Washington Township
Master Plan

Open Space and Recreation Element

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(The original of this report has been signed and sealed in accordance with the law

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Executive Summary

Since the 1960's, Washington Township has experienced the highest residential growth rate within Gloucester County and New Jersey. The roads have become congested, recreational needs have been strained, school populations have rapidly expanded, farming businesses have disappeared and environmentally sensitive areas have been encroached upon. The character of Washington Township has changed from an agriculture community of less than 6000 people to a highly desirable and crowded bedroom community of nearly 50,000 people in the year 2001.

On November 7, 2000, the residents of Washington Township overwhelming voted by nearly two to one to approve a non-binding referendum that would include a dedicated 2 cents per $100 assessment for the preservation and acquisition of additional open space lands within the community.

The Township of Washington shall be guided in its open space and recreational procedures by the goals of preserving large contiguous parcels and historical sites, protecting sensitive habitats and wetlands, support the active recreational opportunities on an equal and accessible basis for all citizens, safeguard water quality through Greenway corridors, and support efforts to improve pedestrian circulation through the dedication of bike paths.

An inventory of existing township-owned open space and recreational facilities provided a foundation for assessing the needs of the township into the future. Meetings were held with various organizations in the township to solicit their input. Public information sessions on April 2000 and 7 August 2001 provided invaluable citizen's input on open space and recreational needs in the township. A supplemental hearing will be held on 4 September 2001 at the Washington Township Planning Board.

Key provisions for the preservation of open space were enumerated in the needs analysis, including preserving farmland and environmentally sensitive lands, expanding existing parks, completing Greenway corridors and bike paths across the township, and establishing natural buffers adjacent to residential developments. Land is also required to address serious deficiencies in the availability of soccer, football, tennis, lacrosse, and baseball fields.

The Washington Township Open Space Committee prepared a ranking system to evaluate nearly 70 lots across the township, primarily undeveloped, residentially-zoned parcels. Upon completion of that evaluation process, the committee presented the Washington Township Council and Mayor with the Ranking Report and its recommendations.

The committee identified 17 critical parcels that should be purchased through the Open Space Trust Fund to maintain the high quality of life in Washington Township that its citizens deserve. It was recommended that the township Council consider rezoning several parcels to be more consistent with the Master Plan. In addition to the NJDEP Green Acres and the Gloucester County Farmland/Open Space Programs, several other sources of funding were noted to assist in the preservation of open space in Washington Township.



FIGURES

Figure 1 - Potential Open Space Lands OSR-5

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EXHIBITS

Exhibit A - Map of Open Space, Recreation, Vacant & Potential Open Space

Exhibit B - Map of Soils Classifications

Exhibit C - Wetlands Identification Map

APPENDIX

Appendix A - Washington Township Ordinance 3-2001 Establishing the Open Space Trust Fund

Appendix B - Washington Township Ordinance 6-2001 Establishing the Open Space Committee

Appendix C - Washington Township Conservation Land Plan

Appendix D - Washington Township Open Space Committee Ranking Checklist

Appendix E - Washington Township Open Space Committee, a Guide for Reforestation of Open Space

Appendix F - Washington Township Open Space Committee, Public Meeting Minutes & Newspaper Articles

Information for this Element was compiled and completed by the Washington Township Open Space Committee with additional mapping work completed by Alaimo Engineering.

I. Introduction

Since the 1960's, Washington Township has experienced one of the highest residential growth rates within Gloucester County and New Jersey. The roads have become congested, recreational needs have been strained, school populations have rapidly expanded, farming businesses have disappeared and environmentally sensitive areas have been encroached upon. The character of Washington Township has changed from an agriculture community of less than 6000 people to a highly desirable and crowded bedroom community of nearly 50,000 people in the year 2001. It is for this reason, the residents of Washington Township want to stabilize the community's character by saving as much of the remaining undeveloped areas as possible.

Protection of open space comes in many varieties, including: farm land preservation, historical preservation, environmental preservation, and active and passive recreation. Open space protection is a valuable element within our community. In fact, open space is an integral part of the desired high *quality of life* that defines Washington Township.



On 7 November 2000, the residents of Washington Township overwhelming voted by nearly two to one to approve a non-binding referendum that would include a dedicated 2 cents per $100 assessment for the preservation and acquisition of additional open space lands within the community. The voters of Washington Township have mandated that Open Space acquisition shall be a vital part of the township's planning effort.

Acknowledging the need to provide funds for acquisition and conservation of these natural lands, the Washington Township Mayor and Council passed Ordinance No. 3-2001 on 15 February 2001 establishing an Open Space Trust Fund, funded through a dedicated $0.02 tax per $100 assessment for the sole propose of securing undeveloped lands within the Township of Washington. Refer to Appendix A for a copy of Ordinance No. 3-2001. Subsequently, Council passed Ordinance No. 6-2001 on 9 April 2001 formulating a nine member board known as the Washington Township Open Space Committee. A copy of Ordinance No. 6-2001 can be found in Appendix B. The responsibility of the Washington Township Open Space Committee is similar to open space preservation programs in 19 counties and more than 200 communities in New Jersey.

The Washington Township Open Space Trust Fund (OSTF) will provide a long-term revenue source by means of a dedicated property tax of two (2) cent per $100 of real estate valuation. This will increase an average property owner's property tax bill by $25 for a property with an assessed value of $125,000. Given this investment by the

taxpayers of Washington Township, the trust fund will generate up to $500,000 annually for the purchase of lands that can expand active and passive recreational facilities, preservation of remaining farmland, and for the acquisition and protection of environmentally sensitive lands.

