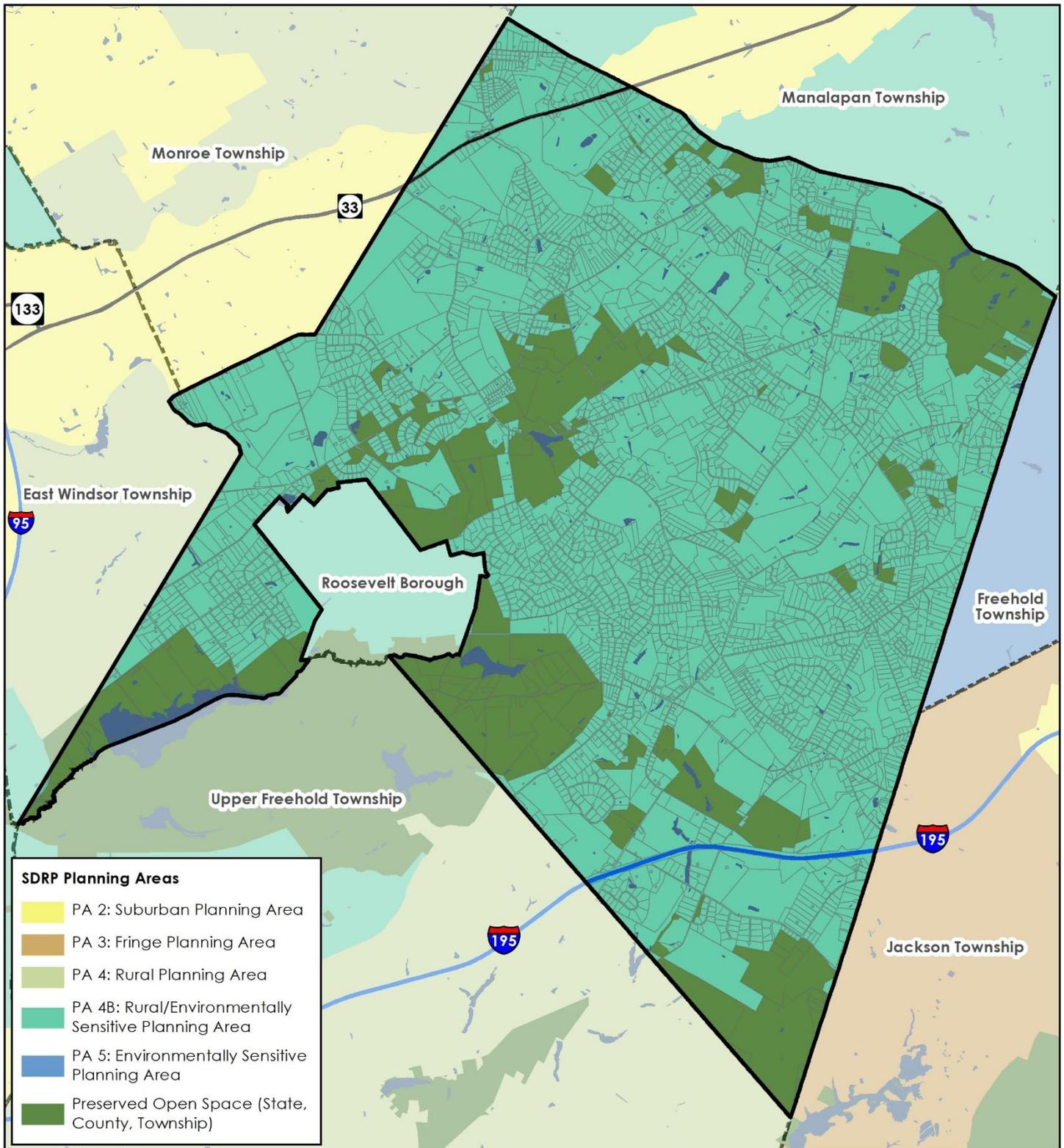
Millstone Township's goal is to maintain the rural character of the community and secure the environmental, economic and social benefits of a coordinated system of open space, outdoor recreation areas and farmland. To achieve this goal, the Township acquires and develops land as local public parks and recreation space to meet the needs of existing and future residents. Additionally, the Township, in conjunction with the County and State, preserves as much farmland and open space as possible. Farmland and open space preservation are important to the Township. However, the viability of the farming industry in Millstone continues to be a priority for the Township. As such, this Farmland Preservation Plan will serve as a guide to the Township in bolstering existing active farmland while balancing it with the need for farmland open space.

A. Relationship to State Plan

State Development and Redevelopment Plan Planning Areas & Designated Centers

The State Planning Commission adopted the New Jersey State Development and Redevelopment Plan (SDRP) on March 1, 2001. The SDRP contains a number of goals and objectives regarding the future development and redevelopment in New Jersey. The primary objective of the SDRP is to guide future development to areas where infrastructure is available. New growth and development should be located in "centers", which are "compact" forms of development, rather than in "sprawl" development. The overall goal of the SDRP is to promote development and redevelopment that will consume less land, deplete fewer natural resources and use the State's infrastructure more efficiently.

The SDRP also contains a goal of preserving the agricultural industry and retention of farmland in New Jersey through "coordinating planning and innovative land conservation techniques to protect agriculture viability while accommodating beneficial development and economic growth necessary to enhance agricultural vitality and by educating residents of the benefits and special needs of agriculture." The plan sets a policy that farmland retention be given priority in lands defined in the State Plan as Rural Planning Areas followed by Environmentally Sensitive Planning Areas. As shown in the following table and corresponding "SDRP Planning Areas" map, the majority of the Township (90 percent or 21,403.1 acres) is designated as the Rural Environmentally Sensitive Planning Area. Approximately 31 acres is in the Rural Planning Area and roughly nine acres are classified as Environmentally Sensitive. Roughly 1,400 acres (5.9%) of Township land is dedicated to State Parks. County Park land comprises 584 acres (2.5%). The Township also contains 3.4 acres of Suburban Planning Area. The remaining 365.9 acres consists of small water bodies scattered about the Township, the largest of which is the Assunpink Lake in the northwest portion of the Township.



State Development & Redevelopment Plan

Millstone Township, NJ Farmland Preservation Plan

HGA
HEYER, GRUEL & ASSOCIATES
September 2020

State Development and Redevelopment Plan Districts		
Planning Area	Area in Millstone Township (Acres)	Percentage of Township
Suburban	3.42	0.0%
Rural	31.2	0.1%
Rural Environmentally Sensitive	21,403.1	90.0%
Environmentally Sensitive	8.9	0.0%
State Park	1,398.7	5.9%
County Park	584.1	2.5%
Water	365.9	1.5%
Total	23,791.7	100.0%

Source: 2001 State Development and Redevelopment Plan, acreages calculated using GIS

Rural Planning Areas

As shown in the above table and corresponding map, approximately 31 acres (0.1%) of the Township is classified as a Rural Planning Area. According to the SDRP, in the Rural Planning Area, the intention is to:

- Maintain the environs as large contiguous areas of farmland and other lands;
- Revitalize cities and towns;
- Accommodate growth in Centers;
- Promote viable agricultural industry;
- Protect the character of existing, stable communities; and
- Confine programmed sewers and public water services to Centers.

The State Plan recommends "protecting the rural character of the area by encouraging a pattern of development that promotes a stronger rural community in the future while meeting the immediate needs of rural residents, and by identifying and preserving farmland and other open lands. The Plan also promotes policies that can protect and enhance the rural economy and agricultural industry, thereby maintaining a rural environment." Using the 2015 Land Use Land Classification of agriculture in the Township, there are approximately 3,600 acres of active agriculture in the Rural Planning Area.

Rural Environmentally Sensitive Planning Areas

As shown in the above table and corresponding map, 90 percent of the Township is classified as Rural Environmentally Sensitive Planning Area. The Rural Environmentally Sensitive Planning Area has one or more environmentally sensitive features. The intentions of this planning area are the same as those mentioned previously in the Rural Planning Area, and that is to:

- Maintain the Environs as large contiguous areas of farmland and other lands;
- Revitalize cities and towns;
- Accommodate growth in Centers;
- Promote viable agricultural industry;
- Protect the character of existing, stable communities; and
- Confine programmed sewers and public water services to Centers.

The objectives of the Rural Environmentally Sensitive Areas are those of the Environmentally Sensitive Planning Area.

The State Plan provides for "the protection of critical natural resources and for the maintenance of the balance between ecological systems and beneficial growth. The ecological systems of the Environmentally Sensitive Planning Area should be protected by carefully linking the location, character and magnitude of the development of the capacity of the natural and built environment to support new growth and development on a long-term sustainable resource basis. Large contiguous areas of undisturbed habitat should be maintained to protect sensitive natural resources and systems. Any new development that takes place in the Environmentally Sensitive Planning Area should capitalize on the inherent efficiencies of compact development patterns found in existing Centers." Moreover, the SDRP states that Rural Planning Areas need strong Centers and that Centers should attract private investment which otherwise might not occur.

Environmentally Sensitive Planning Areas

As shown in the above table and corresponding map, approximately nine acres of Township land is classified as an Environmentally Sensitive Planning Area. According to the SDRP, the Environmentally Sensitive Area contains large contiguous land areas with valuable ecosystems, geological features and wildlife habitats and that future environmental and economic integrity of the State rests in the protection of these irreplaceable resources.

This planning area is vulnerable to damage of many sorts from new development in the Environs, including fragmentation of landscapes, degradation of aquifers and potable water, habitat destruction, extinction of plant and animal species and destruction of other irreplaceable resources, which are vital for the preservation of the ecological integrity of New Jersey's natural resources. Perhaps most important, because the environs in the Environmentally Sensitive Planning Area are more sensitive to disturbance than the Environs in other Planning Areas, new development has the potential to destroy the very characteristics that define the area.

According to the SDRP, the intention of the Environmentally Sensitive Planning Area is to:

- Protect environmental resources through the protection of large contiguous areas of land
- Accommodate growth Centers
- Protect the character of existing communities
- Confine programmed sewers and public water services to Centers
- Revitalize cities and towns

The State Plan indicates that large contiguous areas of undisturbed habitat should be maintained to protect sensitive natural resources and systems. Moreover, new development in this area should capitalize on the inherent efficiencies of compact development patterns found in existing Centers. Benefits associated with center focused development include the preservation of open space, farmland and natural resources and to preserve or improve community character, increase opportunities for reasonably priced housing and strengths beneficial economic development opportunities.

SDRP is very specific in its intention for the Environmentally Sensitive Planning Area; "new development should be guided into Centers to preserve open space, farmland and natural

resources and to preserve or improve community character, increase opportunities for reasonably priced housing and strengthen beneficial economic development opportunities."

B. Special Resource Areas

The Township is not located within a Special Resource Area such as the "Highlands" or "Pinelands".

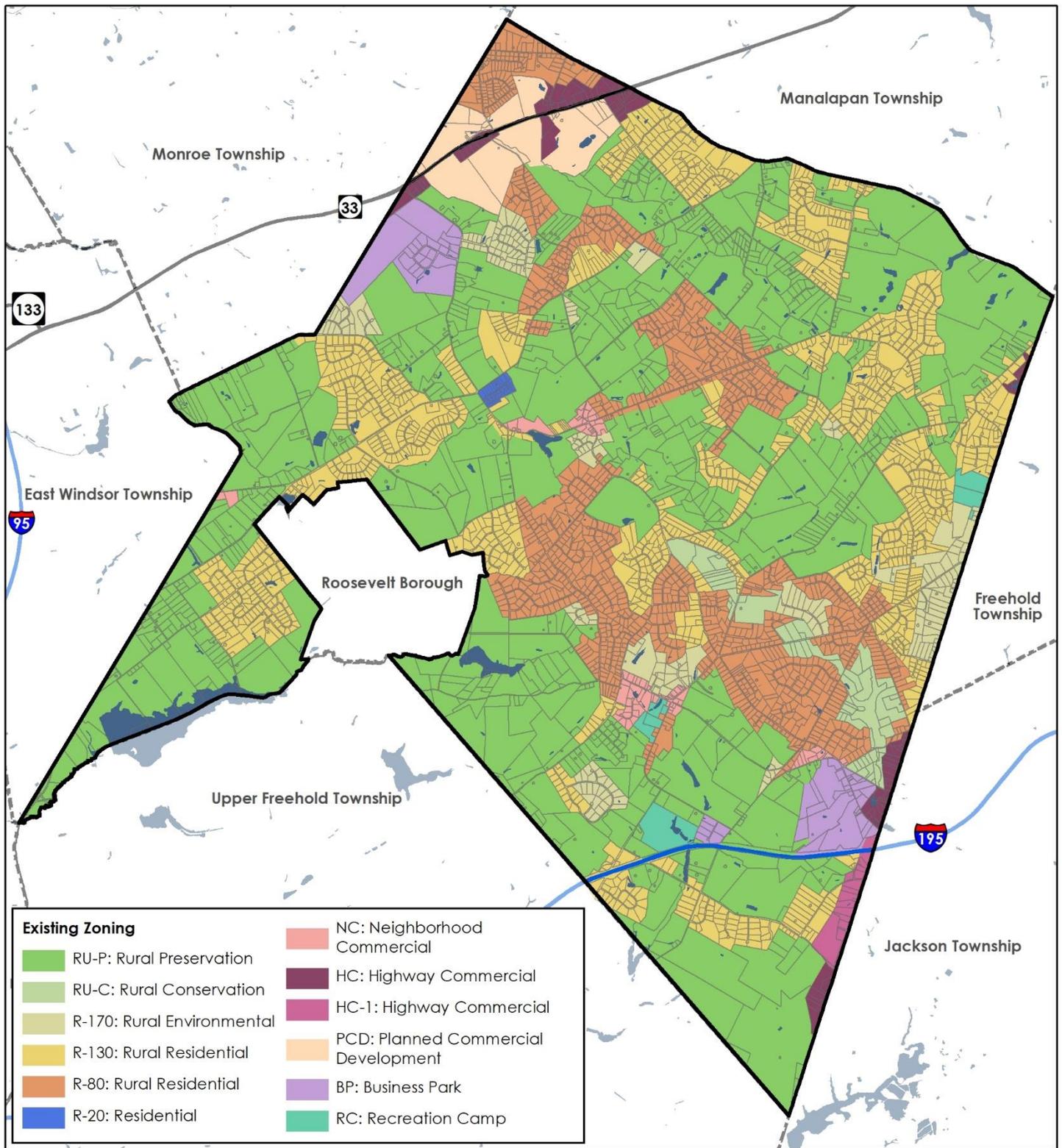
C. Township Master Plan & Development Regulations

The Township's Master Plan was last updated in November 2017 and addresses traffic, historic preservation, recreation and conservation planning, and housing. The Land Development Ordinance regulates land development, including zoning provisions and development application procedures. Farming is a permitted use in the R-170 Rural Environmental Zone, RU-P Rural Preservation Zone, RU-C Rural Conservation Zone, R-130 and R-80 Rural Residential Zones (described below), as well as within the HC and HC-1 Highway Commercial Zones, the BP Business Park District, the RC Recreation Camp Zone and the PCD Planning Commercial Development Zone. The location of the zoning districts appears on the "Existing Zoning" map.

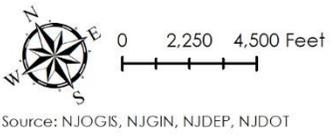
Development regulations enacted by the Township intend to maintain agriculture as a viable industry and to preserve Millstone's rural character. The regulations include, but are not limited to, the following:

- Farming is permitted in low density residential zoning districts including the RU-P Rural Preservation (10 acre minimum), the RU-C Rural Conservation (6 acre minimum), the RE Rural Environmental (4 acre minimum), the R-130 Rural Residential (3 acre minimum), and the R-80 Rural Residential (2 acre minimum).
- Farming is a permitted principal use in the RU-P, RU-C, RE, R-130 and R-80 zoning districts. It also is a permitted use in the Highway Commercial zones, the Business Park District and the Recreational Camp zoning district.
- Farm stands and associated farm equipment are permitted accessory uses for farms.
- Farmland/open space conservation clusters, including non-contiguous clusters, are permitted in the RU-P & RU-C zoning districts with potential bonus densities.
- Lot size averaging is permitted in the RU-P & RU-C zoning districts. Lot size averaging also is permitted under certain conditions within the R-170, R-130 and R-80 zoning districts.
- Variable density techniques are permitted in the R-130 zoning district.

Horse farms and equestrian activities have long been an important part of the rural character of Millstone Township. In order to preserve and encourage this activity, the Township has created a Bridle Path Network Plan in which a 15-foot-wide easement along property lines is provided. The purpose of the network is to connect County, State and municipal parks and facilities through a series of trails along greenways, stream corridors and private property. Trail easements are obtained through the site plan and subdivision application approval process, as well as donation and acquisition as part of the open space and farmland preservation program.