Discretion on spending these funds will be the responsibility of the Washington Township Mayor and Council, who will also appoint members to the Washington Township Open Space Committee (OSC). The role of the OSC is to offer non-binding guidance to Council and the mayor, assist in the preparation of grants, conduct property evaluation and prioritization, and provide support in the purchasing procedure. Due to extreme development activities, available open space opportunities are rapidly eroding. This program is envisioned to complete prioritized acquisitions as quickly as possible. At the discretion of Township Mayor and Council, funds could be leveraged through long term bonding or state and County sponsored grants/ low interest loan programs as has been done in other New Jersey municipalities and counties.

II. Goals & Policies

The Township of Washington shall be guided in its open space and recreational procedures by the following goals or principles:

- Ensure that open space planning is an important role in the development of the Township of Washington;
- Give priority to preserving large contiguous parcels of forest and unique and/or environmental sensitive areas;
- Identify and protect sensitive habitat;
- Promote open space, wetlands and farmlands through easement purchase, deed restrictions and other techniques;
- Support the active recreational opportunities on an equal and accessible basis for all township citizens;
- Protect surface water and drinking water quality through the preservation of Greenway corridors and aquifer recharge areas;
- Preserve historical parcels identified in our township;
- Locate open space near the population they serve and encourage passive recreational uses; and
- Support the communities needs relative to improving safe pedestrian circulation through the dedication of sidewalks and bike paths, as identified in the Washington Township Master Plan.
- Incorporate grants for trail programs, Quay Park, Hollydale Park and future projects.
- Examine the use of the State of New Jersey's Transfer of Development Rights (TDR) program as a possible funding mechanism.



III. Inventory of Open Lands

Washington Township decided to preserve as much of the remaining residentially-zoned, undeveloped land as possible to maintain the high quality of life its residents have come to expect. In general, commercial properties were not included in this open space program. The list of Potential Open Space Lands is found in Table 1. Refer to Sheet 1 for the corresponding township map of Potential Open Space Lands. The block and lot for each parcel is noted on the township map.

Two commercial parcels having unique environmental and/or potential recreational characteristics were incorporated into the open space list based on recommendations of the Washington Township Environmental Commission and Sports Advisory Committee, respectively. An additional set of parcels adjacent to Washington Lake Park is incorporated into the list even though residential houses exist on approximately 5-acre lots.

An inventory of Washington Township-owned open space has also been completed, consistent with the provisions of the NJDEP Green Acres Incentive Program. Table 2 provides the list of open township lands. Sheet 2, entitled Current Open Space / Recreational Facilities, highlights the township-owned open space parcels on the site map. An alpha-numeric system has been employed for the township-owned open space. In this way, the parcels listed in Table 2 can been found on Sheet 2 by referring to the individually-assigned key.

It should be noted on Sheet 2 that vacant lands have been included in the township map. Technically, these parcels are not open space, but were mistakenly included in the Recreation and Open Space Inventory from a prior Green Acres application. Washington Township may elect to request that the NJDEP remove them from the ROSI. For now, they are shown on the map and included in the ROSI (so as to not delay the township's 2001 Green Acres Incentive Program application).

Figure 1
Potential Open Space Lands

BLOCK	LOT	PROPERTY LOCATION
16	1.01	110 COUNTY HOUSE ROAD
16	4.08	110 COUNTY HOUSE ROAD
16.01	9	346 SALINA RD.
17	6	122 SALINA RD.
18	4	226 EGG HARBOR RD.
19	10	216 HURFFVILLE-GRENLOCH RD.
19.17	18	225 SALINA RD.
20	3	339 SALINA RD.
20.01	2	421 SALINA RD.
20.01	3	409 SALINA RD.
53	14.01	421 GREENTREE RD.
53	17.10	1 DARE LANE
53	17.11	2 DARE LANE
53	17.12	10 DARE LANE
53	17.14 & 17.15	14 DARE LANE
54.15	7.03	QUAY LANE
64	8	442 CHAPEL HTS RD.
80.11	6.02	201 CHAPEL HTS RD.
82.13	21, 21.01	120 CHAPEL HTS RD.
82.13	22.01	128 CHAPEL HTS RD.
82.13	26	237 THIES RD.
82.13	26.01	123 THIES RD.
82.15	17	354 HURFFVILLE-CROSSKEYS RD.
82.21	1.02	544 GREENTREE RD.
82.21	28	220 CHAPEL HTS RD.
83	1.01	600 GREENTREE RD.
83.09	71	301 FISH POND RD.
84.11	1	2900 GLASSBORO-CROSSKEYS RD.
84.16	7	3300 GLASSBORO-CROSSKEYS RD.
85	5	350 PITMAN-DOWNER RD.
85	19	206 FISH POND RD.
85	20.01	210 FISH POND RD.
85	20.02	218 FISH POND RD.
85	21	220 FISH POND RD.
85	21.01	226 FISH POND RD.
85.1	6.02	2682 GLASSBORO-CROSSKEYS RD.
85.21	7	381 FRIES MILL RD.

Figure 1 (continued)
Potential Open Space Lands

BLOCK	LOT	PROPERTY LOCATION
86	1	316 FRIES MILL RD.
86	8	378 FRIES MILL RD.
86	9	2200 GLASSBORO-CROSSKEYS RD.
86	10	388 FRIES MILL RD.
87	3	141 TUCKAHOE RD.
109	4	385 JOHNSON RD.
109	4.01	355 JOHNSON RD.
109	5	125 STAGE COACH RD.
110	1	GRT LEBANON STREAM
110.07	10.02	360 JOHNSON RD.
116.34	1	243 BELLS LAKE RD.
116.34	23.04	213 BELLS LAKE RD.
117	2	122 BELLS LAKE RD.
129	2	140 JOHNSON RD.
194.10	3	336 EGG HARBOR RD.
195	22	SHOPPERS LANE
195	26	53 HURFF LANE
195.12	4.09	259 WILSON RD.
197	1	231 WOODBURY-TURNERSVILLE RD.
198	11	455 HURFFVILLE-GRENLOCH RD.
198	12	445 HURFFVILLE-GRENLOCH RD.
198	20.03	331 HURFFVILLE-GRENLOCH RD.
199	14	HURFFVILLE-GRENLOCH RD.
199	16	368 HURFFVILLE-GRENLOCH RD.
199	17	268A EGG HARBOR RD.
199	18	340 HURFFVILLE-GRENLOCH RD.
199	19	344 HURFVILLE-GRENLOCH RD.
199	20	348 HURFFVILLE-GRENLOCH RD.
199	21	402 HURFFVILLE-GRENLOCH RD.
216	31.01	27 HURFF LANE

Figure 2
Township-Owned Open Space Lands

Key	Block	Lot	Lot Size (acres)	Property Street Address	Property Type (Open Space or Recreation)
R-1	3	1.04	11.71	449 Woodbury-Turnersville Rd.	Recreation
O-1	4.02	12	2	Hampshire Ave.	Open Space
O-2	4.04	36	0.92	2022 Barnsboro Rd.	Open Space
O-3	4.07	11	2.35	22 Cape Cod Dr.	Open Space
O-4	4.07	12	0.19	Cape Cod Dr.	Open Space
O-5	4.07	13	0.31	Cape Cod Dr.	Open Space
R-2	16	8.01	13.03	Aron's Circle	Recreation
O-6	17	8.01	19.6	209 Egg Harbor Rd.	Open Space
O-7	19	4	19.6	Salina Rd.	Open Space
O-8	19.19	100	14.81	Hurffville-Crosskeys Rd.	Open Space
O-9	52	4	22.93	129 Hurfville-Grenloch Rd.	Open Space
O-10	53	1	69.46	201 E. Holly Ave.	Open Space
O-11	53	1.02	14.43	201 E. Holly Ave.	Open Space
R-3	53	2	33.62	217 E. Holly Ave	Recreation
R-4	53	3	62	626 Hurfville-Crosskeys Rd.	Recreation
O-12	53	4.01	19.22	231 E. Holly Ave.	Open Space
R-5	53	14	54.5	447 Greentree Rd.	Recreation
R-6	53	15.09	40	Chapel Heights Rd.	Recreation
R-7	53	17	1.37	353A Chapel Heights Rd.	Recreation
O-13	53	17.16	14.82	15 Dare Lane	Open Space
R-8	53	17.18	31	353 Chapel Heights Rd.	Recreation
O-14	53.02	33	7.93	Mimosa Dr.	Open Space

Figure 2 (continued)
Township-Owned Open Space Lands

Key	Block	Lot	Lot Size (acres)	Property Street Address	Property Type (Open Space or Recreation)
R-9	54.04	52	11.83	Elwood & Foyt Ct.	Recreation
O-15	54.05	1	2	Egg Harbor Rd.	Open Space
O-16	54.07	8	4.53	Freedom Rd.	Open Space
O-17	54.12	11	9	Haines Dr.	Open Space
O-18	54.15	7.02	4.71	Stacy Ct.	Open Space
O-19	54.15	43	0.52	Freedom Rd.	Open Space
O-20	54.15	44	1	Freedom Rd.	Open Space
O-21	54.15	71	0.86	Haines Dr.	Open Space
R-10	54.24	5	54	Hurffville-Grenloch Rd.	Recreation
O-22	54.24	6	8	Quay Lane	Open Space
O-23	80.01	74	0.39	516 Hurffville-Crosskeys Rd.	Open Space
O-24	80.01	174	0.61	542 Hurffville-Crosskeys Rd.	Open Space
O-25	80.01	175	6.48	Greentree Rd.	Open Space
O-26	80.02	81	1.39	530 Hurffville-Crosskeys Rd.	Open Space
O-27	82.01	20	3.21	Procyon Rd.	Open Space
R-11	82.02	27	2	Vega Court	Recreation
O-28	82.03	1	0.71	Vega Ct.	Open Space
O-29	82.08	7	4	Altair Dr.	Open Space
O-30	82.1	1	1.34	Aldeberan Dr.	Open Space
O-31	82.1	21	0.41	Hamal Ct.	Open Space
O-32	82.1	131	2.81	Fomalhaut Ave.	Open Space
O-33	82.11	6	0.11	Corona Ct.	Open Space

Figure 2 (continued)
Township-Owned Open Space Lands

Key	Block	Lot	Lot Size (acres)	Property Street Address	Property Type (Open Space or Recreation)
O-34	82.11	28	2.91	Fomalhaut Ave.	Open Space
O-35	82.11	67	0.05	Ptolemy Ct.	Open Space
O-36	82.11	96	0.49	Fomalhaut Ave.	Open Space
O-37	82.12	38	2.61	Canis Ct.	Open Space
O-38	82.12	56	0.34	Fomalhaut Ave.	Open Space
O-39	82.16	1	2.37	Fomalhaut Ave.	Open Space
O-40	82.16	57	1.15	Lebia Ct.	Open Space
O-41	82.17	17	0.91	Fomalhaut Ave.	Open Space
O-42	82.21	1	0.62	Altair Dr.	Open Space
O-43	82.23	23	1.25	Altair Dr.	Open Space
O-44	82.25	28	7	Orion Way	Open Space
O-45	82.26	21	1.33	Aquila Lane	Open Space
O-46	82.28	1	0.53	Altair Dr.	Open Space
O-47	82.28	16	0.66	Tiros Ave.	Open Space
O-48	82.31	14	2.73	Mariner Dr.	Open Space
O-49	82.32	22	5.12	Altair Dr.	Open Space
O-50	82.35	16	10.9	Orion Way	Open Space
O-51	82.4	20	12	Orion Way	Open Space
O-52	82.42	21	5.98	Orion Way	Open Space
O-53	82.44	21	0.18	Venus Way	Open Space
O-54	82.44	44	0.07	Pluto Dr.	Open Space
O-55	82.52	48	17	400 Hurffville-Crosskeys Rd.	Open Space