Existing Zoning	
■ RU-P: Rural Preservation	■ NC: Neighborhood Commercial
■ RU-C: Rural Conservation	■ HC: Highway Commercial
■ R-170: Rural Environmental	■ HC-1: Highway Commercial
■ R-130: Rural Residential	■ PCD: Planned Commercial Development
■ R-80: Rural Residential	■ BP: Business Park
■ R-20: Residential	■ RC: Recreation Camp



Existing Zoning
 Millstone Township, NJ
 Farmland Preservation Plan



As discussed in the Master Plan Re-Examination Report, trail connections remain a priority for the Township. The Township identifies the following as priority linkages for development:

- Perrineville Lake Park to Charleston Springs Golf Course and Park through Pine Hill and Shield Road Trail
- Back Bone Hill to Charleston Springs Park
- Charleston Springs Park to the Turkey Swamp Park in Freehold Township
- Perrineville Lake Park to properties along Baird Road
- Perrineville Lake Park to the Perrineville neighborhood from Baird Road to Agress Road
- Perrineville Lake Park through the Assunpink Wildlife Management Area to the County-managed Union Transportation Rail Trail
- Pedestrian bridge on 527 at Charleston Springs Golf Course

D. Current Land Use and Trends

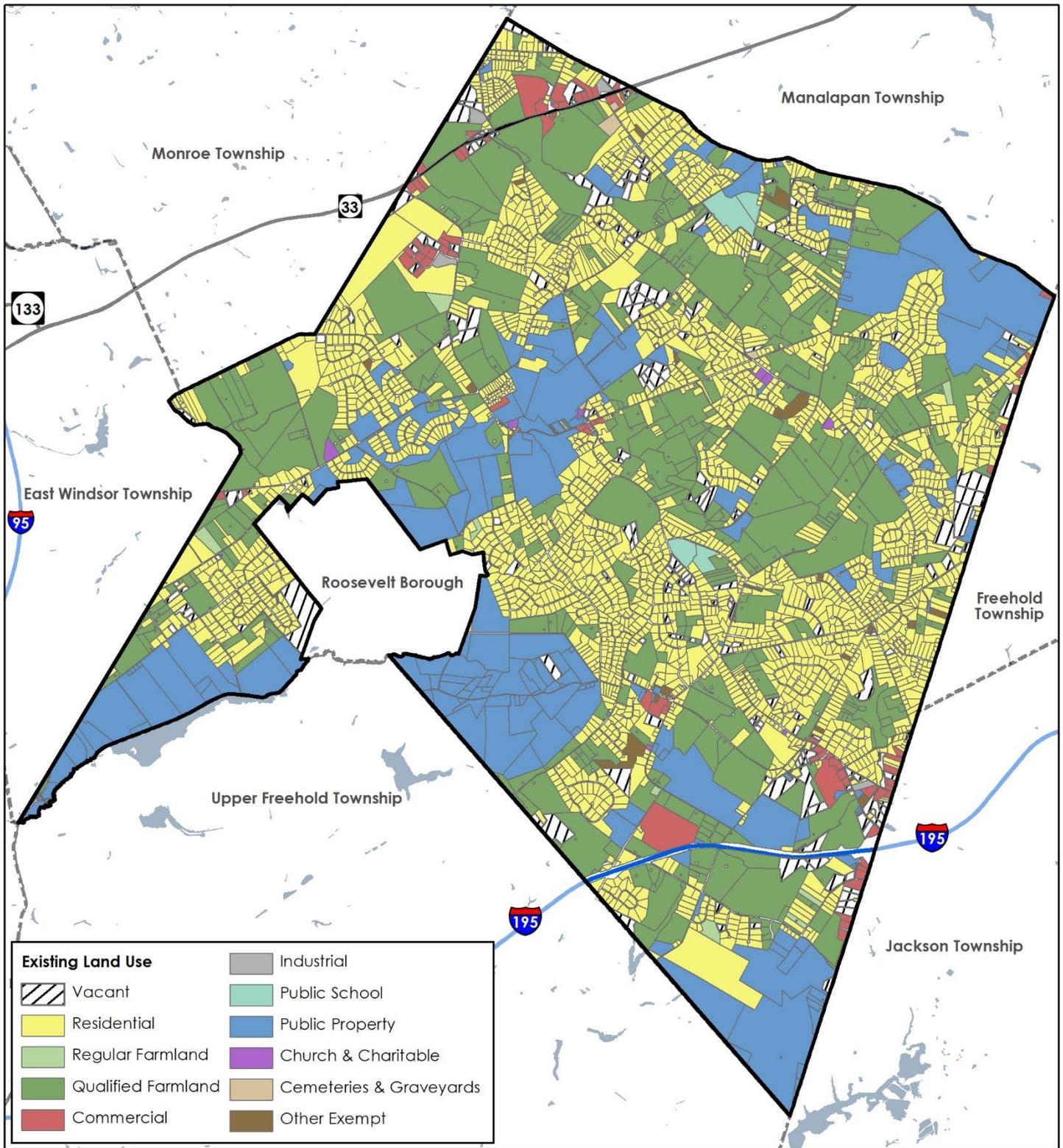
Existing Land Use

There is a variety of land use in the Township of Millstone. Previously, farmlands comprised the largest use in the Township. For the first time, however, the analysis of the most current assessment data shows that residential properties have surpassed farmland as the most predominate land use in the Township, occupying 34.6 percent of total land area whereas regular and qualified farmland properties comprise 33.7 percent of the total land area.

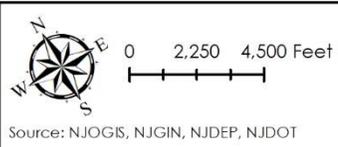
Approximately 7,490 acres, or 33.2 percent of the Township is qualified farmland. Public Property constitutes 23.6 percent (5,326 acres) of the Township. Commercial property comprises 1.9 percent, or 436.7 acres of land area. Industrial property constitutes 0.2 percent (33.8 acres) of the Township. The Existing Land Use map shows where these areas are located.

2017 Existing Land Use		
Property Classification	Acreage	Percentage
Vacant	1,347.0	6.0%
Residential	7,813.0	34.6%
Farm (Regular)	102.5	0.5%
Farm (Qualified)	7,490.0	33.2%
Commercial	436.7	1.9%
Industrial	33.8	0.2%
Public School	127.0	0.6%
Public Property	4,917.6	21.8%
Church & Charitable	24.4	0.1%
Cemeteries & Graveyards	28.6	0.1%
Other Exempt	228.3	1.0%
Total	22,549.0	100.0%

Source: 2017 Tax Assessment Data. Acreage is calculated in GIS and rounded to nearest 1/10th acre.



Existing Land Use	
	Vacant
	Residential
	Regular Farmland
	Qualified Farmland
	Commercial
	Industrial
	Public School
	Public Property
	Church & Charitable
	Cemeteries & Graveyards
	Other Exempt



Existing Land Use
 Millstone Township, NJ
 Farmland Preservation Plan



Urban development is scattered throughout the Township. The following chart gives the acreage and percent change between the Land Use Land Cover from the New Jersey Department of Environmental Protection. As shown in the following chart, between 2012 and 2015, agriculture decreased slightly while urban development increased slightly. Conversely, both barren land and forest increased significantly over the same three-year period.

Land Use Land Cover 2012 – 2015					
Type	2012 Acres	2012 % Cover	2015 Acres	2015 % Cover	% Change 2012-2015
Agriculture	4,986.5	23.2%	4,968.3	20.9%	-0.4%
Barren Land	227.2	1.1%	266.2	1.1%	17.1%
Forest	4,966.9	23.1%	6,287.6	26.4%	26.6%
Urban	6,833.7	31.7%	6,899.1	29.0%	1.0%
Water	362.1	1.7%	359.8	1.5%	-0.6%
Wetlands	4,163.1	19.3%	5,019.4	21.1%	20.6%
Total	21,539.4	100%	23,800.3	100%	-

Source: 2012/2015 NJDEP Land Use Land Cover

Population Trends

The Township of Millstone experienced a population boom from 1940 to 1960, wherein a total of 1,084 persons were added to the population. From 1960 to 1970, however, the Township experienced a slight loss. In the following decades, the population continued to increase, reaching 8,970 total population in 2000 and 10,566 in 2010. According to the North Jersey Transportation Authority (NJTPA) Plan 2045, the population in Millstone is expected to increase to a total of 12,090, representing an increase from 2010 of 14.4 percent.

Population of Millstone Township		
Year	Number	Percent Change
1930	1,428	-
1940	1,466	2.7%
1950	2,100	43.2%
1960	2,550	21.4%
1970	2,535	-0.6%
1980	3,926	54.9%
1990	5,069	29.1%
2000	8,970	77.0%
2010	10,566	17.8%
2045	12,090	14.4%

Source: US Census, NJTPA Plan 2045

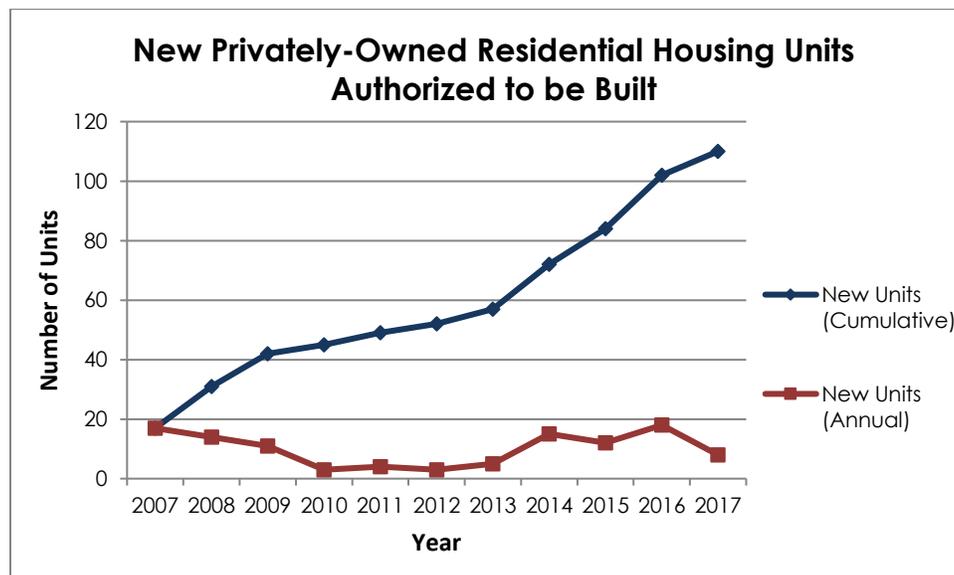
Building Permits

A total of 118 new privately owned units were authorized to be built within the Township from 2008 to 2018. On average there were eight single- and two-family homes constructed per year during that timeframe. There was a lull in activity from 2010 to 2013, but 2014 marked the beginning of an uptick, with 72 new units added overall. That number has continued to jump since then, with 2016

being the busiest year in terms of single- and two-family homes, wherein 18 building permits were authorized for development.

New Privately-Owned Residential Housing Units Authorized to be Built 2008 – 2018					
	New Units (Annual)	1&2 family	Multifamily	Mixed use	New Units (Cumulative)
2008	14	14	0	0	31
2009	11	11	0	0	42
2010	3	3	0	0	45
2011	4	4	0	0	49
2012	3	3	0	0	52
2013	5	5	0	0	57
2014	15	5	10	0	72
2015	12	11	0	1	84
2016	18	18	0	0	102
2017	8	8	0	0	110
2018	8	7	1	0	118

Source: NJ Department of Workforce and Labor



Source: NJ Department of Workforce and Labor

E. Public Water & Sewer Service Areas

The Township, in concert with the State Plan policies for rural planning areas, is not served by public water or sewer service. Further, the natural conditions in large areas of the Township, including freshwater wetlands, seasonal high-water table, steep slopes, limited stream flows with high water quality, and the soil conditions, place severe restrictions on the use of septic systems. The development of package treatment plants is restricted by limited stream flows and costs for

tertiary treatment requirements for physiographic areas like Millstone Township by the New Jersey Department of Environmental Protection.

It is the Township's policy to discourage the extension of sewer service into the Township. Public infrastructure extensions, particularly sewer service, are an inducement to growth and development that is in direct conflict with the State Plan and the Township's goal to maintain the rural character of the community and safeguard natural resources.

F. Township Zoning Policies & Provisions

The Township has set forth a policy that development should be designed to preserve both open space and established woodlands and to protect environmentally sensitive areas. Major developments are encouraged to be designed in such a way that they will have minimal effect on the flow of traffic on the existing road system. Maintaining the rural character of the Township, preserving farmland and open space, and protection of the environment are fundamental purposes of the Township Land Use Plan Element portion of its master plan.

To better achieve these purposes, the land use plan identifies areas for rural preservation and conservation. The plan provides for both large scale and small-scale farm operations. Smaller farmsteads provide more specialized products such as organic produce, exotic livestock and horticultural products. This type of diversity between large-scale crop producers and small-scale alternative farming operations can help strengthen the local agricultural economy.

General Lot Size Categories and Distribution

As indicated in the 2002 Master Plan, the RU-P Rural Preservation Zone covers roughly 52 percent of the Township land area. The RU-P Zone has an average lot size of 10 acres and contains large, contiguous tracts of viable farmland holding 84 percent of the Township's prime agricultural soil. These areas contain some of the largest nursery, equestrian and agricultural land areas in the Township.

To develop, the RU-P Zone requires a minimum lot size of 10 acres. To provide flexibility to preserve larger tracts as farmland and/or open space, the rural preservation areas permit lot size averaging and residential clusters. As an incentive to cluster to preserve open space and/or farmland, the rural preservation area permits residential clusters at a density of one dwelling unit per eight acres on larger tracts provided that 60 to 70 percent of the tract is preserved via the cluster as open space and/or farmland.

The RU-C Rural Conservation Area comprises roughly 2 percent of the Township. The RU-C Zone requires 6 acres to develop a single-family detached dwelling. Roughly half of the RU-C Zone is farmland assessed property. It also contains substantial tracts of vacant land associated with environmentally sensitive lands such as freshwater wetlands, floodplains and headwater areas. Preserving open space and limiting intensive development in the RU-C Zone will help protect the surface water quality for Millstone Township and downstream communities.

Parcel Distribution				
Category	Number of Parcels	Parcel Percentage	Acreage	Acreage Percentage
Small lots (less than 1 acre)	659	15.4%	360.09	1.6%
Medium Lots (1 to 5 acres)	2,902	67.6%	6,994.75	30.7%
Large lots (5 to 10 acres)	380	8.9%	2,578.28	11.3%
Very large lots (greater than 10 acres)	352	8.2%	12,886.75	56.5%
Total	4,293	100.0%	22,819.87	100.0%

Source: 2013 Tax Assessment Data

Innovative Planning Techniques

Millstone Township employs cluster development and lot size averaging ordinances for the RU-P and RU-C Zones. The cluster development ordinance allows and encourages one of the lots in a subdivision to become a preserved farm. Lot size averaging allows for greater flexibility by permitting the average of all proposed lots in a subdivision to meet the minimum lot size requirement rather than specifying that each individual proposed lot meets the threshold. The Township anticipates that other properties also will take advantage of these development opportunities in the future.

Buffer Requirements

Millstone Township requires new lots within the RU-P and RU-C zoning districts that are adjacent to farmland to provide a 25-foot buffer. This provides a sufficient buffer between residential and farmland uses. In the event that a greater distance would be more appropriate, the Township could consider increasing the size of the buffer required on new lots.

Development Pressures and Land Values

Due to Millstone's proximity to the NJ Turnpike, State Highway Route 33 and Interstate 95, the Township is witnessing a growing trend in warehousing development that has harmful impacts on the farming industry and Millstone's farming viability. Warehousing uses have been increasing in popularity as they are not encumbered by well and septic requirements in the way that other commercial uses often are. Additionally, demand for residential development remains fairly steady for both Millstone Township and Monmouth County. Large homes are being constructed on large lots and have a higher value than the older homes found in the southern portion of the Township.

Since 2008, only a few additional farms have been preserved. In the year 2008 alone, the Township preserved 6 farms encompassing 367 acres. The average cost per acre was approximately \$35,000 per acre. However, since this time, the average cost has decreased from \$35,000 per acre to less than \$15,000 per acre.

The following charts compare residential construction in Millstone Township and Monmouth County from 2018 until December of 2019.

New Privately Owned Residential Housing Units Authorized in 2018 and 2019 Millstone Township vs. Monmouth County				
	Millstone Township		Monmouth County	
	2018	2019	2018	2019
Total Units	11	14	1,897	1,566
Single-family units	7	8	868	848
Single-family value	\$2,583,250	\$2,661,884	\$256,643,311	\$274,228,712
2-family units	0	0	4	14
2-family value	-	-	\$104,000	\$1,229,557
3-4 family units	4	6	10	12
3-4 family value	\$897,000	\$42,180	\$1,305,686	\$642,680
5+ family units	0	0	1,015	692
5+ family value	-	-	\$87,245,118	\$58,920,002

Source: NJ Department of Workforce and Labor

Residential Building Permits Authorized 2008 to December 2019 Millstone Township vs. Monmouth County								
	Millstone Township				Monmouth County			
	Total	1&2- family	Multi- family	Mixed- use	Total	1&2- family	Multi- family	Mixed- use
2008	14	14	0	0	1,159	769	361	29
2009	11	11	0	0	880	648	228	4
2010	3	3	0	0	791	603	188	0
2011	4	4	0	0	791	628	163	0
2012	3	3	0	0	964	654	302	8
2013	5	5	0	0	1,405	1,178	217	10
2014	15	5	10	0	1,335	980	334	21
2015	12	11	0	1	1,176	829	340	7
2016	18	18	0	0	1,901	833	1,057	11
2017	8	8	0	0	1,729	912	792	25
2018	8	7	1	0	1,828	860	958	8
2019	13	12	0	1	1,168	757	406	5
TOTAL	114	101	11	2	15,127	9,651	5,346	128

Source: NJ Department of Workforce and Labor

Transfer of Development Rights (TDR) Opportunities

Currently, Millstone Township does not have a TDR program and, given the environmental carrying capacity constraints to development which exist throughout the Township, Millstone has no plans to implement a TDR program.

Section IV. Millstone Township's Farmland Preservation Program—Overview

Agriculture provides food and fiber, clean air, stormwater management, groundwater recharge, wildlife habitat, and the scenic viewsheds that are found throughout the Township. As of August 2020, Millstone Township has permanently preserved approximately 1,446 acres of farmland, an increase of 734 acres since the 2008 Farmland Preservation Plan was adopted. Farmers and local officials in Millstone Township are firmly committed to farmland preservation and will continue to support these efforts.

Millstone Township has fostered many partnerships that have successfully aided the township in the preservation of both open space and farmland. These partners include Monmouth County Agriculture Development Board, New Jersey Department of Environmental Protection, Green Acres Division, D & R Greenway Land Trust, Monmouth Conservation Foundation, Crosswicks Creek-Doctor's Creek Regional Greenway, and the Monmouth County Park System.

Millstone Township has participated in the State's Municipal Planning Incentive Grant (PIG) Program since 2001. In 2016, Millstone hosted another Landowners' Rally to inform more farmers about preservation. The following year, a 32-acre lot was preserved. The Township continues to work with Monmouth County and the SADC to preserve farmland.

With the success of the local farmland preservation program, there are State funds remaining in Millstone Township's 2019 Municipal PIG and the County Easement Programs as of July 2020.

In 2008, the Township preserved seven farms totaling 418 acres, including the two of the largest: Hom Farm on Battleground Road, consisting of 166 acres, and the Wong Farm on Stagecoach Road, consisting of 115 acres. Since the end of 2008, the Township has preserved four additional farms totaling approximately 126 acres, the most recent of which was 7 acres of the Peplowski property preserved in 2020.

A. County Agricultural Development Areas

The Monmouth County Planning Board has identified several areas for agricultural development in Millstone Township as shown on the "Agriculture Development Areas" map (see following Section IV of this plan) prepared and approved by the Monmouth County Agriculture Development Board (MCADB) and Monmouth County Planning Board. All of the farms identified in a local project area coincide with the County's ADA. Approximately 16,148 acres, or 68 percent, of Millstone Township has been included in the ADA as adopted by MCADB.

Monmouth County is currently updating the ADA and is expected to be approved within the next year. The proposed ADA is smaller than the existing boundary. However, all municipally targeted farms are included within the revised boundary. It is recommended that the Township review the proposed ADA boundary, provide comments to the MCADB, and work with the County to amend the boundary, as necessary.

B. Preserved Farmland to Date by Program

As of 2020, the Township has approximately 1,446 acres of preserved farmland. In addition to using Township funds, a number of partnerships have been utilized to preserve open spaces and farmland, including:

- New Jersey Farmland Preservation Program including the Municipal Planning Incentive Program and the County Planning Incentive Program
- SADC State Direct Easement Program
- New Jersey Department of Environmental Protection, Green Acres Division
- Partnerships with non-profit organizations such as the D&R Greenway Land Trust, Monmouth Conservation Foundation

The State Agriculture Development Committee operates a Direct Easement Purchase program and a Fee Simple program, both of which a landowner applies directly to the State. The farm is ultimately preserved by the State of New Jersey purchasing the development rights via the Direct Easement Purchase program or, using the Fee-Simple Program, an outright fee-simple sale of land is processed. In both cases, the land is permanently deed-restricted for agricultural use. Farms purchased in fee simple by the SADC are later sold at public auction with a permanent deed restriction for agricultural use.