Figure 2 (continued)
Township-Owned Open Space Lands

Key	Block	Lot	Lot Size (acres)	Property Street Address	Property Type (Open Space or Recreation)
O-56	82.54	8	6.39	135 Fish Pond Rd.	Open Space
O-57	82.57	12	10.55	Fish Pond Rd.	Open Space
O-58	82.58	10.01	0.67	Fish Pond Rd.	Open Space
O-59	83	18.01	5.19	Neptune Dr.	Open Space
O-60	83	23.01	1.82	Neptune Dr.	Open Space
O-61	83	24.01	2.47	Neptune Dr.	Open Space
O-62	83	25.01	1.27	Twin Lake Ave.	Open Space
O-63	83	30	3.26	Pitman-Downer Rd.	Open Space
O-64	83	31	10.49	Lupus Lane	Open Space
O-65	83	32	7.12	Lupus Lane	Open Space
O-66	83.09	26	4.57	279 Pitman-Downer Rd.	Open Space
O-67	83.09	27	4	Lakeside Lane	Open Space
O-68	85.02	34	0.56	Mcintosh Rd.	Open Space
O-69	85.03	11	19.31	142 Fish Pond Rd.	Open Space
O-70	85.09	46.01	3.28	Glassboro-Crosskeys Rd.	Open Space
O-71	85.1	41	3	Mcintosh Rd.	Open Space
R-12	109	4.02	20.89	365 Johnson Rd.	Recreation
O-72	109.08	61	9.99	Fairmont Dr.	Open Space
R-13	111.08	48	5	Wedgewood Track	Recreation
O-73	111.16	21	1.55	53 Bells Lake Dr.	Open Space
R-14	116.01	11.02	2	318 Westminster Blvd.	Recreation
O-74	116.01	28.01	13.56	Westminster Blvd.	Open Space

Figure 2 (continued)
Township-Owned Open Space Lands

Key	Block	Lot	Lot Size (acres)	Property Street Address	Property Type (Open Space or Recreation)
O-75	116.06	32	0.27	Westminster Blvd.	Open Space
O-76	116.08	9	0.18	Gray Birch Rd.	Open Space
O-77	116.14	13	0.27	White Birch Rd.	Open Space
R-15	116.24	3.01	3	Colonial Way	Recreation
R-16	116.31	25	3.88	Meeting House Lane	Recreation
R-17	116.36	12.01	17	197 Fries Mill Rd.	Recreation
O-78	117.04	17	10.5	172 Bells lake Rd.	Open Space
O-79	117.07	20	11.5	Ganttown Rd.	Open Space
O-80	192	1	31.5	230 Greentree Rd.	Open Space
O-81	192	1.05	7.3	315 Ganttown Rd.	Open Space
O-82	192.01	19	2.29	240 Greentree Rd.	Open Space
R-18	192.05	15	2.76	Greenwood Dr.	Recreation
O-83	192.11	8.01	9.42	Egg Harbor Rd.	Open Space
O-84	192.12	9	1.9	Heather Rd.	Open Space
O-85	194.02	38	5.52	146 Hurffville Rd.	Open Space
O-86	195	15.02	3.99	Shoppers lane	Open Space
O-87	195	15.03	9.43	Shoppers lane	Open Space
O-88	195.01	73.01	2.7	219 Wilson Rd.	Open Space
R-19	195.03	65	1.24	309 Wilson Rd.	Recreation
R-20	197	2	16	Grenloch Park	Recreation
R-21	198	1	7	317 Hurffville-Grenloch Rd.	Recreation
O-89	198.02	59	2.61	120 Wilson Rd.	Open Space

Figure 2 (continued)
Township-Owned Open Space Lands

Key	Block	Lot	Lot Size (acres)	Property Street Address	Property Type (Open Space or Recreation)
O-90	198.03	19	3	229 Hurffville Rd.	Open Space
O-91	198.14	30	2.83	Winchester Dr.	Open Space
O-92	198.2	11	29.91	Winchester Dr.	Open Space
R-21	199	15	12	316 Hurffville-Grenloch Rd.	Recreation
O-93	199.03	101	54.72	Hurffville-Grenloch Rd.	Open Space
O-94	199.03	102	1.16	Stonehenge Dr.	Open Space
O-95	213	1	0.23	1001 Route 168	Open Space
O-96	264	27	8	Whitman Square	Open Space
O-97	263	11	2.7	Whitman Square	Open Space
Totals (acres)			**1053.66**		
	Recreation		**405.83**		
	Open Space		**647.83**		

IV. Needs Analysis

A. Open Space

Currently, Washington Township has approximately 650 acres of preserved open space, excluding the 405 acres of recreational lands. To analyze the adequacy of these parcels, it is necessary to examine the various criteria that determine the value of open space in Washington Township.

Farmland: With the exception of the last 15 years, Washington Township was known as a farm community. Family farms with their corner markets were a common sight in Washington Township through most of the 20th century. While a bedroom community may better define our municipality at the present, citizens don't want to lose our remaining farmland and the hometown charm of the corner market with its fresh fruit and vegetables. Preserving additional farmland is a quality of life issue in our community.

The Duffield Farm has been protected through the State of New Jersey and Gloucester County Farmland Preservation Programs. The development rights for this 150-acre farm have been permanently preserved. The Duffield family operates a successful farm market at the corner of Greentree and Chapel Heights Roads.



Several family farms, with one additional farm market, and several hundred acres of agricultural lands still remain unprotected in Washington Township.

Existing Active & Passive Parkland:
Washington Township has two major parks, Washington Lake Park and Grenloch Lake Park. Washington Lake Park, in fact, is the largest municipal park in the State of New Jersey, with extensive recreational facilities (discussed elsewhere), nature trails, picnic groves, wetlands, a swimming lake, and woodlands. Gloucester County operates Atkinson Memorial Park along Delsea Drive on the township border with Mantua Township. Additionally, there are numerous smaller parks scattered throughout the township.

With the current population of Washington Township approaching 50,000 people, the municipal park system is being strained by the continued demand for their resources.

Greenways & Environmentally-Sensitive Lands: In January 1992, the Washington Township Environmental Commission completed a Conservation Land Plan that identified Greenways, primarily along stream corridors in the township. A copy of the Conservation Land Plan is included as Appendix C. The Greenways map was subsequently incorporated into the Washington Township Master Plan.

Greenways function to provide valuable open space for recreation and wildlife habitat, as well as to protect water quality. Several endangered species have been identified along

streams in Washington Township. They include the bog turtle, the swamp pink, the Virginia bunchflower, the two-flowered bladderwort and the Chickasaw plum. In addition, the State Office of Natural Lands Management has identified an area near Grenloch Lake Park as a Priority Site. Priority Sites are those which are considered by New Jersey to be important areas for endangered biological diversity.

The current system of interconnecting Greenway corridors is still fragmented and incomplete.

Bike Paths: Thirty years ago, Washington Township planners envisioned a series of paths radiating out from Washington Lake Park across the township. At the time, they were supposed to be horseback riding trails. The trail system, regrettably, was never completed. However, numerous parcels of township-owned open space (along with existing streets with sidewalks) still could be interconnected to create a bike path system. Separate bike paths could be established that would link Washington Lake Park with:

- Atkinson Memorial Park
- WTPR Sports Complex
- Grenloch Lake Park
- Castle of Dreams Playground
- Quay Park & Old Stone House Village
- Washington Township High School & various elementary and middle schools
- Washington Township municipal buildings

In addition, the bike paths could be connected with similar trails in neighboring communities, including Glassboro, Pitman, and Mantua Township.

Gaps in the proposed Bike Path system currently exist that need to be corrected.

Residential Buffers: Since the 1990's, township regulations have required a 50-foot buffer between residential and non-residential parcels. This is designed to provide residential properties with a shield to off-site noise, air and light pollution. These visual screens have been effective in maintaining the quality of life that citizens expect in Washington Township. These buffers also provide habitat and pathways for wildlife to move throughout the township.

Additional natural buffers are needed adjacent to numerous developments in Washington Township.

Historical Properties: Over 60 historical sites have been identified in the Washington Township Master Plan. Yet, only a handful of these properties have been protected. The township officials need to evaluate the preservation of additional historical parcels.

B. Recreation

Through a recreational plan established in the late 1980's, Washington Township has set out to be a leader and model for creating active and organized sporting programs. The programs offered include baseball (youth and adult), softball, football, cheer leading, basketball, and soccer. The programs are very successful with membership increasing by more than 10 percent a year for some sports. The current programs are operating at or beyond 100 percent capacity. The common concern by coaches and team members are that there are not enough fields to play or practice upon in order to reach the skill levels desired while maintaining a safe environment. In addition, there are new programs that Washington Township would like to begin, but there are no facilities nor land available in the Washington Township inventory of open space. Washington Township must acquire additional land to meet the existing and future recreational needs.

Current recreational needs can be estimated using the National Recreation and Park Association standards based upon community population. Washington Township has grown from a rural town of about 6,000 people in the late 1960's to more than 48,000 people (2000 census). The community is mostly made up of young families with school age children.

A review of the recreation program finds that quite often there are multi-family members playing sports in the same season and very often some children are playing in more than 2 sports per year (or even 2 sports in the same season).

According to the Master Plan, Washington Township is projected to have an estimated build out population of 66,000 people. For the bases of this Recreational Study, an adjusted population valve of 65,000 people will be utilized when analyzed against the National Recreation and Park Association standards.

Existing Facilities and Programs

The Washington Township parks system includes a variety of facilities and venues, some of which do not exist in other surrounding communities. The quantity and variety of facilities contribute to the high quality of life enjoyed by all its residents and by residents from many surrounding communities. Washington Township has two large parks, many smaller parks and a few passive areas including open spaces and monument locations.

The two large parks include both active and passive recreation for organized and unorganized activities. Both of the large parks were purchased and developed with the assistance of the NJDEP Green Acres Program and municipal funding.

Washington Lake Park includes more than 450 acres of developed and naturally wooded areas. Included on this site are the following facilities and more:

- Baseball Fields
- Softball Fields
- Soccer Fields
- Volley Ball Facilities
- Skate Park
- Tennis Courts
- Roller Blade Hockey
- Tot Lot
- Picnic Facilities
- Gazebos
- Amphitheater
- Nature Trails (One Being Handicapped Accessible)
- Swimming Lake
- Nature Center
- Snack Bar With Restrooms
- Outdoor Basketball
- Fishing
- Walking Trails
- Maintenance Facilities
- Football Fields

Washington Lake Park is the most used park in Gloucester County hosting many charitable fund-raisers such as the March of Dimes, The Walk for the CURE, the MS Walkathon. In addition, the outdoor amphitheater has many weekly concerts, outdoor movies and talent programs.