In Millstone Township, 1 farm totaling 95 acres has been preserved utilizing the SADC Direct Easement Purchase Program. There have been no farms preserved using the SADC Fee Simple program.

The SADC also provides grant funding to nonprofit organizations for up to 50 percent of the fee simple or development easement values on farms to assist with the preservation. These properties often involve environmental and/or recreational significance in addition to their agricultural importance.

The SADC provides Municipal Planning Incentive Grants to municipalities for the purchase of development easements to permanently protect large blocks of reasonable contiguous farmland in project areas they have identified. The municipality must have an agricultural advisory committee, must have an approved application that contains a farmland preservation plan element of the master plan, and must establish and maintain a dedicated source of funding. In Millstone Township, three farms, totaling 87.9 acres have been preserved through the Municipal PIG program.

The SADC provides County Planning Incentive Grants to counties for the purchase of development easements to permanently protect large blocks of contiguous farmland in project areas they have identified. Counties must have a county agricultural development board, must have an application that correlates with an adopted county comprehensive farmland preservation plan, and must have a dedicated source of funding. Under SADC regulations, this tool will help preserve additional farmland, especially larger farms within Millstone Township. Coordination between Monmouth County and Millstone Township is critical for this program to be successful. A total of 16 farms encompassing 674.2 acres have been preserved through the County PIG program. An additional 604.7 acres across 8 farms were preserved using the County's Easement Purchase Program, which is no longer available.

The SADC typically provides counties 60 percent of the cost of preserving farms through one of the Planning Incentive Grant Programs and 50% for the Grants to Nonprofits Program. It generally holds one funding round per year for this program. Landowners apply to the County Agricultural Development Board (CADB) who reviews applications and forwards approved ones to the SADC. The SADC prioritizes applications for preservation funding through a ranking system that assigns points. These quality scores establish the SADC's preliminary priority list for preservation.

Transfer of Development Rights (TDR) is a realty transfer mechanism that enables property owners within a designated preservation area (i.e. sending area) to sell development rights. Developers purchase the "development credits" and transfer that development potential to an area that is designated for growth at densities higher than otherwise would be permitted. Once the development rights of a property are sold the land is permanently restricted from further development. Millstone Township does not have a TDR program.

While not specifically targeting farmland, the Crosswicks Creek-Doctors Creek Regional Greenway has a broader goal to implement a regional greenway plan which envisions a continuous preserved historic, cultural, scenic, recreational trail and navigation system stretching from the Delaware River inland and connecting with other regional greenways. The Township considers the development of this trail network complimentary to its goal for farmland preservation given that the local equine industry will benefit from the network. The Township has not used the Crosswicks Creek-Doctors Creek Regional Greenway to preserve farmland in Millstone.

C. Consistency with SADC Strategic Targeting Project

The purpose of the SADC Strategic Targeting Project is to prioritize farmland to be preserved by targeting farms for preservation based on specific criteria. According to the SADC, the Strategic Targeting Project has three primary goals, as follows:

- The coordination of farmland preservation and retention of agricultural practices "with proactive planning initiatives."
- To update and create maps which serve as a tool for more accurate preservation targets.
- To coordinate different preservation efforts, such as open space, with farmland preservation.

Through the use of the Strategic Targeting Project, the SADC hopes to more efficiently target and designate farmland for preservation by prioritizing preservation of prime and statewide soils in active agriculture areas outside sewer service areas. Millstone has no sewer service areas within the municipality. Millstone Township's Agricultural Advisory Council (AAC) continues to coordinate its preservation efforts with the Monmouth County Agriculture Development Board (MCADB), to ensure that the goals as outlined in the Strategic Targeting Project are met.

D. Term Preservation

The Term Preservation Program, previously known as the 8-Year Farmland Preservation Program, and the Municipally Approved 8-Year Farmland Preservation Program are both cost-sharing programs for soil and water conservation projects, in which the farmer received 50 percent cost-sharing for these projects as well as protection against emergency energy and water restrictions and eminent domain. In return, the farmer signs an agreement that restricts the land to agricultural use for eight years.

For entrance into these programs and to qualify for benefits, a farm must be located within an ADA. Technical assistance for the soil and water practices comes through the Natural Resource Conservation Service.

Currently, the Township does not have any farms enrolled in the Term Preservation Program. However, as the pressure to develop increases, it is likely that more farms may enroll in this program

to find temporary relief while they consider the sale of development rights or as they use the cost share funds to improve their operations. In Monmouth County, there are eight farms enrolled in the Term Preservation Program.

E. Coordination with Municipal and County Open Space Initiatives

The Township has an Open Space Preservation Council (OSC) that works with the Township's Agricultural Advisory Council (AAC) on setting priorities, pursuing properties and making recommendations to the Township Committee. This Farmland Preservation Plan will be included as an element of the Township's Master Plan.

Further, specific parcels within the farmland project areas may be designated in the Master Plan for a public park or for recreation or community use. Should a designated parcel no longer be needed for park, recreation or community use, it is the policy of the Township to preserve the parcel for farmland preservation.

Millstone Township supports the use of partnerships and/or funding from more than one agency to leverage farmland preservation dollars. These "hybrid" projects are an opportunity to use traditional open space funds, where appropriate, to help preserve farm properties, especially where those properties are a mixture of cropland and woodland areas. The use of Green Acres funding, local open space funds and nonprofit grant funds are becoming increasingly important for the preservation of agricultural landscapes.

Farmland preservation and the identification of targeted farms should be coordinated with open space planning efforts at the municipal, county and state levels.

F. Farmland Preservation Program Expended to Date by Source

Since 2008, Millstone Township has expended roughly \$4 million to preserve approximately 537 acres of farmland. The State and County have contributed roughly \$8.7 million and \$3.4 million respectively. Since 2008, funds represent the following cost share: Township (25%), Monmouth County (21%) and the State of New Jersey (54%). However, the normal cost share is 16 percent Township, 24 percent County, and 60 percent State.

Preserved Farms 2008 – July 2020						
Block(s)	Lot(s)	Acres	Total Cost	State Cost	County Cost	Municipal Cost
43	16.01	24.30	\$826,268.00	\$495,760.80	\$198,304.32	\$132,202.88
46	4.01	33.75	\$1,181,355.00	\$708,813.00	\$283,525.20	\$189,016.80
11; 12	22.02; 2	165.83	\$4,974,840.00	\$2,387,923.20	\$955,169.28	\$1,631,747.52
7	2	28.29	\$1,236,468.48	\$741,881.09	\$296,752.43	\$197,834.96
47	2	115.23	\$4,032,980.00	\$1,977,312.48	\$790,924.99	\$1,264,742.53
48	3, 10.03	50.55	\$1,617,600.00	\$970,560.00	\$388,224.00	\$258,816.00
54	5.04	25.07	\$877,555.00	\$ 526,533.00	\$210,613.20	\$140,408.80
35	2	55.82	\$745,156.95	\$447,094.17	\$178,837.67	\$119,225.11
8	1	31.89	\$344,444.40	\$344,444.40	\$-	\$-
35	11	7.02	\$245,595.00	\$147,357.00	\$58,942.80	\$39,295.20
Totals:		537.75	\$16,082,262.83	\$8,747,679.14	\$3,361,293.89	\$3,973,289.80

G. Monitoring of Preserved Farmland

Millstone Township's preserved farms are monitored by the Monmouth County Staff personnel once a year. Millstone is vigilant about reporting and working with Monmouth County if and when a violation comes to its attention. The Millstone Township OSC has established a stewardship program for open space, trails, and conservation easements in the Township. The Township also monitors the preserved farms which the County does not participate in.

The OSC and the Township Land Use Department have developed an inventory of all easements including farmland, conservation, open space, drainage and sight triangle easements. The Township keeps a database that is continually updated by project staff that includes the Block, Lots, ownership, and cost shared divided among the agencies involved with the preservation of the property. It remains a recommendation that the Township should continue to organize the deed of easements, base line data, maps and the monitoring reports by block and lot and collect the base line data on all easements. A monitoring report will be prepared, and site inspections will be scheduled.

The SADC and its staff monitor those easements that are obtained through the SADC Direct Easement program annually. Monmouth County monitors the easements which are held by the County. The Township will schedule site inspections on a periodic basis and complete monitoring reports.

H. Coordination with TDR Programs

At this time, the Township has not adopted a TDR program. Given the environmental constraints to development which exist throughout the Township, Millstone has no plans to implement a TDR program in the future.

Section V. Future Farmland Preservation

The types of agriculture and traditional practices utilized by agriculture in the county are changing. Farming will continue to offer opportunities for direct marketing and value-added agriculture such as fruits, vegetables, vineyards, nursery plants and tree farms in adjacent urban areas if these areas can be maintained as agricultural lands.

Private and public sector cooperation will be needed to curb activities that negatively impact agriculture in the County to ensure farming remains a viable economic activity. Just as important as remaining economically viable, the rights of the agricultural sector and individuals who chose to establish residences and/or commercial enterprises in a predominantly agricultural area must be balanced.

Areas of agricultural activity that currently exist on prime farmland which are viable due to microclimates or are concentrated in a certain geographical area, should be considered for protection. No single program or tool may achieve farmland protection goals in the County. A protection program should be in accord with the desires of the community and its landowners, the status of farming in the area, and a clear strategy on which farmlands to preserve and how to do so. Farmland preservation should be focused not simply on saving land from development but ensuring that agriculture is a profitable venture that enhances the local economic base.

A. Preservation Goals

Millstone Township set an ambitious goal to preserve 2,500 acres of farmland by 2018. However, approximately 550 acres were preserved between 2008 and 2020. The Township has preserved roughly 1,446 acres, reaching 58 percent of the 2008 goal. The following Preservation Goals have been updated to reflect more recent trends over the past 10 years.

Preservation Goals	
One Year Target:	200 acres
Five Year Target:	600 acres
Ten Year Target:	1,000 acres

Since the 2008 plan was adopted, the Township has preserved roughly 550 acres of farmland. However, the majority of these farms were preserved in 2008. It is recommended that the Township extend their preservation goals. Although Monmouth County's Land Preservation Trust Fund has become more competitive, an average of 100 acres per year would be feasible for the Township.

B. Project Area Summaries

The Township has established four project areas in which to focus its farmland preservation efforts. For each project area, an analysis was completed to identify the amount and density of preserved farmland, soils and size of the area. More specifically, the following information was determined for each project area:

- The size of the total project area (in acres)
- The total acreage of preserved farmland in the project area
- The total acreage of pending applications for farmland preservation in each project area
- The acreage of publicly held open space in each project area, and

- The total acreage of prime soils, soils of statewide importance, and unique agricultural soils in each project area

The four established project areas were developed by applying the minimum criteria to the potential farms and by examining the areas for wetlands, steep slopes and soils. Whenever an application is received, the Township will conduct a site assessment to verify compliance with the standards.

There are approximately 7,863 acres total acres of farmland located within the project areas that are shown on the "Agricultural Development Areas" map. Approximately 1,446 acres have been preserved and another 3,200 acres are targeted to be preserved. The Township continues to take strides to ensure farmland continues to be preserved.

Millstone Township Project Areas

The **Perrineville East Project Area** encompasses an 1,885-acre area with a density of 19 percent and a soil productivity of 76 percent. This project area is situated south of Route 33 and east of the Hickory Drive preserved open space and is bound by Baird Road and Millstone Road to the west, Sweetmans Lane to the south, and by Route 527 to the east. The project area contains approximately 800 acres targeted for farmland preservation. There is currently one farm preserved in this project area, consisting of approximately 24 acres, which closed in 2008.

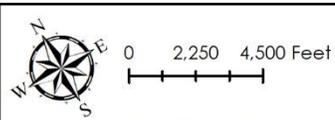
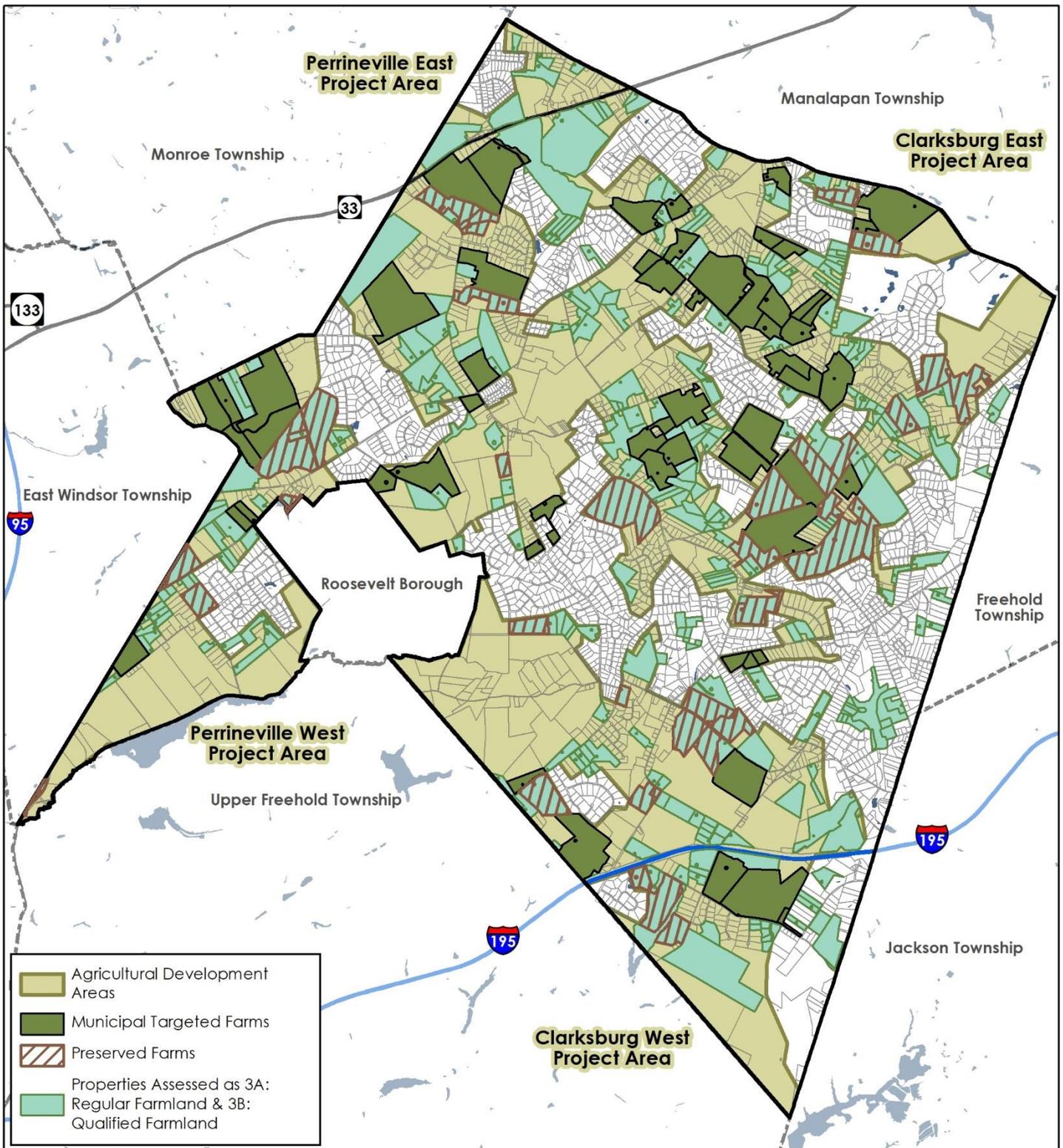
The **Perrineville West Project Area** consists of 3,823 acres with a density of 51 percent and soil productivity of 89 percent. This project area is situated south of Route 33 and west of Millstone Road, north of the New Jersey Equine Clinic and Witches Hollow Road, and east of Disbrow Hill Road. It includes the agricultural lands within the vicinity of Battleground Road between Moto Industrial Park and Prodelin Way. Approximately 960 acres are targeted for preservation, consisting of eighteen parcels. There are currently fourteen preserved parcels totaling approximately 490 acres in the project area, which were preserved or deed restricted from 1997 to 2017.

The **Clarksburg East Project Area** consists of 3,041 acres with a density of 41 percent and soil productivity of 90 percent. This project area extends south of Sweetmans Lane, east of Millstone Road, north of Stage Coach Road and west of Route 527. The project area contains roughly 690 acres targeted for preservation. Twelve farms consisting of roughly 560 acres have been preserved between 1999 and 2008.

The **Clarksburg West Project Area** consists of 3,640 acres with a density of 64 percent and soil productivity of 78 percent. Clarksburg West lies between the western municipal boundary line and Route 571, south of Roosevelt and north of Route 537. This project area targets fourteen parcels consisting of roughly 425 acres targeted for preservation. A total of eight farms containing roughly 373 acres have been preserved, the most recently occurring in 2020 and consisting of approximately 7 acres.

A summary of targeted and preserved farms by project area can be found in Appendix II.

As noted in other sections of this Plan, the County is revising its ADA boundaries, which affects Millstone. The Township should do a thorough review of the proposed ADA in relation to our valuable farmland and farmland assessed properties that qualify for preservation. The Township should suggest any properties omitted for inclusion.