Grenloch Lake Park is located around Grenloch Lake. This lake was once the location of an historical park that included a merry-go-round, ferris wheel and more that have all be removed many years ago. Grenloch Lake is a medium size lake that borders Gloucester Township (Camden County). The lake is one of the favorite public fishing locations in the region. Up until a few years ago, New Jersey Fish and Wildlife stocked the lake. Included on the site are the following facilities:

- boat ramp & 4 docks
- softball field
- walking trails
- picnic areas
- restrooms
- tot lot
- paved parking lot
- volley ball
- horse shoe pits
- shuffleboard

County House Soccer Complex is located adjoining the low and moderate housing project. The facility has been recently constructed and has not yet been assigned for use. Included at this facility are:

- 4 lighted soccer fields (2 regulation fields & 2 micro novice fields)
- restrooms (to be installed)
- paved parking

Quay Park is located along Hurffville-Grenloch Road and is accessed from Langley Drive in the Heritage Valley development. Quay Park is a combination neighborhood park (included in the open space system within the development) and an organized sports program. The facility includes the following:

- 2 baseball fields
- 1 soccer field
- paved parking

Creative Playground & Soccer Fields is located off Johnson Road with access from Fairmount Drive. The Park was developed in two (2) phases:

Phase 1 includes the Castle of Dreams creative playground, designed with the assistance of children at Whitman Square School. The playground was constructed with all volunteer help from the community and other organizations, included Navy personnel assigned to the naval aircraft carrier USS J F Kennedy (stationed at the Philadelphia Navy Yard for repairs).



Phase 2 includes recreational fields. The fields are located in a former gravel or sand quarry. The low fields permit an unusual setting for watching the games from the terraced side slopes and the parking area.

The facility includes:

- 2 soccer fields
- 2 parking areas
- creative playground
- 1 cricket field

Nob Hill Recreation Facilities was constructed as part of the Nob Hill Development. Access to the facility is from County House Road. The site is located behind the Society Hill Apartments (aka Nob Hill apartments) bordering a small stream from the Lakeland Facilities. The facilities include:

- 1 softball field
- parking area

Hurffville-Grenloch Road Facility is the main baseball complex. The facility is located on both sides of Hurffville– Grenloch Road with the main complex located on the easterly side. The main complex includes garages, club house, restrooms and concession

stands. The complex was constructed more than 25 years ago when traffic volumes and speeds were much lower on Hurffville – Grenloch Road. The traffic conditions and the inability of the complex to expand make the facility less than desirable and a safety hazard for children and adults trying to move from one side of the street to the other. The current facilities include:

- 6 baseball fields (which includes a T-ball field)
- 1 football field
- 2 parking areas

Washington Township Golf Course is located next to the Birches Apartments on Fries Mill Road. The Washington Township Golf Coarse is a 9-hole executive style golf course located between the Birches Subdivision and the Birches Apartments. The course is owned and operated by the local government. The course is in great shape for a community owned facility and gets a lot of play from all ages. The golf course was built by Esposito Builders as part of the surrounding development.

Other parks and recreation facilities are scattered around the community, but these parks for the most part are monuments parks or passive parks. These parks include Frank Atkinson Memorial Park located at the Police Department, a memorial park located on Ganttown Road, a Memorial Park or Monument at the Old Black Horse Pike and County House Road and a passive park at the site of the former Birches Swim Club (the pool has been removed).

Refer to Figure 3 for a complete listing of the current recreational facilities in Washington Township.

Figure 3
Existing Recreational Facilities

To be replaced with Figure 3

Private recreation facilities are also scattered around the community. These facilities meet many of the special interest type sports including:

a) Swimming facilities: the are private swim clubs with swim clubs including
   i. Whitman Swim Club with pool facility
   ii. Greenwood Lake Club with lake facilities
   iii. Birches West Swim Club with pool facilities
b) Indoor soccer
c) Batting cages
d) Wedgwood Golf Course and Clubhouse
e) Hollydell Indoor Ice Skating and Hockey Facility (2 full size rinks)
f) Triple Play indoor sports facilities
g) Somerton Springs and Cross Keys Driving Range facilities
h) Instructional baseball and softball facilities
i) LA Fitness facilities with indoor pool and other activities
j) 2 miniature golf facilities

Projected Recreational Needs

Future recreational requirements are based upon the needs for both passive and active recreation made up of public and private recreational facilities. Recreational needs are also based upon public need and desire as a function of population and social trends. Washington Township has been and still is a rapidly growing and desirable community for younger families. The families of Washington Township rank the need for recreational facilities including organized sport as one of the top five assets of the community. It is for this reason that the planning of future facilities is important to the expected high quality of life in the community.

Future public recreational needs can be broken into active and passive recreation. Projected recreational needs are based upon an adjusted population of 65,000 people as outlined above. Table 4 provides the projected recreational needs of Washington Township in the year 2025.

Figure 4
Projected Recreational Needs
for Washington Township - Year 2025

To be replaced with Figure 4

V. Resource Assessment

The general Open Space acquisition process includes several procedural steps that must be followed, including but not limited to:

Open Space Planning Process

Step 1	2	3	4	5	6	7	8	9
Set broad open space goals as in the Master Plan	Inventory/ map existing and potential future open space	Develop an open space decision support system (ranking system)	Collect site information / data to rank the open space	Rank the open space parcels	Start discussion with land owner to acquire open space	Identify and select funding sources	Appraise land for acquisition (min. two independent state approved appraisals)	Acquire open space

return to beginning of process for inventory

A. Ranking Process

In order to determine the program value of each of the parcels, all properties being considered for inclusion into the open space preservation plan must be prioritized using a list of categories and associated ranking system.