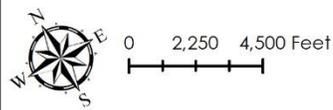
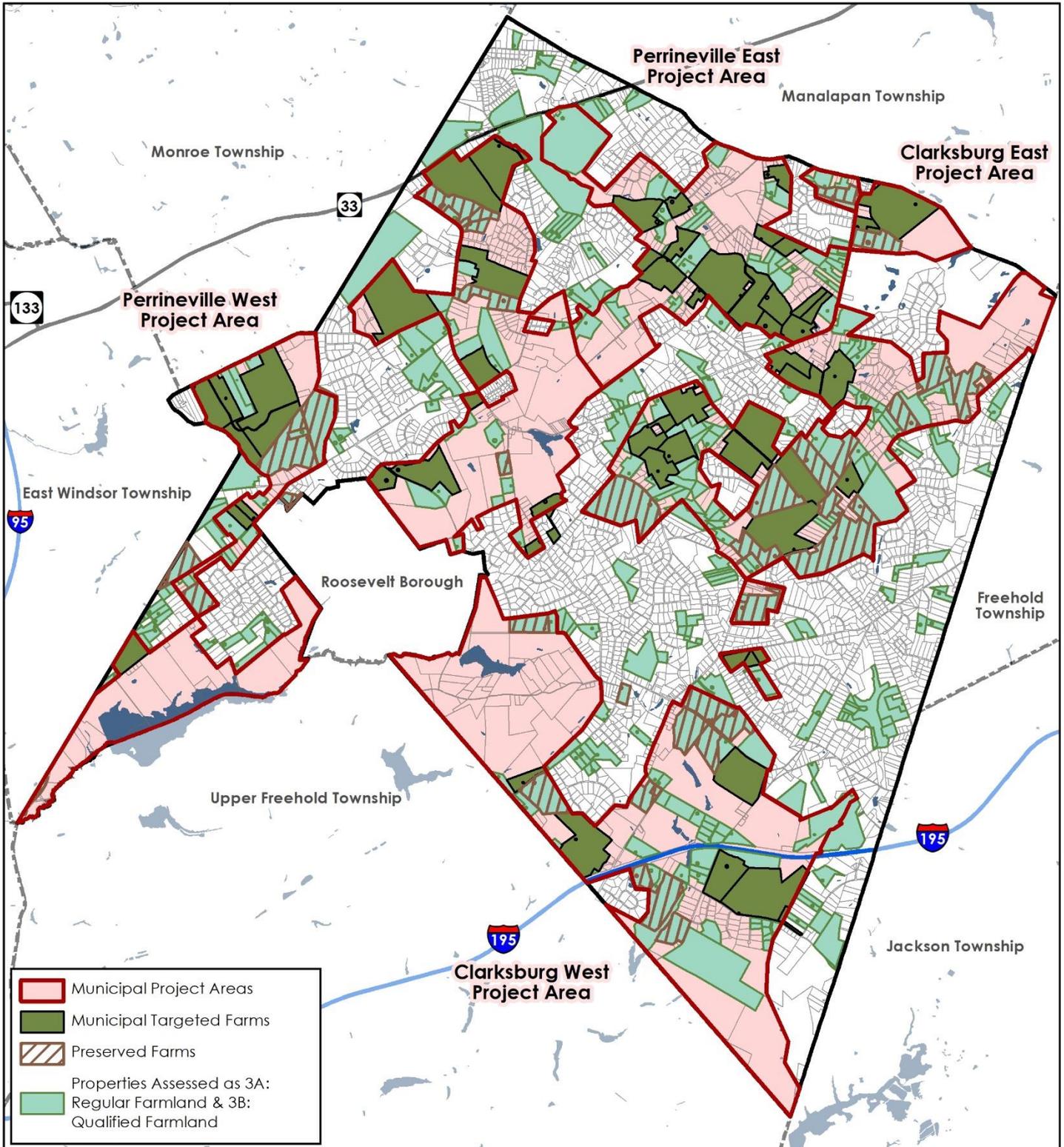


Source: NJGIS, NJGIN, NJDEP, NJDOT

Agricultural Development Areas

Millstone Township, NJ
Farmland Preservation Plan





Source: NJGIS, NJGIN, NJDEP, NJDOT

Project Areas
Millstone Township, NJ
Farmland Preservation Plan



The following chart shows the total, unpreserved and preserved qualified farms (QFARM) in each of the project areas:

Project Area	Total QFarm Parcels		Unpreserved QFarm Parcels		Preserved QFarm Parcels	
	# of Parcels	Acreage	# of Parcels	Acreage	# of Parcels	Acreage
Perrineville East	92	1,002.5	91	978.2	1	24.30
Perrineville West	87	1,590.49	43	1,101	14	489.49
Clarksburg East	90	1,974.96	78	1,415.80	12	559.15
Clarksburg West	128	1,977.7	116	1,624.73	12	372.97

Source: 2019 Tax Assessment Data, NJGIN Statewide Composite Parcel Data

C. Municipal and County Minimum Eligibility Criteria Coordination

Minimum Eligibility Criteria are based upon the SADC rules for farmland preservation and project eligibility. In order to be eligible for preservation the site must be developable, have soils capable of supporting agriculture or horticultural production and meet minimum tillable standards (N.J.A.C. 2:76-6.20). Millstone Township has adopted the following minimum eligibility requirements as established by the State:

Lands less than or equal to 10 acres:

- Production of agricultural/horticultural products of at least \$2,500/year;
- 75 percent or 5 acres (whichever is less) is tillable;
- 75 percent or 5 acres (whichever is less) has soils capable of supporting agriculture; and
- Land must exhibit development potential.

Lands greater than 10 acres:

- 50 percent or 25 acres (whichever is less) is tillable;
- 50 percent or 25 acres (whichever is less) has soils capable of supporting agriculture; and
- Land must exhibit development potential.

Lands less than 25 acres:

- Cannot contain more than 80 percent of soils that are classified as freshwater wetlands or modified agricultural wetlands (as identified by NJDEP); and
- Cannot contain more than 80 percent of soils with slopes in excess of 15 percent (as identified by USDA).

While Monmouth County has established some additional criteria for the County Planning Incentive Grant program, the County has agreed to cost share on Municipal PIG projects using the State criteria as adopted by Millstone Township. However, in general, properties that meet the State's criteria, but not the County's criteria, will be preserved via the Municipal PIG program. All other properties may be considered under either the Municipal PIG or County PIG Programs. Applications will be accepted throughout the year. The Township will continue to provide regular communication with Monmouth County. In the event that the Township and County target the

same property at the same time, the two entities will work together to determine which program is in a better financial position to complete the transaction.

Millstone Township's Ranking Site Assessment (see Ranking Criteria Used to Prioritize Farms described more fully below) includes all of the same minimum criteria used by Monmouth County, including the size of the farm, tillable acres, soils, development potential and slopes. Farms must receive a minimum score in order to be considered for preservation.

D. Municipal and County Ranking Criteria Used to Prioritize Farms

Farmland Preservation is a voluntary program and landowner applications are accepted all year. After receiving an application, members of the Agriculture Advisory Committee (AAC) make an appointment to visit the farm, interview the landowner and complete the Farm Site Assessment Form.

The farm is ranked and given points considering all the following factors: proximity to other preserved farms and open space; size of property; percentage of property actively farmed; stewardship (e.g. existing Farm Conservation Plan, enrollment in the 8-year program, etc.); boundaries and buffers; soils; tillable acres; distance to conflicting uses; and development potential. Other factors that the AAC may consider are: historic significance, landowners willingness to enter into a "bargain sale", accept Installment Purchase Agreements (IPA) or other creative finance arrangement; willingness to sell an easement for a trail; estate; foreclosure; willingness and ability of county and state to cost share; and expected cost.

Applications will be ranked and prioritized by the Township. When funding becomes available, the AAC may make a recommendation to the Township Committee for further consideration. If the property remains under consideration, the landowner would be required to sign a one-year option agreement during which time the SADC will authorize the Township to proceed with appraisals. The appraisals are reviewed, and a market value is certified by the SADC. The Township can then extend an offer to the landowner. If the landowner does not accept the offer of certified market value, they are not permitted to reapply until two years from the date of the original application.

Additionally, the State of New Jersey permits municipalities to consider the historic significance of a farm for ranking farmland applications. There are at least four farms targeted for preservation in Millstone Township that have historic significance. Each is listed on the Monmouth County Historic Sites inventory. The following descriptions are based on preliminary research with the NJDEP Office of New Jersey Heritage Individual Structure Survey.

Block 31/ Lot 25 (26 Rising Sun Tavern Road)

This site is one of the best remaining late 19th century farmsteads in Millstone Township due to the number and condition of the barns remaining standing and the survival of the farm site acreage and setting. The property, which was preserved in 2006, is approximately 29 acres in area.

Block 23/Lot 25 (54 Baird Road)

Despite recent renovations, this is a good example of farmsteads in Millstone during the early 19th century. The original portion of the house has been incorporated into the new structure. The late 19th century barn and 53-acre site contribute to the historic rural

landscape. Samuel Wetherill, who is listed as head of household on the 1850 Federal Census, may have been the original owner and builder of the house.

Block 57/Lot 26 (42 Olde Noah Hunt Road)

This large Greek Revival dwelling retains its original form and a number of its original design features. It is a good example of the sizable farmhouses built by prosperous farmers in western Monmouth County during the mid-19th century. The house was built by Noah Hunt who developed the property and is shown as the owner of the property on maps dating back to 1851.

Block 23/Lot 2.02 (25 Millstone Road)

Hom House was built in 1821 as recorded on a beam in the attic. The house was built on the site of an earlier house and was located in a settled community with a tannery across the road, a dam (the remains of which are still evident), a mill pond, and a gristmill that was operated by Peter Bergen.

Block 23/Lot 8 (505 State Highway 33)

The Showplace Farms property was historically known as The Elias C. Clayton Farm. The property measures 143 acres in size and featured a historic Greek Revival house which was built in the second quarter of the 19th century. This property was an equine-related service in the Perrineville East Project Area which was targeted for preservation. However, the property is included in the Township's Housing Element and Fair Share Plan. The property received Planning Board approval in August 2020 to be developed with a warehouse facility.

There are several other examples of historic properties in Millstone Township that may be eligible for farmland preservation but will require further research. Other properties that appear on pre-1900 maps of Millstone Township include Perl Acres (Block 55/Lot 2), and the Horzepa property (Block 42/Lot 11.01), both of which are within the Monmouth County Agriculture Development Area. The Horzepa property abuts the westerly boundary of Perrineville East and may be candidate for inclusion in the Project Area in the future.

E. Municipal and County Policies Related to Farmland Preservation Applications

Millstone Township largely follows the Monmouth County Agriculture Development Board (MCADB) and the State Agricultural Development Committee (SADC) guidelines and policies regarding housing opportunities, division of premises and exception areas.

Agricultural Labor Housing

Agricultural labor housing is not currently protected under the Right to Farm Act in the State of New Jersey. The New Jersey Farm Bureau Policies encourages the SADC to include agricultural labor housing to the State's Right to Farm Policy. Agricultural labor housing applications are reviewed by SADC and MCADB.

Labor housing and house replacement requests are forwarded to MCADB for consideration. After the applicant completes that process, if approved, they proceed to the building department for permits.

Residual Dwelling Site Opportunities

Residual Dwelling Site Opportunities (RDSOs) are lingering potential housing prospects located within a deed-restricted farm.

By designating an area as an RDSO, the landowner is implying that the land will be used for a residential unit or other structure as referred to in N.J.A.C. 2:76-6.17. These prospective residential units can be allocated to parcels that are at least 100 acres in size. The purpose of the building in question must be for "single-family residential housing and its appurtenant uses... The resident of the dwelling must be regularly engaged in common farmsite activities on the premises" (SADC Appraiser Handbook 2013).

To qualify as an RDSO, the SADC requires that the use of the residential unit be for agricultural purposes and "at least one person residing in the residential unit shall be regularly engaged in common farm site practices."

Millstone currently has one (1) RDSO. When Millstone receives an application for a RDSO, it would forward the request to MCADB who would follow Policy P-31. The intent of Policy P-31 is to provide for the limited future construction of a residential unit(s) for agricultural purposes on permanently preserved farms in order to accommodate agricultural flexibility in the future.

Division of Premises

The goal of the SADC is to preserve large tracts of farmland and, therefore, a division of the premises is not an encouraged practice; however when division occurs it must be for agricultural purposes and must result in agriculturally viable land parcels. A landowner wishing to divide permanently preserved farmland must submit a written request. This request must be approved in writing by both the SADC and MCADB. If granted, the owner of a preserved property would be permitted to subdivide an agricultural easement and sell one or more resulting farms. The Township forwards these requests to MCADB. The Agricultural Advisory Council (AAC) may offer an opinion to the MCADB and SADC for their consideration.

Approval of Exceptions

Exceptions are defined by the SADC as "acres within a farm being preserved" which are "not subject to the terms of the deed of easement." When an exception is made, the landowner does not receive any compensation in the excepted area. There are two types of exceptions that can occur; severable and non-severable.

Severable: A severable exception is defined by the SADC as an "area which is part of an existing Block and Lot owned by the applicant which will be excluded from the restrictions of the Deed of Easement and may be sold as a separate lot in the future." (SADC Appraiser Handbook 2013) A severable exception is made "if a landowner wants to be able to sell the excepted area separate from the deed-restricted farm."

Non-severable: Non-severable exceptions are defined by the SADC as "area which is part of an existing Block and Lot owned by the applicant that will not be subject to the restrictions of the Deed of Easement but cannot be sold separately from the remaining premises" (SADC Appraiser Handbook 2013). Unlike a severable exception, a non-severable exception is "always attached to the protected farm."

Exceptions made to farmland have the potential to impact the value of the property. When an appraisal occurs, both severable and non-severable exceptions are considered in the determination of the restricted/after value of the property.

Non-Severable Exceptions are areas of a farm that are specifically delineated so they will not be subject to the deed restrictions. While the Township considers requests on a case-by-case basis, for all cases the size and location of exceptions may not negatively impact the farming operation. An exception often depends on the presence of nonagricultural uses on the site, future plans for the farm (such as a veterinarian clinic), or whether the project is a joint project with the municipality or county to buy a trail or a portion of the property is purchased for open space.

The Township, by ordinance, has permitted the request of local farmers for one residential building lot opportunity after the farm is preserved, provided the acreage is delineated prior to preservation and that no payment was taken on that acreage. The severable exception may be no less than two acres in size, which is smaller than the minimum lot size required in the RU-C (6 acres) or RU-P (10 acres) zoning districts.

F. Funding Plan

Description of Municipal Funding Sources

The Millstone Township Open Space and Farmland Preservation program primarily relies on revenue from the Township's dedicated open space and farmland preservation tax to preserve open space and farmland. The six-cent tax generates approximately \$1,000,000 in revenue annually. According to the Township's 2019 budget, the municipal open space tax generated \$1,126,302.73. Over the years, Millstone Township has adopted multiple bond ordinances related to open space and farmland preservation.

The Open Space Council and the Agricultural Advisory Council generates additional funding for preservation purposes through community supported fundraising. In addition, the Township aggressively seeks several hundred thousand dollars in additional grant opportunities for preservation including NJDEP Green Acres, NJ SADC and Monmouth County open space grants. The governing body has reached a consensus to maximize the preservation capacity of this revenue by issuing bonds to fund the preservation of farmland and open space.

Financial Policies Related to Cost-Share Requirements Among County and Municipal/Other Funding Partners/Installment Purchases

Using the Planning Incentive Grant program, the Township follows the cost-share guidelines set forth by SADC; the SADC typically contributes 60 percent based upon the cost share formula at N.J.A.C. 2:76-6.11, Monmouth County 24 percent and the Township 16 percent.

The Township also entertains the option of preserving land and purchasing easements through installment purchase agreements (IPA) with the farmer. In those instances, the tax revenue from the dedicated tax would be applied towards making the annual interest payments to the IPA holders, with State and County matching funds being utilized to fund the purchase of the zero coupon bonds for the IPA. To date the farmers have indicated a preference for cash purchases.

The Township has developed relationships with non-profit groups that assist with preservation projects. These organizations include D&R Greenway Land Trust and Monmouth Conservation Foundation. These organizations could be useful in working with the Township to purchase

annuities for landowners who wish to structure a payment schedule over time. Installment purchases have not yet been used in the Township.

Cost Projections and Funding Plan Associated With 1, 5, and 10 Year Preservation Goals

Millstone Township develops a capital budget estimate each year to help plan for future acquisition spending. Millstone Township plans to preserve several properties each year.

In 2014, New Jersey voters approved Public Question #2 amending the New Jersey Constitution to create a permanent, two-phase dedication of a firm percentage of the Corporation Business Tax to environmental, conservation, and preservation programs. As of July 1, 2019, 6% of the CBT is dedicated to environmental purposes, with 78% of the 6% dedicated to the Garden State Preservation Trust. Within the Garden State Preservation Trust Program, 62% goes toward NJDEP's Green Acres programs, 31% goes to Farmland Preservation, and 7% goes to the New Jersey Historic Trust. Ultimately, the SADC's farmland preservation program uses this corporate tax as a stable source of funding for farmland preservation activities. It is anticipated that for FY21, the SADC has allocated approximately \$1.3 million to Millstone to use as the state match for Farmland Preservation.

In 2019, Millstone's Municipal Open Space Tax rate was 6%, generating over \$1.1 million for open space purposes. These funds are used for farmland preservation purposes as well as open space preservation, stewardship activities, park development and historic preservation.

Millstone has established a 1-year goal to preserve 200 acres, a 5-year goal of 600 acres and a 10-year goal of 1,000 acres. Since 2008, the cost per acre averaged to approximately \$29,000. Assuming the cost per acre remains valued at \$29,000, County and State funding remains available, and Millstone's open space tax continues to generate \$1 million annually, the Township could adequately preserve 1,000 acres over the next decade utilizing State, County and municipal funding. The cost to preserve 1,000 acres valued at \$29,000 per acre, would total \$29 million. Using the SADC cost share formula, the SADC would share 60% or \$17.4 million, the County would share 24% or \$7 million, and the Township would share 16% or \$4.6 million of the total cost.

Millstone's biggest obstacle, in terms of farmland preservation, is the lack of interest from landowners to preserve farmland. Since 2010, not many applications have been received by the Township, County, or State to preserve land. However, as noted in other sections of the Plan, the Township continues to host Landowner Rallies to raise awareness and to involve and engage the community with its preservation program.

Any Other Financial Information as Appropriate

Millstone Township would like to pursue creative mechanisms to preserve farmland and open space, and the Township will continue to pursue the use of option agreements, installment purchases and encourage donations for permanent development easements, and also will seek out other options as deemed necessary and appropriate. Partnerships with local nonprofit land trusts and conservancy groups are critical to the success of the Township's efforts to preserve farmland. The ability of these groups to obtain donations of development rights and their flexibility in structuring land transactions can play a key role in land preservation.

G. Farmland Preservation Program & Administrative Resources

Farmland preservation efforts are led by the five-member Millstone Township Committee as the governing body for the Township. Open space and farmland preservation projects are referred by the Open Space Preservation Council (OSC) and the Agricultural Advisory Council (AAC) to the Township Committee for its consideration to purchase the development rights, pathway easement or the property in fee simple. Four affirmative votes of the Township Committee are required to authorize the issuance of either a Bond Anticipation Note or a Bond for preservation projects.

The AAC may be composed of three to five members appointed by the Mayor with consent from the Township Committee. An additional member may serve as an alternate. All members are required to be residents of the Township. The majority of the members must be engaged in farming and own a portion of the land they farm. The powers and duties of the Council are:

1. To foster and promote the preservation of farmland within the Township
2. To assist Millstone in promoting the viability of the agricultural industry as well as promoting the economic and other benefits which result from preserving farm operations
3. To become fully aware of all lands within the Township currently used for farming and/or agricultural related purposes by compiling and maintaining an inventory of farming and agricultural lands within the Township.
4. To analyze how the Township can best protect the continuance and preservation of farmland within the Township.
5. To determine existing and future problems facing farmers and the farming community and to recommend reasonable and desirable solutions to the Township Committee.
6. To encourage and promote appropriate farming and agricultural related activities.
7. To encourage existing farmers to continue their farms in active operation.
8. To encourage and assist farmers and the farming community in making applications for farmland preservation programs, including applications to the County of Monmouth Planning Incentive Grant Program, applications to the State of New Jersey Direct Program, applications for the Non Profit Preservation Program as well as the Township of Millstone Planning Incentive Grant Program.
9. To assist in minimizing conflicts between farming/agricultural uses and adjacent or nearby residential and commercial uses.
10. To promote the Right to Farm Act (N.J.S.A. 4:1C-1 et seq.) including educating the community about the Act and assisting in mediating right to farm issues.
11. To make an annual report to the Township Committee setting forth the activities and operations of the Council during the preceding year.
12. To keep the Township Committee informed of current preservation applications and developments in the farming community.
13. To advise the Township Committee with respect to pending legislation at the County or State level which may impact on the farming community.
14. To keep the farming community informed of any municipal, County or State legislation which may impact on the farming community.
15. Report to and advise the Planning Board of its findings and recommendations on land use, land management and farmland preservation.

16. To perform such other tasks referred to it and as may be assigned to it by the Township Committee having to do with farming and agricultural related activities.
17. Subject to the preexisting approval of the Township Committee, the Council is empowered to complete, review and, if appropriate, approve farm applications pursuant to State Agriculture Development Committee (SADC) regulations and policies, including N.J.A.C. 2:76-17A.3 "Grant eligibility" and N.J.A.C. 2:76-17A.9, "Committee review of an application for the sale of a development easement" and the Council Chairperson may execute the "Affidavit of Municipal Advisory Committee Verification."

The Open Space Preservation Council (OSC) is comprised of seven resident volunteers and two alternates. Of the seven, one member is a Planning Board member, and one is a Township Committee member. The powers and duties of the Council are:

1. To foster and promote the preservation of open space and farmland within the Township.
2. The Council shall identify open space properties of potential preservation interest to the Township, taking into consideration the need for land for passive and active recreation, the protection of sensitive environmental plant and wildlife habitat, and the need to protect the headwaters of the five watersheds in Millstone Township to promote clean water and ground water recharge.
3. The Open Space Council shall assist interested landowners to fill out a municipal application. After assessment of an application, the Council will forward viable applications to the Committee for their approval.
4. To work cooperatively with the County and State Offices of Green Acres and Monmouth County Park System and any non-profit organizations
5. To assist interested parties with processing applications for open space preservation with applicable County and State Offices.
6. To help create and disseminate information promoting preservation.
7. To assist in obtaining grants for open space preservation for the Township
8. To stewardship the municipally owned open space properties

The OSC and AAC Secretary performs administrative duties relating to the Agricultural Advisory Council and the Open Space Council and maintains the database for preserved and potential farmland.

Several other professionals assist with preservation, including the Township Engineer who provides lot-yield calculations for the appraisals, survey review, and maintains the Geographic Information System database and prepares mapping; an environmental consulting group who investigates suspected wetlands, and conducts Phase I Environmental Site Assessments; the Township Planner who ensures consistency with farming related ordinances and coordinates the farmland plan with the Township Master Plan; and the Township Attorney who provides legal counsel on matters relating to acquisitions and enforcement, reviews contracts and conducts the real estate closings.

The Township Tax Assessor supplies database for municipal property tax assessment, specifically farm properties, and the Township Tax Collector informs the OSC regarding pending sales of properties resulting from a municipal property tax lien.

General guidance is provided by the Monmouth County Planning Board and the County staff assists with the appraisal review, surveys and contracts and providing general guidance.

Municipal officials coordinate preservation projects with the County staff, and the County closes on municipal PIG easements.

There are two regional nonprofit organizations, the Monmouth Conservation Foundation and the D&R Greenway Land Trust, which also provide technical and financial assistance to the Township. In addition to these regional organizations, NJDEP Green Acres has also provided assistance.

Millstone Township encourages participation on joint projects with all preservation groups. The OSC and the AAC maintain good communication between the groups regarding inventory of land used and available for agriculture as well as identification and prioritization of farms to be preserved. Millstone Township OSC maintains good communication with MCADB by fostering open conversations regarding farmland preservation of targeted farms, coordination of preserved open space, trail easements on farmland, and other concerns as needed. Millstone Township works closely with two local non-profit organizations: Monmouth Conservation Foundation and the D & R Greenway Land Trust. The goal of Millstone is to preserve as much land in the Township as possible.

H. Factors Limiting Farmland Preservation Implementation

Challenges to the farmland preservation program include the available supply of farmland, the cost of purchasing that land, the potential limitations of the preservation program once the land is preserved, and the infrastructure to support farming operations into the future. Flexibility in funding and preservation programs will enhance and sustain the farmland preservation program in Millstone Township.

Landowner interest remains high and applications continue to be submitted to the Township. Millstone Township prides itself on innovative partnerships, which can be seen by the popularity and success of the municipal PIG program and the local conservation projects with local nonprofit groups, including the Monmouth Conservation Foundation and the D&R Greenway. It will take the effort and teamwork of landowners, government officials, nonprofit organizations and local residents to ensure that the farmland preservation program remains popular, supported and successful.

Project Areas in Millstone Township were designed with sound planning and both existing and proposed land uses in mind. Developed areas of the Township and those earmarked for development are excluded from the Project Areas. The agricultural preservation program is targeting those farms that represent productive, viable farms, with the resources available to support them. Focusing on preservation will result in a sustainable supply of agricultural land for farming to continue into the future.

The rising cost per acre is the most significant factor limiting farmland preservation in Millstone Township. Land values have increased rapidly, and the Township finds that developers are able to offer more per acre than the farmland appraisals under the current State guidelines. The only items limiting farmland preservation in Millstone Township are funding and cost. The Township has over 6,000 acres currently farmed or undeveloped. Many active farms are interested in entering the preservation program and the existing municipal outreach projects continue to increase farmer interest each year. It is anticipated that the interest in preservation will exceed the funds available for preservation at the county and municipal level.

Funding

Funding for preservation comes from several sources including the municipal open space tax, various state funding programs including the State Agriculture Development Committee (SADC) and Green Acres, Monmouth County, non-profit organizations and partnerships with conservation buyers. The Township has an open space tax of six cents that generates approximately \$1 million annually. The Township uses this money to pay down debt and to preserve additional open space and farms. To date, the Township has spent approximately \$3.7 million to preserve farmland.

The Township received approval in 2001 from the SADC for participation in the Planning Incentive Grant (PIG) program. Using this program, the Township has preserved over 1,400 acres, using over \$14.2 million in State funds and \$3.8 million in County funds to date.

Projected Costs

The residents of Millstone Township remain firmly committed to land preservation. The dedicated open space/farmland preservation tax has been increased three times and is presently at six cents. This level of municipal commitment to preservation is striking considering the municipal property tax rate is currently \$2.37.

However, financial projections indicate that the Township will be limited to preserving, at most, an additional 1,000 acres at \$23,537 per acre over the next twenty years. Over the past 10 years, there have been 4 farms preserved in Millstone, averaging approximately \$23,537 per acre. In 2008, the cost per acre averaged to roughly \$35,000, which is another reason why farmers are not opting to preserve their land. As the cost per acre increases, the number of acres that can be preserved will decrease accordingly. Should the cost per acre increase, the Township may have more landowner interest resulting in additional farmland preservation. Should funding become scarce over the course of the next 10 years, the Township may want to consider increasing the municipal open space to support further preservation via voter referendum.

Landowner Interest

A greater factor limiting preservation will be landowner interest, attitudes toward government sponsored programs, time factors associated with preserving farms, prices paid for easements, and restrictive covenants in the agreements. It is recommended the Agricultural Advisory Council and Open Space Council reach out to the local farmers to continue to receive support in the farmland preservation program, rather than selling the land to developers.

Cost of Community Services

Costs of Community Services (COCS) are studies that help local decision makers evaluate the fiscal impacts and contributions of existing local land uses. COCS studies are a form of fiscal impact analysis that evaluates costs versus revenues for each type of land use to understand the relationships between residential and commercial growth, agricultural land use, and their cost impacts on community services. A new house on a formerly vacant property will typically generate more total revenue than agricultural production lands; however, this does not provide insight into cost impacts on community services. Agricultural production lands may generate less revenue than residential, commercial or industrial properties, but they require little public infrastructure and few services.

COCS studies conducted in Monmouth County, New Jersey by the American Farmland Trust in 1998 have shown that agricultural lands generate more public revenues than they receive back in public services. Their impact on community coffers is similar to that of other commercial and industrial land uses.

New Jersey American Farmland Trust Report (AFT) 2020

According to the 2020 New Jersey American Farmland Trust (AFT) Report, New Jersey ranks as third on the list of the 12 states with the most threatened agricultural land; however, New Jersey currently ranks in first place on the list of 12 states with the most proactive policy responses to farmland protection. The Township of Millstone is well-positioned to help slow the spread of farmland conversion within New Jersey.

SECTION VI. Economic Development

A. Consistency with NJ Department of Agriculture Economic Strategies and Other Regional Plans/Initiatives

The State of New Jersey offers farmers a number of support services and programs ranging from technical advice to farm loans. One of these services is the New Jersey Department of Agriculture (NJDA) Smart Growth Toolkit, which provides information to support municipal governments, businesses, non-profit groups, and local citizens in their efforts to achieve the goals and objectives outlined in the 2006 NJDA Agricultural Smart Growth Plan for New Jersey. The Tool Kit embraces the five components that have been identified by the NJDA as critical for the future of farming: Farmland Preservation, Agricultural Land Use Planning, Economic Development, Natural Resource Conservation, and Agricultural Industry Sustainability.

As part of this emphasis on the business of agriculture, NJDA issued its 2011 Economic Development Strategies, which identify and propose methods to expand and enhance various subsets of the agriculture industry in New Jersey, including produce, horticulture, dairy, livestock and poultry, field crops, organic, equine, wine, and agri-tourism. The NJDA observes that "local access to large affluent markets has long been an advantage for the marketing of (those) products. While our markets are still there, competition has become tougher, New Jersey's produce industry must continually work to rediscover its competitive advantages, improving access to nearby markets and strengthening consumer loyalty."

Impacts of COVID-19 on Agriculture Industry

The 2020 COVID-19 pandemic has a number of potential implications to the Township's agricultural industry and economic viability. The hope is that the COVID-19 pandemic will be a short-term interruption and that the agricultural industry and economy at large will bounce back quickly. However, many farm markets throughout the state have closed in 2020 as a result of the increased expenses required in order to accommodate changing trends. Compounded by the diminishing federal budget for the agricultural industry, it is a possibility that a number of small farmers markets may be closed indefinitely. However, in Millstone, this has not been the case. Additional challenges farmers face includes market customers staying safe when shopping and needing to transition to electronic payment systems in order to reduce contact with cash. Farmers also have difficulty finding labor hands to assist with the daily farming activities. Moving forward post-COVID, the Township will need to find new ways to help farmers remain competitive with the surrounding municipalities and states. The pandemic's impacts can spur action to adapt to a new reality. Farmers may take a cooperative approach, possibly with support from the Township or County, to modernize certain aspects of the business such as expanding online sales, taking credit card and electronic payment methods, and establishing appointment-based or communal pick-up and distribution models.

Additionally, the phasing in of state minimum wage increases over the next several years and tightening restrictions at the federal level will likely impact the ability of Millstone farmers to sell agricultural products. As Millstone Township farmers continue to look for ways to reinvent themselves and their products, and to explore new markets and new methods for promoting their businesses, it is important that the Township continues to develop new ways to help farmers increase their profitability and coordinate with federal, state and county agencies and other

organizations, both in the public and private sector to find solutions. These may include workshops, newsletters and other opportunities for farmers to continue to educate themselves about:

- Better ways to manage their farm as a business
- Trends in agriculture
- Ways to diversify, add value and maximize profitability
- Technical advice and assistance with choosing and marketing their products
- Advances in technology that may help them farm more efficiently and productively
- Grants to assist in facility and technology upgrades
- Agri-tourism opportunities with nexus to their production
- More resilient breeds of crops to keep up with changing environmental conditions

As the produce sector continues to grow in Millstone Township, and with the increased interest by consumers in organic produce and animal products, Millstone Township farmers may be encouraged to expand or diversify into this sector. As a result, Millstone Township may look to:

- Improve marketing of organic and natural produce
- Explore various additional markets, including local restaurants and grocery markets and cooperative farm stands at municipal and county events
- Explore the feasibility of establishing licensed food preparation facilities and meat processors in the County to facilitate growth of value-added products in this sector
- Promote agri-tourism for organic and natural farm stands
- Capitalize on growing trends in organic products as noted by Rutgers University Agricultural Experimental Station
- Educate growers about organic and natural regulatory and certification requirements and about the availability of federal funds to help offset certification costs
- Explore ways to support organic food growing and processing, such as assisting growers, with the help of the NJDA and the Rutgers Extension, to identify products that can benefit as organic (high value/high demand products)

Nurseries, Greenhouses, Floriculture and Sod

Nurseries, greenhouses, floriculture and sod are important agricultural commodities in Monmouth County. This agricultural sector accounted for total sales of \$53.3 million, or 69 percent of total sales in the County in 2017. One likely reason this sector of the crop industry has become so important is due to the continued nonagricultural population growth in the County and region, providing a ready market for these products. The County can continue to strengthen and expand this sector of the agriculture economy as opportunities arise. Some strategies to follow are:

- Ensure plant health
 - Continue inspections for harmful pests and disease and seek ways to increase use of new methods of pest control
 - Inspect and certify disease-free nurseries and conduct seed certification to ensure high quality turf grass seed for sod growers
 - Encourage the NJ Agricultural Experiment Station to continue its research in identifying new strategies of agricultural products resistant to pests, diseases and new plant introductions
- Increase consumer awareness

- Encourage “Grown in Monmouth” as it has been expanding and gaining recognition in recent years
- Strengthen the Jersey Fresh and Grown in Monmouth brands to enable the industry to benefit from a common trademark identifying locally produced horticultural products
- Improve State and Public contract requirements
 - Continue to work with government agencies including schools to use New Jersey produced products whenever possible.

Field Crops

Soybean production is a key crop for Millstone Township. In 1983, roughly half of the field crop acreage (2,342 acres) were devoted to soybean production. However, acreage and production have been diminishing. In 2017, soybean production covered only 882 acres or roughly 39 percent of the total land area for field crops. Soybeans, however, remain the Township's most common field crop. According to the US Agricultural Census for Monmouth County, in 2012 there were 45 farms in the County which produced soybeans. By 2017, there were only 28 farms in the County, representing a significant decline. However, the Agricultural Census also notes that soybeans had a total market value of \$2.5 million for Monmouth County in 2012, which remained the same in 2017, even though the number of farms significantly declined.

Hay accounts for a small but significant portion of the County's agriculture sales. In 2017, approximately 8,404 tons of hay (all types) were produced in Monmouth County, compared to 12,640 in 1982. Much of the hay is grown as feed on livestock farms, never making it to market, and is therefore not included in census sales figures. Much of the hay used within Millstone for equine and livestock production comes from out of state. Because hay is a permanent crop requiring a significant amount of land, it is not feasible to grow within the Township as it cannot be planted on federal-, state- or locally owned land. To continue and expand its strong marketplace in the County economy, some strategies Monmouth County could follow are:

- Explore new markets, and ways to expand existing markets
- Support the livestock industry which uses hay as feed

Corn for grain has historically been the dominant field crop in Monmouth County. In 2012, 2,263 acres of agricultural lands in the County were tilled for corn resulting in the production of 243,441 bushels. In 2017, the acreage decreased to 1,733 acres but production increased to 275,348 bushels (2017 Agricultural Census). The value of sales for corn for grain decreased from roughly \$1.7 million in 2012 to \$1 million in 2017. Corn requires relatively less labor and costs inputs than produce, nurseries and greenhouses, and livestock, making it more profitable. It is also grown on livestock farms as feed for animals. Therefore, much of the corn grown never makes it to market and is not included in any census sales figures. Corn production plays a large role in Millstone Township. In 2017, corn for grain accounted for 9 percent of the Township's field crop acreage. Corn production and its economic development are pivotal for Millstone.

According to the 2011 New Jersey State Agricultural Convention, the following economic strategies can be implemented and encouraged regarding field crops:

- Ensure plant health by the implementation of the Mexican Bean Beetle parasite program, soybean use monitoring surveys, and the release of beneficial insects to control the tarnished plant bug and Mile A Minute weed, in addition working with the National Resource Conservation Service and the Rutgers Cooperative Extension.
- Support organic field crop production to increase value of the crops and linking growers with organic food processors, retailers, animal feed suppliers, and all other handlers.
- Support plans for green energy initiative such as bio-fuel plants and related bio-fuel businesses, which could elevate the price of regionally produced grain or other agricultural products.

Equine Industry

Millstone Township has a historically well-rounded equine industry that has been a consistently dominant agricultural industry for Monmouth County. As of 2017, there were 364 farms of equine related industry with a total of 3,952 heads. The Township ranks #1 in the State for the production of horses, ponies, mules, burros and donkeys. This sector alone generated \$8.6 million in sales, or 11 percent of total county sales in 2017. The Township boasts a number of equine-related facilities, including two racetracks, the Horse Park of New Jersey, the Equine Sport Program Hospital, and New Jersey Equine Clinic to name a few. Additionally, the New Jersey Sire Stakes Program encourages the breeding stallions through financial incentivization. To continue to retain the Township's market and share in the County and State equine industry, horse owners can:

- Ensure health of horses by raising awareness of disease threats and animal safety
- Promote the "Jersey Bred" or "Jersey Equine" logo
- Promote the industry at shows, festivals and other seasonal events
- Promote the equine industry through boarding and riding lessons

Livestock and Poultry

Livestock and poultry operations include non-dairy cattle, sheep, hogs, and poultry. This has historically been a strong agricultural sector in Monmouth County. Due to high input costs, many farmers have opted not to engage exclusively in dairy farming, but rather are sectoring their farms into various agriculture products, such as other livestock. If input costs continue to increase it is possible the dairy industry may continue to decline, but the County's farmers should see this as an opportunity to diversify to other agricultural products such as non-dairy cattle, poultry, hogs, and other animals. According to the US Agricultural Census from 2017, livestock, poultry, and products made up \$13.2 million in sales for the county.

Non-dairy cattle production is the leader in non-dairy livestock agriculture for Monmouth County with 234 heads sold across 49 farms in 2017, according the US Agricultural Census. Sales of non-dairy cattle were approximately \$167,000 in 2017.

Poultry, which includes egg production, meat chickens, turkeys and ducks, is another large livestock industry in Monmouth County. In 2017, there were 192 farms in the county, which produced all types of poultry and/or eggs.