The ranking system has been developed in order to evaluate all properties under consideration and to be used in determining the best parcels to be purchased when funding sources are limited. The ranking system selected below has been designed to include the following considerations:



- the system must be ease to understand and utilize. The simpler the system, the less subject it is to misinterpretation and interference by outside influences;
- the system must be readily understood by the general public and must demonstrate a trustworthy evaluation;
- the system must include all the different parameters demonstrating the value and risks of purchasing the properties or easements.

The evaluation parameters used to assess ranking properties has been subdivided into several categories. The Categories are as follows:

Environmental Factors:

a. Presence of Wetlands
b. Stream Corridor/Water Frontage
c. Presence of Woodlands
d. Contamination (negative factor)
e. Steep Slopes
f. Unique Habitat
g. Wellhead protection areas

Rural Preservation Characteristics:

a. Proximity to Protected Open Space
b. Proximity to Farm Land
c. Active Recreational Opportunities
d. Passive Recreational Opportunities
e. Historical Property
f. Size of Parcel

Development Pressure Factors:

a. Ownership
b. Market Availability
c. Suitability for Development
d. Infrastructure Availability

Each parameter is given a range of values based on the particulars related to that topic. Therefore, a parcel could get anywhere from "0" to "5" points, depending on the particular parameter being investigated.

A copy of the Ranking Checklist can be found in Appendix D of the OSRP.

During the months of May through July 2001, the Washington Township Open Space Committee conducted evaluations at nearly 70 parcels in the township. The committee members utilized the Ranking Checklist to assess each parcel or group of parcels from the list of undeveloped, residentially-zoned lands in Washington Township.

The committee also met with various township individuals, including the Sports Advisory Committee, to determine the open space needs of the numerous groups and organizations that support township residents. Based on those meetings, parcels from three separate areas were added to the evaluation list. While these particular parcels did not meet the original definition (undeveloped, residentially-zoned), The Open Space Committee felt they deserved consideration. Council President Matthew Lyons, at a meeting with the Sports Advisory Committee, concurred with this position.

VI. Action Plan

Based on the parcel evaluations and the overall assessment of open space and recreational facilities currently available, the following recommendations for action are presented to guide township officials in the future development in Washington Township.

A. Recreational Recommendations

The completion of the recreation portion of the OSRP is designed to be a comprehensive plan using and modifying existing facilities while incorporating new facilities. The recommendations that follow have been discussed with the Washington Township Sports Advisory Commission and limit members of Council.

Baseball
The combined youth and adult baseball programs are expanding and growing at a rate greater than the rate of increasing population. The baseball facility requirements must be addressed with a combination of a) utilizing existing fields, b) replacing fields that have poor and/or unsafe conditions and c) developing new fields.

1. Existing facilities at Washington Lake Park and Quay Park should be retained and maintained. Faculties at these locations include 3 fields (combined).

2. Baseball facilities developed more than 20 years ago, specifically the Hurffville – Grenloch Road Complex represent a safety hazard to local residents and must be replaced. This facility includes 6 baseball fields that should be relocated.

3. It is recommended that a new baseball sports complex be developed on lands with adequate parking, safe traffic patterns and other needed amenities. It is estimated that each field will require approximately 3 acres (including parking and amenities). Based upon the projected baseball needs, 9 additional fields plus the replacement of 6 fields at the existing complex or a total of 15 new fields will be required. This constitutes a baseball complex approximately 45 acres in size.

Location for the future baseball complex is limited due to the size of the tract required. A tract of land at least 45 acres in size is required.

Softball
Softball has been the wandering program having been relocated from the Hurffville–Grenloch Road Sport complex to the overcrowded Washington Lake Park. It is the recommendation of the OSRP that a softball complex be established based on the projected fields required and other amenities similar to the baseball program.

Just as with baseball, each softball field will require approximately 3 acres. That includes the softball field, drainage, parking, storage, clubhouse, restrooms, etc. The

softball complex should include at least 12 fields with additional facilities located throughout the community in clusters of 2 or more fields.

Soccer

The soccer program is expanding at the greatest rate of all the sport programs in Washington Township. Gloucester County recently notified Washington Township that the soccer fields at the James Atkinson Memorial Park will not be available as in past years because of the demand by other communities. This condition places a greater demand for Washington Township to develop new fields quickly.

The OSRP recommends that two additional fields be constructed, for a total of 16 fields. It is recommended that additional lands be acquired to expand the newly developed County House Road Soccer Complex.

Football

The football program is expanding at a rate of about 20 to 30 athletes a year or about ½ a team per year. The football program is presently located at two locations - East Holly Avenue (the main facility with 3 fields) and Hurffville-Grenloch Road Sports Complex (one field).

It was recommended that the baseball facilities at Hurffville–Grenloch Road be relocated elsewhere because of roadway conflicts. It is further recommended that the football program be expanded on the westerly side of Hurffville-Grenloch Road to include two additional football fields and amenities including snack bar, storage facilities, restrooms, additional lighting, drainage, parking and fencing. This expansion of the football program will not directly require the acquisition of supplementary lands.

Tennis

The only public operated tennis (six) courts are located at Washington Lake Park. The analysis estimates that at least 33 tennis courts are need throughout the community. It is recommended that tennis courts be provided in association with other sport complexes, including the new soccer, baseball and softball facilities (six courts at each facility), a new court facility at the former Birches Swim Club, and a new court facility adjoining the Creative Playground facility. By providing tennis courts at these locations, security concerns could be shared with other facilities and the court facilities would be better distributed across the community.