The Township has seen its role in the above livestock categories fluctuate over the years. Yet, with the Township's focus on general harvested crops such as soybeans and hay, it is important to

support the County's economic development efforts to increase potential markets for the Township's livestock and poultry production, through techniques such as:

- Ensure animal health
- Explore various additional products and markets, including local restaurants and grocery markets
- Work to attract livestock veterinarians back to the area. This strategy can include economic incentives
- Aggressively market value-added dairy products from goats
- Assist farmers with farming techniques, regulatory requirements and the latest research for livestock and poultry. This would include continued and additional cooperation with the Rutgers Cooperative Extension of Monmouth County, NJDA and NRCS
- Promote the agritourism portion of livestock and poultry, such as petting zoos
- Bring in slaughterhouses and USDA inspectors to increase competitiveness

Additionally, the following economic strategies can be implemented and encouraged in regard to livestock and poultry practices, according to the State's 2011 Agriculture Economic Development Strategies:

- Ensure animal health through the implementation of best management practices
- Work with markets by supporting the sale and marketing of locally produced meat and eggs
- Support youth programs such as NJ Junior Breeders' Fund loan program and 4-H clubs throughout the State

Agritourism

Agritourism is a significant link to long-term sustainability of Millstone's agricultural industry. According to the 2011 Agriculture Economic Development Strategies, "many residents consider agriculture a novelty and something to be explored and enjoyed." Agriculture can not only attract people from Monmouth County, but can also attract visitors from other counties and even from neighboring states.

Seasonal farm stands, petting zoos, hayrides, pick-your-own, and seasonal events in the county help to attract visitors. The following are a few techniques discussed by the 2011 NJ State Agricultural Convention Economic Development study:

- Expand roadside programs by working with the NJ Department of Transportation to expand Tourist Oriented Designated Signs and coordinate efforts to gain approval for a discounted agritourism rate.
- Consumer promotion by distributing inexpensive agritourism brochures with industry websites and contact information to help promote seasonal events and direct farm marketing opportunities in addition to expanding the promotion of the visitnjfarms.org website.

Grown in Monmouth

The Grown in Monmouth initiative was designed to help retain and grow the county's agriculture industry. The website, www.growninmonmouth.com, includes a comprehensive inventory of

farms, farm stands, activities, community supported agriculture, nurseries and garden centers, pick-your-own, restaurants, wineries/breweries/spirits, equine facilities, community gardens, and produce distributors represented on an interactive map.

The website, which is part of Monmouth County's Department of Economic Development, also provides a list of events at farmers markets and farms within the County.

B. Agricultural Industry Retention, Expansion and Recruitment

The Millstone Township website (www.millstonenj.gov) includes information regarding the Trading Post, Right to Farm Ordinance, Right to Farm Act, press releases and seasonal advisories (i.e. bagworms, farm tractors, etc.). The local cable news channel also provides seasonal advisories. The Millstone Township Open Space Preservation Council (OSC) and Agricultural Advisory Council (AAC) have worked hard to develop a good relationship with the local farmers and landowners and to bring credibility to the program. The AAC also holds seminars; past topics included farmland assessment, the State's Right to Farm Act, and the Farm Conservation Plan.

The OSC participates in a variety of community events, such as Millstone Day, that promote local farms and farmland preservation, as well as raise awareness of the commercial farm building code. The AAC also facilitates discussions regarding right to farm issues. The Township also educates the members of the Planning and Zoning Board on matters related to farmland, including presentations on the State's Right to Farm Act, the Township's Right to Farm Ordinance, and the Commercial Farm Building Code. The Township has a regular newsletter that spotlights local farms and maintains an electronic mail distribution list to provide timely notices and alerts to farmers. The Township also has a reduced building permit fee schedule for farm buildings. In the future, the Township intends to encourage farmers to run local markets and sell their products directly from the farm to the consumer.

Millstone Township is well-positioned geographically within the center of the eastern seaboard between Boston and Richmond, VA, a one-hour drive to either New York City or Philadelphia with easy access to the New Jersey Turnpike, Garden State Parkway, Interstates 195 and 295 as well as Route 9. As the cost of fuel continues to fluctuate, the Township's location allows farmers to benefit from shorter trips than farmers in Lancaster, PA and other farming areas to the west and south. Shorter travel times also provide the added advantage of fuel cost savings and the fact that perishable items can travel safer with less damage.

Further, produce and nursery stock growers benefit from the affluent residential markets of central and northern New Jersey, New York City, Philadelphia, and Long Island. While many nursery farms have experienced flat commercial markets over the last four to five years, many of the local nursery operations have tapped into the affluent residential markets located within a two-hour drive of the Township.

The "Jersey Fresh" program that is promoted by the State of New Jersey has increased retail opportunities for vegetable and field crop growers, which has proven beneficial since wholesale prices tend to fluctuate more frequently than retail prices. Millstone Township has some of the best soils in the State, which produce higher protein grains and flavorful vegetables (such as "Jersey" corn and tomatoes) than other areas. Agriculture is a business that requires land to produce crops,

nursery stock, livestock, etc. Millstone Township continues to possess a generous land base well-suited for farmland.

Access to affordable land and dependable labor is critical to a farm's success. Access to a pool of seasonal and nonseasonal workers is essential, and such access needs to be in a timely fashion, as oftentimes the workers are not available until the season is ending. Land grants, more preservation funding, or creative programs that can make land affordable for farmers would help maintain the land base that is vital to the industry and maintain the viability of the agricultural industry. Low-interest loans or grants are essential to offset costs associated with equipment, crop insurance and fertilizer needs. Grants and outreach can assist farmers beginning a new farming operation, farmers modifying existing operations to adapt to changing trends, and farmers seeking to introduce alternating crops to their operations. Additionally, Township farmers are contending with invasive pests such as the Bag Fly, Spotted Lanternfly, Emerald Ash Borer, Mexican Bean Beetle, and Marmorated Stink Bug.

Additional stores, suppliers and large tractor supplies are all needed by local farmers, but whether the demand can sustain these supportive businesses is not known. Local farmers are likely to continue to travel to Lancaster and/or buy supplies over the internet. Another issue facing the agricultural community is the need for additional labor hands and mechanics to fix machinery.

There are many agriculture community representatives who are active in the business and industry development groups. The following is a partial list of leadership roles in agriculture related organizations that farmers in Millstone have served:

- Member and President of the Monmouth County Board of Agriculture
- Vice Chair of the Monmouth County Agriculture Development Board (MCADB)
- Member of the Millstone Township Economic Development Committee
- Past President of the New Jersey Horse Council
- Member of the New Jersey Equine Advisory Board
- President of the Board of Directors Tri County Co Op
- Chair and Members of the Monmouth County Save the Horse Committee
- Members of the Board of Directors Standardbred Breeder and Owners Association
- Member and Past President of the American Equine Practitioners
- Members of the New Jersey Vegetable Growers
- Members of the Millstone Township Open Space Preservation Council (OSC)
- Members of the Millstone Agricultural Advisory Council (AAC)
- Member/Officer of Nursery Association
- Member New Jersey Sire Stakes Board of Trustees
- Presidents and Members of New Jersey Rutgers Agricultural Experiment Station Board of Managers

Funding to preserve farming is the primary resource needed to help make positive changes for agriculture in Millstone Township. Without a strong agricultural land base, the viability of farming is questionable. With more land being lost to development, time is running out for preservation. Other resources that were raised as needs by local farmers included an adequate farm labor source, updated equipment and the ability to get parts and expertise to repair the machinery, water for irrigation, elected officials to support necessary farm legislation, expertise to assist new

farmers, and the possibility for farmers to receive a reduction in the cost for electricity used for farming and fuel for growing and transporting produce.

Millstone Township and the AAC can assist in the economic development of agriculture as an industry by encouraging residents and farmers to participate in business and agriculture industry groups to further establish farm friendly programs, such as farmland preservation, low interest loans, and a farm labor program.

SECTION VII. Natural Resource Conservation

Preservation of farmland is the cornerstone of the New Jersey Department of Agriculture's (NJDA) Agricultural Smart Growth Plan and the State and County's Farmland Preservation Program. However, there is more to farmland preservation than the retirement of development rights or the outright purchase of farms. One of the cornerstones of a successful, long-term Farmland Preservation Program is the conservation of natural resources on farms through the use of best management practices, without which the long-term sustainability and viability of New Jersey's preserved farmland would be in doubt. Millstone Township recognizes the conservation of these natural resources as a long-term goal and a necessary part of farmland preservation.

A. Natural Resource Protection Agencies

Natural Resource Conservation Service

The United States Department of Agriculture Natural Resources Conservation Service (NRCS) is an important partner in support of natural resource conservation for the agricultural community. The NRCS assists landowners and managers with conserving soil, water, and other natural resources. The agency has a field office at the county's agricultural building in Freehold Township and offers technical and financial assistance and oversees conservation programs such as the Environmental Quality Incentive Program (EQIP) Conservation Stewardship Program (CSP), and Agriculture Management Assistance (AMA).

Technical assistance is provided for the preparation of conservation plans. These plans are a written record of management suggestions and conservation practices to be used on a farm and are intended to help protect soil fertility and productivity, improve water quality, and attract desirable wildlife.

Conservation plans are required within one year of the date of the deed of easement for those who wish to sell a development easement via the Farmland Preservation Program or apply for natural resource conservation program grants such as the WHIP and EQIP. The local NRCS office administers these conservation program grants, which offer financial incentives to support conservation projects, including stream riparian buffers and wildlife habitat. Administration of these grant programs includes field visits to prepare the Conservation Plans, preparation of grant program contracts, assistance with installation of contract conservation practices, and inspection of farms to verify that the contract conservation practices are implemented and maintained.

Based on the NRCS mapping of soils within Millstone Township, approximately 23 percent of the soils have low runoff rates and high infiltration rates; approximately 45 percent of the soils have moderate runoff and infiltration rates; approximately 31 percent of the soils have high to very high runoff rates and low to very low infiltration rates; and the remaining 1 percent of the Township is underlain with unclassified urban soils or are covered with water.

Hydric soils are defined as being saturated, flooded or ponded for usually one week or more during the growing season. These soils often support hydrophilic vegetation. According to the NRCS soil mapping, hydric soils account for approximately 20 percent of the Township. A study by the Soil Conservation Service in Monmouth County prior to 1992 identified low-pH or acid soils in fifteen locations within Millstone Township. Thirteen of those locations were in the northwestern half of the Township. The acid soils were found in outcrop zones of the Englishtown, Wenonah,

Marshalltown, and Navesink formations and ranged in depth from 4-16 feet. The Freehold Soil Conservation District provides a detailed method of mitigation for acid producing soils.

Based on its large agricultural use both currently and in the past, historic pesticide contamination and naturally-occurring arsenic levels are concerns within Millstone Township. The Land Development Ordinance requires site investigation and soil sampling for all development applications prior to Board approval to ensure that contamination levels do not exceed the New Jersey Department of Environmental Protection Soil Cleanup Criteria.

Soil Conservation District

An additional partner in the conservation of agricultural resources is the New Jersey Department of Agriculture, Division of Agricultural and Natural Resources. Among its responsibilities, the Division implements the natural resource conservation programs administered by the State Soil Conservation Committee (SSCC). These programs provide engineering services and regulatory guidance to soil conservation districts, homeowners, engineers and planners regarding virtually all development activities, with the goal of reducing the danger from storm water runoff, retarding non-point source pollution from sediment, and conserving and protecting the land, water and other natural resources of the State.

Millstone Township is served by the Freehold Soil Conservation District. The Soil District Office mailing address and website is:

Freehold Soil Conservation District
4000 Kozloski Road
P.O. Box 5033
Freehold, NJ 07728-5033
www.freeholdscd.org

The Freehold Soil Conservation District is charged with reviewing and approving natural resource conservation and assistance program grants, implementing agricultural conservation planning assistance, agricultural conservation cost-sharing program grants, application of organic materials on agricultural land, agricultural water supply and management, soil erosion and sediment control, storm water discharge authorization, and soil surveys.

In accordance with soil standards, construction, grading and demolition projects that disturb more than 5,000 square feet of the surface area of the land require soil erosion and sediment control plans. Commercial farms may be required to prepare such plans for parking lot installation, soil grading and the erection of agricultural structures. Cultivation of farmland for food, fiber or animals is typically exempt.

B. Natural Resource Protection Programs

SADC Stewardship Grants

Soil and Water Conservation Grant Program – The SADC Soil and Water Conservation Grant Program awards grants of up to 50 percent the project cost to owners of permanently preserved farms and term preservation program participants. Irrigation, erosion control, and stream corridor enhancement projects are among those that are eligible.

Deer Fencing Grant Program – The SADC Deer Fencing Grant Program can provide 50 percent matching grants to assist farmers with the materials and installation of fencing to protect permanently preserved farmland from crop losses related to deer. The maximum grant award is

\$200 per acre or a total of \$20,000 to eligible farmers. Applications are accepted on a rolling basis, with no deadlines.

Federal Conservation Programs

The NRCS administers a number of Federal Farm Bill programs. The NRCS offers financial assistance programs including the Environmental Quality Incentives Program (EQIP), the Conservation Stewardship Program (CSP), and Agriculture Management Assistance (AMA).

EQIP is a voluntary conservation program open to eligible agricultural producers including livestock, forestry and organic production that offers financial and technical assistance to implement conservation practices on eligible land. Opportunities within EQIP include assistance with aquaculture, beginning farmers, conservation activity plans, high tunnels, on farm energy, organic production, socially disadvantaged producers, soil health, and working lands for wildlife. In Central New Jersey, which encompasses Millstone Township, the Local Work Group prioritizes applications that address natural resource issues related to soil quality, water quality, pollinator protection, as well as livestock and forestry.

CSP is a voluntary conservation program that encourages producers to address resource concerns in a comprehensive manner by undertaking additional conservation activities and improving, maintaining and managing existing conservation activities. CSP participants will receive an annual land use payment for operation-level environmental benefits produced. Participants are paid for conservation performance, meaning the higher the operational performances, the higher the payment. For example, if a farmer has been practicing prescribed grazing, CSP would give options to enhance that practice with activities such as grazing management to improve plants for wildlife, to reduce soil compaction, or to improve riparian function.

AMA is another voluntary conservation program that targets beginning and limited resource farmers, small farms, and producers who have had limited participation in other USDA financial assistance programs. AMA provides assistance to address issues such as water management, water quality, and erosion control by incorporating conservation into their farming operations. The program has five priority areas which include:

- Reduction in non-point source pollutants
- Irrigation water use efficiency
- Reduction in particulate or ozone precursor emissions
- Reduction in soil erosion and sedimentation
- Promotion of at-risk species habitat conservation

Projects eligible for assistance utilizing the AMA program include constructing efficient irrigation systems and implementing irrigation water management practices, reducing non-point source pollutants via filter strips and nutrient management, and projects to improve habitat conservation through conservation cover and windbreaks.

The USDA and NRCS previously offered a voluntary program that was designed for non-federal landowners who wish to improve or develop fish and wildlife habitats. The program known as WHIP, or Wildlife Habitat Incentives Program, was not reauthorized as part of the Federal Agricultural Act in 2014.

NJDEP Landowner Incentive Program

New Jersey's Landowner Incentive Program provides technical and financial assistance to private landowners interested in conserving threatened and endangered plant and animal species on their property. Potential projects include vernal pool restoration, prescribed burns, and stream fencing.

C. Water Resources

The protection of the water resource as it relates to agriculture and farmland preservation in Millstone Township cannot be overstated. Without a consistent, plentiful, adequate and clean water source, agriculture cannot exist. In addition, farms provide critical open space areas for aquifer water recharge. To a certain extent, some aspects of ensuring clean and plentiful water can be controlled at the individual farm level, by doing the following:

- Minimizing the use of synthetic chemicals such as fertilizers, herbicides, pesticides, and fungicides so as to lessen impacts to groundwater
- Providing riparian buffers along watercourses, so as to protect streams from the above-mentioned synthetic chemicals, and from soil erosion
- When possible, practicing organic farming methods
- Practicing appropriate timing of chemical application, so as to minimize its use
- Practicing water conservation techniques, such as drip irrigation and water re-use for certain types of farming where feasible, such as smaller scale vegetable and fruit operations

Supply Characteristics

The quality of the surface and groundwater within Millstone Township is of both local and regional importance. Millstone Township serves as a recharge area for one of the fastest growing regions in New Jersey and is at the headwaters for five watersheds: Crosswicks Creek, Barnegat Bay, Central Delaware Tributaries, Lower Raritan-South River-Lawrence, and the Millstone River. Further, the source of all drinking water within the municipality is from individual wells fed by groundwater. Therefore, the protection of groundwater resources is especially important to the Township.

Water quantity is also critical to the quality of life of Millstone Township residents. The Township is located entirely within the Inner and Outer Coastal Plain Physiographic Provinces. Beneath the surface, are alternating layers of sand and clay; the sand layers store water which is then pumped out via wells. These layers are known as aquifers, whereas the clay layers serve as confining units for the aquifers.

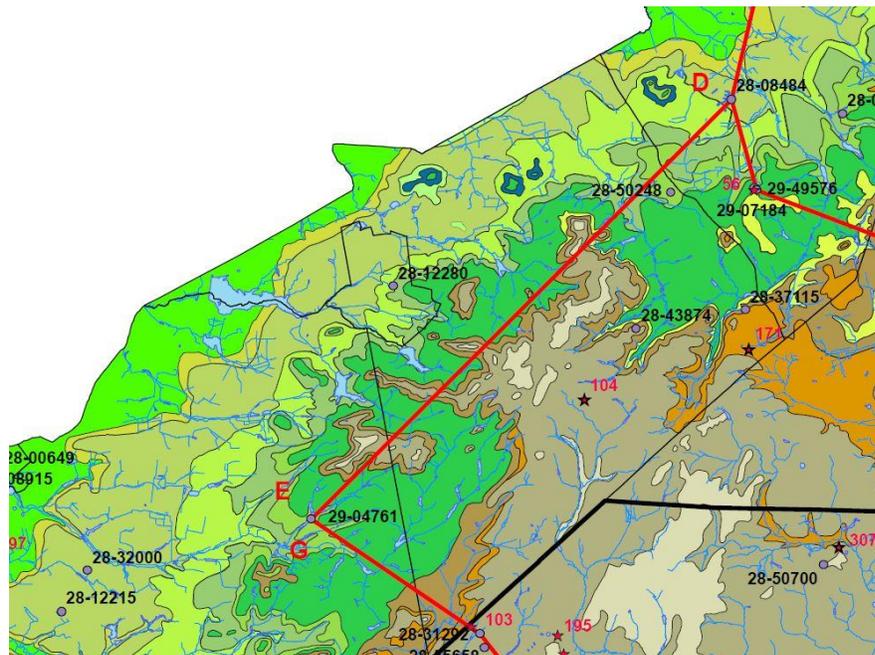
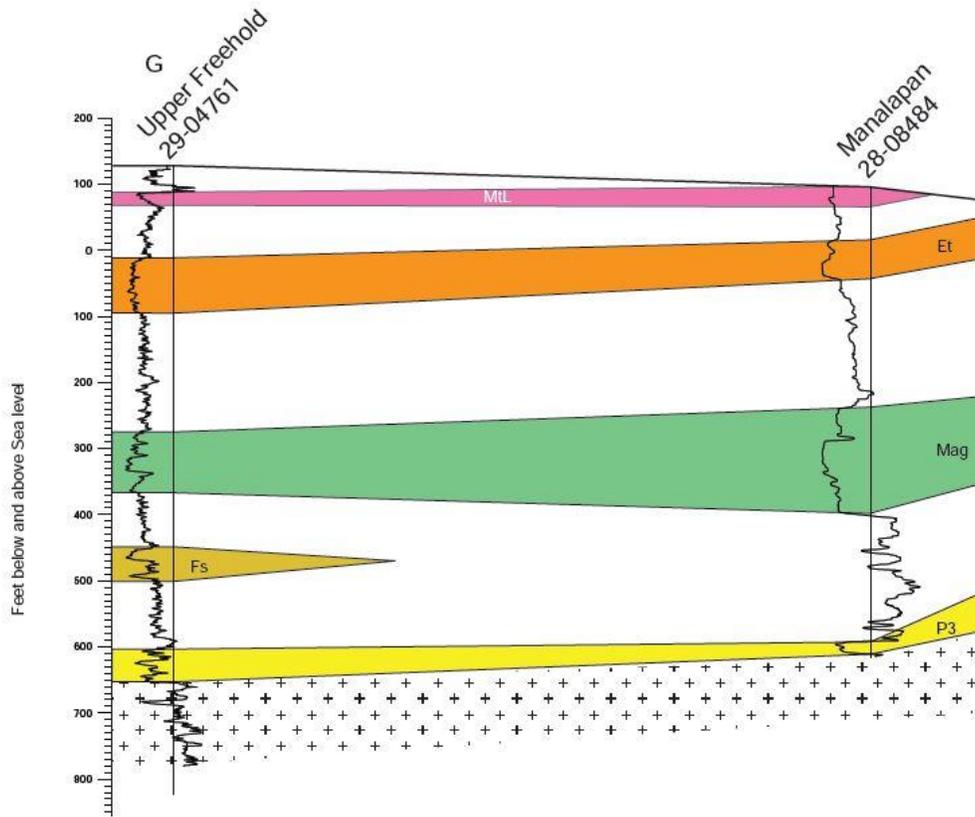
According to the Aquifer Correlation Map of Monmouth and Ocean Counties, prepared by Peter Sugarman, et al (2019)¹, there are several aquifers beneath Millstone including the Wenonah-Mount Laurel Aquifer system, Englishtown Formation, Magothy Aquifer, and the Potomac 3. The Wenonah-Mount Laurel system is located approximately 100 feet above sea level. The Englishtown Formation is located approximately 10 to 80 feet below sea level. The Magothy is located 230 to 400 feet below sea level, and the Potomac 3, which is the Township's deepest aquifer, is located over 600 feet below sea level.

Farmers in Millstone Township have noticed that shallower hand-dug wells are not producing water and have "dried up". These shallower wells are likely to utilize the water from the Wenonah-

¹ <https://www.state.nj.us/dep/njgs/pricelst/gmseries/gms13-1.pdf>

Mount Laurel Aquifer. Deeper wells have the ability to utilize water from the Englishtown Formation or the Magothy Aquifer, which are more reliable.

The following image and map show the cross-section of ground water through Millstone Township.



Source: Aquifer Correlation Map of Monmouth and Ocean Counties, prepared by Sugarman, Monteverde, Boyle and Domber, NJDEP, NJGWS, 2013, revised 2019

Agricultural Demand & Supply Limitations

Since there is no infrastructure in Millstone Township, the majority of farmers utilize surface waters and wells to provide water for their farms. Agricultural Water Use Certificates must be obtained from the County agricultural agent if a person has the capability to divert ground and/or surface water in excess of 100,000 gallons per day for agricultural, aquacultural or horticultural purposes. The application is then submitted to the NJDEP Division of Water Supply and Geoscience, Bureau of Water allocation & Well Permitting for review and approval. According to the Agricultural Water Usage Certification Application, diversions greater than 70 gallons per minute occur or 3.1 million gallons or more are utilized per month are required to be submitted. The applications are required to reference the valid State Well Permit Numbers and wells must be permitted for their intended use.

Conservation & Allocation Strategies

An adequate water supply is important to successful agriculture operations in Millstone Township. According to the 2006 Agricultural Smart Growth Plan, the SADC encourages farmers to accelerate the use of efficient water conservation technologies, such as drip irrigation, and to identify and promote new and efficient methods to conduct water distribution on farms, such as farm ponds and water reuse options.

The field crops rely on rain and some groundwater for water needs, and as such water conservation strategies per se are difficult to implement; however, an increase in the organic content of the soil will improve water holding capacity. This can be done by spreading manure, applying composts, using cover crops between or amid cash crops, and reducing tillage.

With nursery and greenhouse, sod, and vegetable farming, it is possible to implement conservation strategies such as drip irrigation, or watering crops in the cooler parts of the day so as to minimize evaporation. Water re-use is another possible option. When managing plants for water conservation, farmers should select species adapted to local conditions. Native and drought-tolerant plants can help reduce water needs. For livestock, floats and timers in watering troughs can conserve water by negating the need for constantly running water to keep troughs full. Millstone Township farmers should implement water conservation strategies whenever feasible and include such in Conservation Plans whenever practicable.

D. Waste Management Planning

Management of livestock waste has serious implications for the quality of ground and surface waters. Unchecked, or poorly managed, these wastes can cause serious water quality problems by the introduction of unwanted microorganisms into natural systems. Poor management of animal waste can also cause disease among farm animals. Proper animal waste management is not only required, but also is a sign of good environmental stewardship, as is recycling of farm by-products whenever possible. Increased restrictions on the use of animal manure as an organic fertilizer add to the complexities of farm operations.

According to the Farmland Assessment data, Millstone Township had over 3,000 farm animals in 2017. This represents an increase from the 2,200 farm animals from 2004. The waste from these animals can contribute to water pollution by increasing nutrients, nitrates, sediment, and bacteria at unhealthy levels in surface waters. However, as the Township's horse population has been largely replaced by goats, sheep and poultry, which produce less waste, pollution from waste production is not expected to significantly increase.

Concentrated Animal Feeding Operations (CAFOs) are defined by the USDA as operations with 1,000 animal units confined on site for more than 45 days during the year. An animal unit is defined as an animal equivalent of 1000 pounds live weight and equates to 1,000 head of beef cattle, 700 dairy cows, 2,500 swine weighing more than 55 pounds, 125 thousand broiler chickens, or 82 thousand laying hens or pullets. Often times, manure and wastewater are discharged into natural or man-made ditches, streams, or other waterways, regardless of the size. CAFOs are regulated by the EPA via the federal Clean Water Act.

CAFOs and Animal Feeding Operations (AFOs) have the potential to cause water pollution through the collection of large amounts of animal waste in relatively small areas. Mismanagement of the animal waste can cause large amounts of soil and groundwater contamination via introduction of the bacteria, fecal coliform, a known contaminant from animal farming operations. The state's agricultural community bears a responsibility to help protect and restore the natural resources for which they are the stewards.

The NJDEP has outlined a statewide strategy to manage and regulate these operations. The strategy is closely coordinated between the NJDEP and the New Jersey Department of Agriculture (NJDA). Within NJDEP, the Division of Water Quality, Water Compliance and Enforcement Program, the Division of Watershed Management and the Bureau of Nonpoint Pollution are involved. NJDEP administers CAFO permits and NJDA administers the appropriate measures for AFOs. The permits and measures require development and implementation of comprehensive waste management plans, utilizing "animal waste standards".

The New Jersey Department of Agriculture maintains Animal Waste Management regulations. All Livestock Farms, which includes equine operations, are required to follow five General Requirements:

1. Animals in confinement areas shall only have controlled access to waters of the State
2. Manure storage areas must be 100-feet from waters of the State, and on slopes less than 5 percent
3. Land application of manure must follow Best Management Practices
4. Livestock contagious disease must be reported to the State Vet
5. State Officials must follow bio-security protocols

Furthermore, farms with 8 or more animal units (1 animal unit equals 1,000 pounds), or which import 142 Tons of manure are required to develop and implement an Animal Waste Management Plan.

Millstone Township researched a waste management program to recycle farm animal manure for horse farms and other animal enthusiasts. The program would hire high school and college students and provide experience in horticulture and agriculture waste education along with providing the region with topsoil and potting soil for commercial and residential needs. The Township, however, ultimately found the program too costly to implement and the plan never materialized. Another option is to explore contracting with a privately-owned commercial operation that accepts farm animal manure.

E. Energy Conservation Planning

The New Jersey Department of Agriculture emphasizes the importance of energy conservation and alternative energy use in its Agricultural Smart Growth Plan. The Plan indicates that it is important to promote the use of innovative technologies, recycling, energy conservation, and

renewable energy systems on New Jersey's farms. The Plan also prioritizes the need to provide technical assistance for the agricultural community about new and existing energy conservation and renewable energy programs by promoting the financial and environmental benefits of implementing these programs.

The agricultural community has shown initiative in pursuing alternative energy sources, such as solar, wind, and bio-gas in running farm operations, and by being a leader in the pursuit of ethanol and bio-diesel fuel markets. Millstone Township encourages farmers to participate in alternative and sustainable energy sources.

F. Outreach & Incentives

Millstone Township's preservation laws are consistent with State laws. The Township provides information and education of natural resources to local residents and farmers, including guidelines, seminars and newsletters, and information regarding State programs. This information is presented to the residents, both in paper and internet formats.

The Township's Open Space Preservation Council (OSC) and Agricultural Advisory Committee (AAC) publish a newsletter that addresses recent preservation of land, local ordinances, how preservation laws work within the Township, and other issues. The Stormwater Pollution brochure raises awareness on fertilizers, pesticides, household cleaning products and pet waste. The Township website posts articles, newsletters, and information on upcoming seminars. Links to useful websites also are provided. The Township and Agricultural Advisory Committee (AAC) conduct regular landowners' outreach with landowners.

The Township offers mentorship programs to young farmers through Monmouth Conservation Foundation (MCF), Monmouth County Agriculture Development Board (MCADB), National Federation of Independent Business (NFIB), Rutgers Cooperative Extension (RCE) and the Monmouth County Fair.

SECTION VIII. Agricultural Industry Sustainability, Retention and Promotion

Farmland is recognized as a major contributor toward the rural character that exists in Millstone Township. The retention of farmland helps to improve aquifer recharge, provides wildlife habitat and provides scenic open space vistas. A Farmland Preservation Program in Millstone Township also reduces the rate of stormwater runoff and eliminates the costs of services that are associated with development, thereby protecting farmland from developing with more intense land uses.

In addition to the Right to Farm ordinance, other agriculture-friendly ordinances and the Open Space Trust Fund, the Township has been proactive in its efforts to preserve farmland and open space.

A. Existing Agricultural Industry Support

Right-to-Farm / Agricultural Mediation Programs

To ensure farmers have the ability to continue agricultural operations, the Right to Farm Act was enacted by the State Legislature in 1983 and amended in 1998. The Act provides protection of commercial farm operations from nuisance action, where recognized methods and techniques of agricultural production are applied, while simultaneously acknowledging the need to provide a balance among the varied and conflicting interests of all lawful activities in New Jersey.

Another critical piece of legislation to support agriculture is the 1983 Agriculture Retention and Development Act. This Act created the State Agriculture Development Committee (SADC) and the eighteen County Agriculture Development Boards (CADBs). Both the SADC and CADBs implement the Right to Farm Act on the State and local levels.

The SADC works to maximize protections for commercial farmers under the Right to Farm Act by developing Agricultural Management Practices (AMPs), tracking right to farm cases, offering a conflict resolution process, and reviewing rules proposed by other state agencies for the impact they may have on agriculture.

In order to qualify for Right to Farm protection, a farm must meet the definition of a "commercial farm" in the Right to Farm Act; be operated in conformance with federal and state law; comply with the AMPs recommended by the SADC, or site specific AMPs developed by the Monmouth County Agriculture Development Board (MCADB) at the request of a commercial farmer; must not be a direct threat to public health and safety; and must be located in an area where agriculture was a permitted use under municipal zoning ordinances as of December 31, 1997, or thereafter; or, must have been an operating farm as of December 31, 1997.

Millstone Township's Right to Farm Ordinance was adopted on October 6, 1980 to recognize the benefits derived from farming and prohibit customary farming practices from being found a nuisance. Today, Millstone proudly strives to retain its agricultural base and strongly supports its agricultural community while maintaining its rural character and quality of life.

Presently, the Township does not have a formal mediation program. However, the Township recommends that the mediation process begin with the Agricultural Advisory Committee (AAC), which will commence communication between the parties in order to work toward a mutually acceptable solution. If either party is dissatisfied with the suggestions of the AAC, the next step is

for the farmer to seek the counsel of the Monmouth County Agriculture Development Board, and thereafter the State Agriculture Development Committee.

As required by local ordinance, new property owners receive a written notice of any agricultural uses which are adjacent to a residential subdivision.

Millstone Township fosters interaction between farmers and residents, as well as addresses rural issues, in the following ways:

1. Encourage OSC and AAC to host educational booths at Millstone Day.
2. Encourage individual private farm stands throughout the Township.
3. Support the OSC & AAC Clambake in June as a community event to appreciate good food and celebrate preservation achievements for the year.
4. Publish articles relevant to Right to Farm, preservation, farm life, wildlife, legislation and other topics in the Millstone Township OSC & AAC Newsletter.
5. Post agriculture information on the Township Website directing residents to other links such as SADC website for more information.

Farmland Assessment

The Farmland Assessment program offers a tax incentive, which reduces property taxes on any active farmed land, thereby assisting farmers with a critical financial aspect in helping to keep land in agricultural production. This tax incentive is made possible by the Farmland Assessment Act of 1964, N.J.S.A. 54:4-23.1 et seq. Basic eligibility requirements include:

- The applicant must own the land;
- The property owner must apply annually for Farmland Assessment on or before August 1 of the year immediately preceding the tax year;
- Land must be devoted to agricultural and/or horticultural uses for at least two years prior to the tax year;
- Land must consist of at least five contiguous farmed and/or woodland management plan acres. Land under or adjoining a farmhouse is not counted towards the minimum five acres;
- Gross sales of products from the land must average at least \$1,000 per year for the first five acres, plus an average of \$5.00 per acre for each acre over five. In the case of woodland or wetland, the income requirement of \$500 per year for the first five acres, plus \$.50 per acre for any acreage over five. Dependent on the agricultural or horticultural products being produced, the farmer can also offer clear evidence of anticipated yearly gross sales, payments, or fees within a reasonable period of time; and,
- The property owner must represent that the land will continue in agricultural or horticultural use to the end of the tax year.

Millstone Township's Tax Assessor has developed criteria for farmland assessment based upon these State-mandated criteria. The application for farmland assessment is due annually before August 1.

When land that is in agricultural or horticultural use (and is being valued under the Farmland Assessment Act), is applied to a use other than agricultural or horticultural, it is subject to additional taxes, referred to as roll-back taxes, in an amount equal to the difference, if any, between the taxes paid or payable on the basis of "Farmland Assessment" and the taxes that would have been paid or payable had the land been valued, assessed, and taxed as other land in the taxing district. In the case of a change in use, the roll-back taxes shall be applicable in the year in which the change took place and in each of the two tax years immediately proceeding, in which the land was valued, assessed and taxed under the Farmland Assessment Act.

Land shall be deemed to be in agricultural use when devoted to the production for sale of plants and animals, including but not limited to: forages and sod crops; grains and feed crops; dairy animals and dairy products; poultry and poultry products; livestock, including beef cattle, sheep, swine, horses, ponies, mules or goats, including the breeding, boarding, raising, rehabilitating, training or grazing of any or all of such animals, except that "livestock" shall not include dogs; bees and apiary products; fur animals, trees and forest products; or when devoted to and meeting the requirements and qualifications for payments or other compensation pursuant to a soil conservation program under an agreement with an agency of the federal government.

Land shall be deemed to be in horticultural use when devoted to the production for sale of fruits of all kinds, including grapes, nuts and berries; vegetables; nursery, floral ornamental and greenhouse products; or when devoted to and meeting the requirements and qualifications for payments or other compensation pursuant to a soil conservation program under an agreement with an agency of the federal government. There are additional requirements for the boarding, training, or rehabilitation of livestock and for forestlands under a woodlot management program.

B. Other Strategies to Sustain, Retain & Promote Agriculture

Over the last 50 years, Monmouth County and the State of New Jersey have transformed from a largely rural and agricultural landscape, to a more urban and suburban landscape. However, farming remains strong and viable in many regions of the state, including Millstone Township.

If the Township's remaining agricultural areas are to survive and prosper, the non-farming public needs to be aware of, and be financially supportive of, the continuing economic, cultural, scenic and agricultural contributions made by Millstone Township farmers. Public education and outreach will increase the recognition of the farm industry's importance to the non-agriculture resident. Agri-tourism is one form of public outreach that exists in Millstone Township and should be expanded wherever possible. Other public outreach mechanisms should be explored and instituted when feasible.

Preservation of the land is only a small part of the farmland preservation process. The focus must also be on how to maintain agriculture as a viable industry. Some measures being undertaken by the Township include:

- Offering 5-year open space leases, when appropriate, to farmers.
- Adopted an ordinance that requires homebuyers are notified of the proximity of farms to a new subdivision.

- Adopted an ordinance that permits a severable exception that can be severed after farmland preservation provided that the landowner located the exception prior to preservation and was not compensated for that portion of the property.
- Exempting all farms from the municipal ordinance regarding rapid entry boxes in the event of fire.
- Adopted an ordinance that reduces permit fees for commercial agriculture building permits.
- Posting "It's the Law" signs at all roads entering Millstone to indicate a 25 mile per hour speed limit when passing a horse and rider, or horse and carriage.
- Investigating a deer management program on Township-owned land to reduce the population of white-tailed deer to assist with the reduction of crop damage, deforestation, Lyme disease and automobile accidents.

Millstone Township is proud of its farming community. According to the 2017 Farmland Assessment Data, there are 7,105 acres of farmland, representing approximately 30 percent of the Township. While farmland continues to be subdivided and converted to other uses, the Township also continues to preserve farms. Of the remaining farmland, 1,446 acres have been preserved at a cost of roughly \$25 million. The Township estimates that another 1,000 acres of farmland could potentially be preserved within the next 10 years, subject to availability of funding.

The Township's first priority is to secure additional funding in order to continue to aggressively preserve the remaining farmland. The Township must also continue to pursue strategies that will maintain agriculture as a viable industry. Finally, the Township must maintain communication between farmers, the State, County and residents and businesses of Millstone Township by providing information and education opportunities, including seminars and newsletters, in order to help maintain Millstone's vibrant agricultural community.

IX. Stakeholder Input

Current Issues

Millstone residents and stakeholders cite numerous issues facing the Township's agricultural and farmland community. In addition to climate change contributing to excess rainwater and extreme weather, encroaching warehouse development threatens existing farmland. New regulations on the Federal and State levels are presenting more challenges at the local level and farmers are in need of additional labor hands. Another particular challenge is the delicate balance of crop protection and wildlife management in accordance with the NJ Division of Fish and Wildlife. Concerns have been raised regarding deer, beaver, geese, groundhogs, coyotes, foxes, and hawks, among others. Also noteworthy is the impact of Lyme disease on livestock. Fire inspections on farms are another issue in Millstone as many farms are required to make extensive and often expensive changes to the property. The Township's Agriculture Advisory Council agrees that farms need to be safe but are open to exploring better suggestions and alternatives. Other issues raised by members of the agricultural and farmland community include a pattern of roadside farm stand "honor systems" not being honored, the restrictions against event space on farms, impervious coverage restrictions, as well as restrictions on greenhouse sizes. *Recent Trends Experienced*

Millstone's agricultural and farming community is experiencing a number of recent trends indicating that the Township has the opportunity to diversify its agricultural industry. Farmers are now aiming for ethnic diversity of crops rather than wholesale monocultures. Previously, Asian crops were successful but changes within the farming community have shifted away from these crops and appear to be replace them with specialty crops, such as leafy greens, okra, and Mexican produce. Additionally, as the age of the average farmer increases, less family members are likely to continue operation of the farms. However, the Township is also witnessing a pattern of emerging farmers interested in specialty crops such as leafy greens, okra, ethnic produce as well as returning to grain crops. Farmers are also recognizing the benefits of providing value-added products, such as jams, sauces, smoothies and honey.

As consumers increasingly desire to "buy local" and know the sources of their food, many farmers are participating in farmers markets and "buy local" campaigns as a form of direct marketing. Vegetables and herbs are also being purchased directly by restaurants and schools in farm-to-table programs. Interest in greenhouse and high tunnel produce operations has been on the rise in recent years as a means to extend the growing season.

In nurseries, one trend is moving toward above-ground growing in air-pots, which are easy to move and can be planted year-round. The Township is also noticing an increase in "backyard operations" such as the keeping of chickens, sheep, and bees. Additionally, "Pick your own" agritourism and community supported agriculture (CSA) has been gaining popularity in recent years.

As Township farmers are evolving their operations to accommodate growing trends, they are also contending with invasive pest species such as the Bag Fly, Spotted Lanternfly, and Marmaladed Stink Bug, which are impacting production.

Other Opportunities and Conditions

- Rutgers has been working on new breeds of crops that can withstand varying environmental conditions and other stress factors.

- The Township continues to have strong support of Farmers Against Hunger.
- The Agricultural Advisory Board supports allowing micro distilleries and farm brewery operations.
- Millstone holds 14.4 percent of Monmouth County's farmland, the second highest in the County (second to Upper Freehold).
- The Food Safety and Modernization Systems Act (FSMA) establishes minimum requirements for food safety that all produce growers must adhere to. This is separate from GAPS (Good Agricultural Practices) which is a voluntary food safety certification. FSMA and the voluntary GAPS have effects on outlets/grocery which impacts vegetables/fruit production.
- The Township offers 5-year leases to farmers.

Recommendations

Based on stakeholder input and data analysis, the following recommendations will assist the Township moving forward with farmland preservation:

Current Issues

- As interest in greenhouse operations continue to grow, the Township may benefit from increasing the permitted size of greenhouses from 30 feet by 150 feet to 50 feet by 250 feet. However, greenhouses are currently regulated by the state.
Pursuant to NJAC 5:23-3.2(d), "a temporary green house, used exclusively for the storage of live plants, shall be exempt from the permit requirements of the Uniform Construction Code" provided it meets the following criteria:
 - There is no permanent anchoring system or foundation
 - There is no storage, temporary or otherwise, of solvents, fertilizers, gases or other chemical or flammable materials
 - The structure is no wider than 31 feet, there is an unobstructed path of no greater length than 150 feet, and the covering is a material no greater than six mills in thickness.
- The Township should coordinate with other organizations (i.e. County Parks, State Wildlife Management and landowners) to develop innovative crop protection methods to control wildlife.
- The Township should work with external agencies such as the Rutgers Agricultural Experiment Station to develop new methodologies to counteract the impacts of invasive pest species.

Recent Trends Experienced

- Continue promoting Jersey Fresh, Jersey Equine, and Grown in Monmouth.
- Explore the potential for creating an incentive program for generational farmers as a way to encourage the continued operation of long-standing farms. The SADC created the Farm Link Program to serve as a resource and referral center for farmers and landowners. The Township continues to support participation in this program.

- Facilitate farmers markets as an opportunity for residents to “buy local” and get to know their farmers.
- The Township should encourage hemp production, a new crop that could benefit farmers in the State.

Other Opportunities and Conditions

- Consider partnering with Rutgers University to educate farmers and bring awareness to emerging innovative farming techniques such as drought- and disease-resistant crops.
- Continue and expand participation in Farmers Against Hunger.
- Consider amending the Land Use and Development ordinance to permit micro distilleries and small-scale farm brewery operations as a means to diversify the Township’s agricultural industry and promote economic development.
- Coordinate with relevant agencies to prepare informational material on the Food Safety and Modernization Systems Act and to assist farmers with GAPS certification.
- Consider expanding the 5-year lease program to include additional options to lease (ie. 10-year, 15-year) as a means to promote long-term economic development.
- As the world navigates a post-COVID economy, it will be imperative for Millstone Township to find new ways to capitalize on its position as an agricultural resource for the State of New Jersey.
 - Encouraging private farm stands and farmers markets to allow for farmers to sell their products directly to consumers.
 - Develop new market strategies such as drive-thru farm stands, online ordering and delivery.
 - Providing assistance to agri-tourism operations that enable continued activity while observing the current social distancing guidelines.

APPENDIX I

Local and Regional Agricultural Support Service Providers

LIST OF LOCAL AND REGIONAL SUPPORT SERVICES MILLSTONE TOWNSHIP, NEW JERSEY	
SUPPORT SERVICES	LOCATION
Parts, Equipment, & Service	
Advanced Generator Exchange	Monroe, NJ
Brinkley & Hurst	Litiz, PA
Cherry Valley Tractor	Mount Holly, NJ
Erb Repairs	Monroe, NJ
Farm Brokerage & Supply	Allentown, NJ
Freehold Buick GMC	Freehold, NJ
Harter Equipment	Millstone, NJ
Hights Farm Equipment Co.	Trenton, NJ
Hoobers, Inc.	Intercourse, PA
Major Tool	Freehold, NJ
Messick's	Elizabethtown, PA
Noreika Sales, LLC	Clarksburg, NJ
Tommy Fox	New Egypt, NJ
Tractor Supply Co.	Allentown, NJ
Feed & Tack	
Conselina Hay & Straw	Jackson, NJ
Dills	Freehold, NJ
Rick's Farm Feed and Pet	Cream Ridge, NJ
Fencing	
Hiteck Fencing	Findlay, Ohio
Lumber Yards	
Millhurst Mills & Ace Hardware	Manalapan, NJ
Northeastern Building Supply	Clarksburg, NJ
Riephoff Saw Mill	Upper Freehold, NJ
Seeds	
Abbott & Cobb	Langhorne, PA
Burpee Seed Co.	Warminster, PA
Harris Seed Co.	Rochester, NY
Rupp Seed Co.	Wauseon, OH
Seedway Seed Co.	Elizabethtown, PA
Stokes Seed Co.	Buffalo, NY
Twilley Seed Co.	Hodges, DC
Barn Builders	
SMS Builders, LLC	New Holland, PA
Farriers	
John Rispoli	732-859-6413
Kevin Davis	843-333-6384

Lyn Rowley	Manalapan, NJ
Paddy Doyle	West Orange, NJ
Fertilizers & Pesticide Sprays	
Farm Brokerage & Supply	Allentown, NJ
Penn State Seed	Mount Holly, NJ
Plant Food Company, Inc.	Cranbury, NJ
Reed & Perrine	Tennent, NJ
Greenhouse Supplies	
Penn State Seed	Mount Holly, NJ
South Jersey Produce Co Op	Vineland, NJ
Spinelli Farm Containers	Matawan, NJ
Hay & Shavings	
Conselina Hay & Straw	Jackson, NJ
Etsch Farms	Jamesburg, NJ
C W Gravatt & Sons Inc.	Allentown, NJ
Reeds Sod Farm	Allentown, NJ
Weaber, Inc.	Lebanon, PA
Insurance	
Farm Family Casualty Insurance Co.	Albany, NY
Veterinarians	
Colts Head Veterinary Services	Clarksburg, NJ
Colts Neck Equine Associates	Manalapan, NJ
Smith James L DVM	Califon, NJ
Keenan McAlister Equine	Bordentown, NJ
Wells & Water Treatment	
Aqua Soft Water Conditioning	Millstone, NJ
East Coast Salt	Jackson Township, NJ
Millstone Water Treatment Co.	Millstone, NJ
W & B Well Drilling	Roosevelt, NJ
Wagner & Sons	Freehold, NJ

APPENDIX II

Targeted and Preserved Farmland by Project Area

MILLSTONE TOWNSHIP TARGETED & PRESERVED FARMS BY PROJECT AREA

PERRINEVILLE WEST

Perrineville West Targeted Farms				
Farm	Block	Lot	Acreage	
Skeba	3	1	35	
Peck	9	9.09	20.21	
		9.16		
Davino	11	10	47	
	11	11	29.9	
	11	17	23	211.54
		23		
Crisafulli	13	3.01	23.58	
Bonk	14	2.02	66.14	
Horowitz	14	7	12.19	
Ponderosa Crossing, LLC	16	3	150.67	
Liu Land Investment, LLC	17	6	111	
Hom	17	10	93.9	
	23	2.02		
Ceronics, Inc	17	19	39.12	
Iacona	17	24	82	
Neuberg	30	14.07	27.34	
Sage	31.05	18	9.74	

TOTAL ACRES 959.33

Perrineville West Preserved Farms				
Farm	Block	Lot	Acreage	Year
Nurko	7	2	28.29	2008
Hom	8	1	95.50	2017
Fund for Roosevelt North (Goldstein)	10	1	8.67	2001
Hom	11	22.02	165.83	2008
	12	2		
McFie (Miller)	14	13	11.92	2007
Buono (Detwiler)	17	24.03	10.00	2001
Butch	17	26.2	73.34	2001
		26.21		
		26.24		
Blasig (Meirs)	1.02	1	95.95	1997
		3		
		5		
	1.01	2		

TOTAL ACRES 489.49

PERRINEVILLE EAST

Perrineville East Targeted Farms			
Farm	Block	Lot	Acreage
Freud	23	24	53.5
Wilson	23	28	18.5
Kodus	26	4.06	20
Halka	26	5.01	111
Donofrio	27	8	8.77
Halka	28	17	64.93
		18	
Halka	40	6	73.19
Halka	41	1	30.4
Scotto	41	2	38.73
Halka	42	1	61.14
Halka	42	4	31.5
Halka	42	8.01	36.18
Halka	42	9	17.43
Halka	42	5.01	30.07
		5.02	
Horzepa	43	11	29
		11.01	
Kristoph	43	7.02	20.56
Dancer	44	4.02	14.55
		4.03	
TOTAL ACRES			659.45

Perrineville East Preserved Farms				
Farm	Block	Lot	Acreage	Year
Baldwin	43	16.01	24.30	2008
TOTAL ACRES			24.30	

CLARKSBURG WEST

Clarksburg West Targeted Farms			
Farm	Block	Lot	Acreage
Kaut	34	17	16.3
Pannick	35	34	97.58
Noreika	50	1.01	28
		1.02	
		1.03	
Theung	52	7	89.83
DENJ, Inc.	57.01	1.01	48.75
		1.02	
		1.03	
		1.04	
		1.06	
Adams	57.01	1.05	8.9
Kheder	57.01	25	136.57
		26	
TOTAL ACRES			425.93

Clarksburg West Preserved Farms				
Farm	Block	Lot	Acreage	Year
Sinha	31	25	27.69	2006
Kaut	35	2	55.82	2015
Teller/Klein	35	24	26.24	2007
		23		
Mattei	51	11	69.83	2005
	52	6.01		
Karl	51	12	88.89	2003
	52	5		
Trapani	54	2.08	18.27	2005
Infante	54	2.11	54.14	2003
Perlman	54	5.04	25.07	2011
Peplowski	35	11	7.02	2020
TOTAL ACRES			372.97	

CLARKSBURG EAST

Clarksburg East Targeted Farms			
Farm	Block	Lot	Acreage
Halka	39.01	10	45.64
Halka	39.01	15.01	58.8
Lichtman	39.01	29	41.69
Lichtman	39.01	30.01	30
Halka	39.01	17	54.5
Halka	44	2	119.42
Halka	45	3	60.53
Halka	46	10	62.01
Halka	46	7	111.82
Boss Win Farm	46	22	24.55
Baldacino	47	5	78.34

TOTAL ACRES 687.30

Clarksburg East Preserved Farms				
Farm	Block	Lot	Acreage	Year
McNab	44	4.01	38.87	2002
Mullery	45	10.03	26.67	2006
Boyken	46	4.01	33.75	2008
Valerio/Halka	46	6	66.77	2001
Restine	46	9	20.00	2007
Mazzucco	46	11	53.32	1999
Wagner	46	21	24.33	2007
Wong	47	2	115.33	2008
Dey	47	4	34.63	2006
Kenney	48	3.01	50.55	2008
Pilcher	64	3	41.64	2001
Fredericks	64	10.06	53.29	2003

TOTAL ACRES 559.15

**IN THE MATTER OF THE ADOPTION
OF THE MILLSTONE TOWNSHIP
NOVEMBER 2020 COMPREHENSIVE
FARMLAND PRESERVATION PLAN ELEMENT**

**RESOLUTION ADOPTING
MASTER PLAN AMENDMENT**

WHEREAS, the New Jersey Municipal Land Use Law N.J.S.A. 4:55D-1 et seq. provides local Planning Boards with jurisdiction to prepare, adopt and amend a Master Plan or the component parts thereof; and

WHEREAS, the Township of Millstone Master Plan was adopted on November 8, 2017 which Master Plan includes a Farmland Preservation Program; and

WHEREAS, the Township of Millstone and the Planning Board is in the continuing process of updating the Master Plan to reflect the current state of farmland within the Township and to meet the State Agriculture Development Committee (SADC) requirements for the Municipal Planning Incentive Grant (PIG) program in order to improve coordination between Monmouth County and the Township Farmland and Open Space preservation efforts; and

WHEREAS, Millstone Township is committed to preserving open space, farms, and natural features which commitment has resulted in the preservation of significant portions of the Townships' rural landscape including streams, rivers, farms and woodlands; and

WHEREAS, the Master Plan contains the following "Vision Statement" regarding the Townships' open Space and Farmland Preservation programs:

". . . Millstone is a thriving agricultural community, unique and identifiable by the extensive areas of farmland, open space, and environmentally sensitive features that have been preserved for future generations to use and enjoy. These natural, agricultural and environmental features give Millstone its rural aesthetic, which is highly valued by both residents and visitors alike. Millstone maintains these unique qualities by emphasizing "green" infrastructure over "grey" infrastructure. The Township accommodates development, but manages its location, intensity, and character through growth management techniques that preserve natural and rural areas from the extension of inefficient infrastructure systems and overdevelopment"; and

WHEREAS, the Planning Board finds that farmland contributes to the economic base of Millstone Township and is essential to the open rural landscape that characterizes much of the community. Millstone Township is a rural community with a rich agricultural heritage. Preservation of farmland is a priority for the Township because maintaining a rural land area within the Township that is dedicated to agriculture will support the sustainability of farming within the community; and

WHEREAS, the professionals of the Township and the Planning Board having prepared a Comprehensive Farmland Preservation Plan dated November 2020 in order to fully address the goals set forth above and the requirements of the SADC and the County of Monmouth; and

WHEREAS, the Planning Board has determined that it is appropriate that the November 2020 Comprehensive Farmland Preservation Plan be formally adopted to be part of the Millstone Township Master Plan; and

WHEREAS, the Planning Board having given public notice in accordance with the New Jersey Municipal Land Use Law, that a public hearing would be conducted on December 9, 2020 to consider the adoption of the November 2020 Comprehensive Farmland Preservation Plan as an element of the Master Plan; and

WHEREAS, a public hearing on the adoption of the "November 2020 Comprehensive Farmland Preservation Plan" was held on December 9, 2020 due notice of said Hearing having been provided in accordance with New Jersey Statutes, the Open Public Meetings Act and the Municipal Land Use Law; and

WHEREAS, the Planning Board has determined that the Township of Millstone would be best served by the adoption of this Master Plan Amendment; and

WHEREAS, at the conclusion of the public hearing the Planning Board voted to approve the Amendment to the Master Plan to include the "November 2020 Comprehensive Farmland Preservation Plan" and adjourned the hearing to December 16, 2020 to consider an amendment to the "November 2020 Comprehensive Farmland Preservation Plan to add two additional lots to the plan known and designated as Block 57.01, Lots 1.05 and 1.06; and

WHEREAS, a public hearing on the adoption of the "November 2020 Comprehensive Farmland Preservation Plan" as amended to include Block 57.01, Lots 1.05 and 1.06 was held on December 16, 2020 due notice of said Hearing having been

provided in accordance with New Jersey Statutes, the Open Public Meetings Act and the Municipal Land Use Law; and

WHEREAS, at the conclusion of the public hearing the Planning Board voted to approve the Amendment to the Master Plan to include the "November 2020 Comprehensive Farmland Preservation Plan" as amended to include two additional lots to the plan known and designated as Block 57.01, Lots 1.05 and 1.06.

NOW THEREFORE BE IT RESOLVED that the Planning Board of the Township of Millstone does hereby adopt the "November 2020 Comprehensive Farmland Preservation Plan" as amended to be an element of the 2017 Master Plan.

BE IT FURTHER RESOLVED, that this Amendment shall take effect immediately.

BE IT FURTHER RESOLVED, that a public notice of this action shall be published in the official newspaper of this Municipality as required by law within ten (10) days of the date of this adoption.

BE IT FURTHER RESOLVED, that the public notice of this action with a copy of the Amendment to the Master Plan shall be provided to the Monmouth County Planning Board and the Office of Planning Advocacy by personal service or by Certified Mail not more than thirty (30) days from the date hereof.

OFFERED BY: N. Grbelja

SECONDED BY: T. Pado

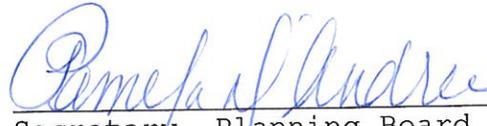
ROLL CALL: Grbelja, Pado, Oxley, Curtis, Ziner &
Newman

YES: 6
NO: 0
ABSTAIN: 0
ABSENT: 0



Chairperson, Planning Board
Township of Millstone

I certify that the above is a true and exact copy of
the Resolution passed by the Planning Board of the Township
of Millstone at its meeting held on December 16, 2020.



Secretary, Planning Board
Township of Millstone