New Sports

The Washington Township Sports Advisory Committee recognizes that additional sports programs should be added based upon community requests. Preliminarily, it appears that there is a desire to institute both a boys and girls lacrosse program and a girls field hockey program. Developmental leagues are beginning in surrounding communities and high school programs are expanding the need for experienced athletes. These programs could use existing football fields that are seasonally modified. Thus the need for additional facilities is eliminated.

Outdoor Theaters

The outdoor amphitheater located at Washington Lake Park has come into full operation with programs scheduled 4 to 6 days a week from April through September. The outdoor theater has become a major success. The township has the ability to use the Gloucester County portable stage for additional programs throughout the community or to supplement programs in Washington Lake Park. At this time, no additional outdoor theaters are warranted. In the future, the township may want to evaluate whether an additional theater is need at Grenloch Lake Park or at a future unknown park.



Swimming

The swimming facilities at Washington Lake Park are heavily used during the summer time period. The Park was purchased and developed using Green Acres loans and grants and has full public access. There are at least three other outdoor facilities and 1 indoor facility within the community. A total of 5 public or private swimming faculties and 2 additional facilities may be required. It is the recommendation of the OSRP that the additional swim facilities be developed through private organizations, such as swim clubs and fitness facilities. At one time, the YMCA was proposing to develop a facility in Washington Township. This proposal should be actively pursued.

Golf

The two golf courses located in Washington Township are operating at a high level. The Washington Township Golf Course is operating at a small surplus and is not a burden to the taxpayer. The Wedgwood Golf Course has just recently completed a full renovation and has an extensive membership. To construct a golf course equal to Wedgwood, the developer would need between 150 and 200 acres. There are no remaining parcels large enough to accumulate the land needed to develop a regulation golf course. In addition, there is not enough vacant land adjoining the existing courses to expand existing facilities. The OSRP recommends that the existing facilities be properly maintained and upgraded to meet future public needs.

B. Open Space Purchases

Based primarily on the results of the parcel ranking results, the Open Space Committee recommends that 17 parcels be purchased as part of a 1st phase acquisition process. The specific parcels recommended for purchase will not be released due to the potential that this information could inflate the purchase price for those parcels high on the ranking list.

The purchase of the 17 parcels will address a number of township requi previously in the Open Space and Recreation Plan's Needs Analysis. S recreational deficiencies related to land for baseball, softball, soccer, foo lacrosse will be resolved. The expansion of Washington Lake Park and Park will also be accomplished.

Critical farmland and environmentally-sensitive lands will be preserved for future generations just as they exist today. An historical property and several residential buffers will be protected as well.

Of the 17 parcels recommended by the Open Space Committee, the township Council has reached agreement to purchase two properties. They are:

- Miller Tract — Block 54.15, Lot 7.03
- Benas Tract — Block 83.09, Lot 71
- Banks Tract — Block 83.15, Lot 1.02
- Fritsche Tract — Block 82.21, Lot 1.02
- Thorn Tract — Block 197, Lot 1.06
- Gizelback Tract — Block 195.01, Lot 73.02

The Miller parcel is a missing link in the Heritage Valley development bike path. An aerial orthophotograph of the tract is provided below. The bike path will connect Washington Lake Park (seen in the lower left-hand corner of the aerial) with Quay Park (to the north on the aerial). The Township's Parks & Recreation Division wants to construct the bike path and improve the pond in the center of the Miller tract for fishing.

The Benas parcel is a heavily-wooded tract abutting a series of lakes (a tributary of the Mantua Creek, which is 0.5 mile to the west). An endangered species (Swamp Pink) has been identified just downstream of this area. An aerial orthophotograph of the tract is provided below.

In addition, the Township Council is currently in negotiations with several other property owners. Washington Township is being very aggressive and proactive in its efforts to preserve open space.

The Washington Township Council and Mayor will be consulting with the Washington Township Board of Education, Fire District, and Municipal Utilities Authority to coordinate efforts in the preservation of open space.

C. Funding Sources

There are numerous funding sources available for the purchase of open space, easements and development rights for the remaining undeveloped parcels in

Washington Township (as discussed in the preceding sections). *The Gloucester County Farmland Preservation, Open Space Protection, and Recreational Needs Study* (July 1997) was consulted in preparing this list. Township officials, along with the Open Space Committee, shall investigate all potential funding sources, including the following:

ISTEA /TEA-21 Funds - Federal program administered by the New Jersey Department of Transportation for projects related to bike paths and hiking trails.

Natural Resources Conservation Service Wetlands Reserve Program – federal program that offers easement purchase for privately owned wetlands that have any history of having been farmed.

NJDEP Green Acres Bond Funds and Incentive Program – state programs offering grants and low interest loans to acquire land for conservation/recreational purposes.

New Jersey Farmland Preservation Program – state funds available for easement purchases of critical farmland.

Gloucester County Farmland & Open Space Fund – County funding program designed to assist in the purchase of farmland easements and fee simple acquisition of open space in Gloucester County.

Stewart Trust Fund – funds available for municipal acquisitions provided the property is bordered or crossed by a watercourse, and the community maintains the property after acquisition.

Nonprofit Funding Sources – Various nonprofit land conservation organizations are active in the Washington Township area that may be able to assist with funding or act as a facilitator in the purchase of open space and/or easements. These include:

- Mantua Creek Watershed Association
- South Jersey Land Trust
- Gloucester County Federation of Watersheds
- New Jersey Conservation Foundation
- The Nature Conservancy
- Trust for Public Lands

Corporate Sources - Local corporations may wish to contribute to the purchase of open space as a gesture of community support.

D. Monitoring Systems

One of the recommendations of the Open Space Committee is that a system of monitoring the remaining undeveloped parcels be developed and implemented. The monitoring system can include:

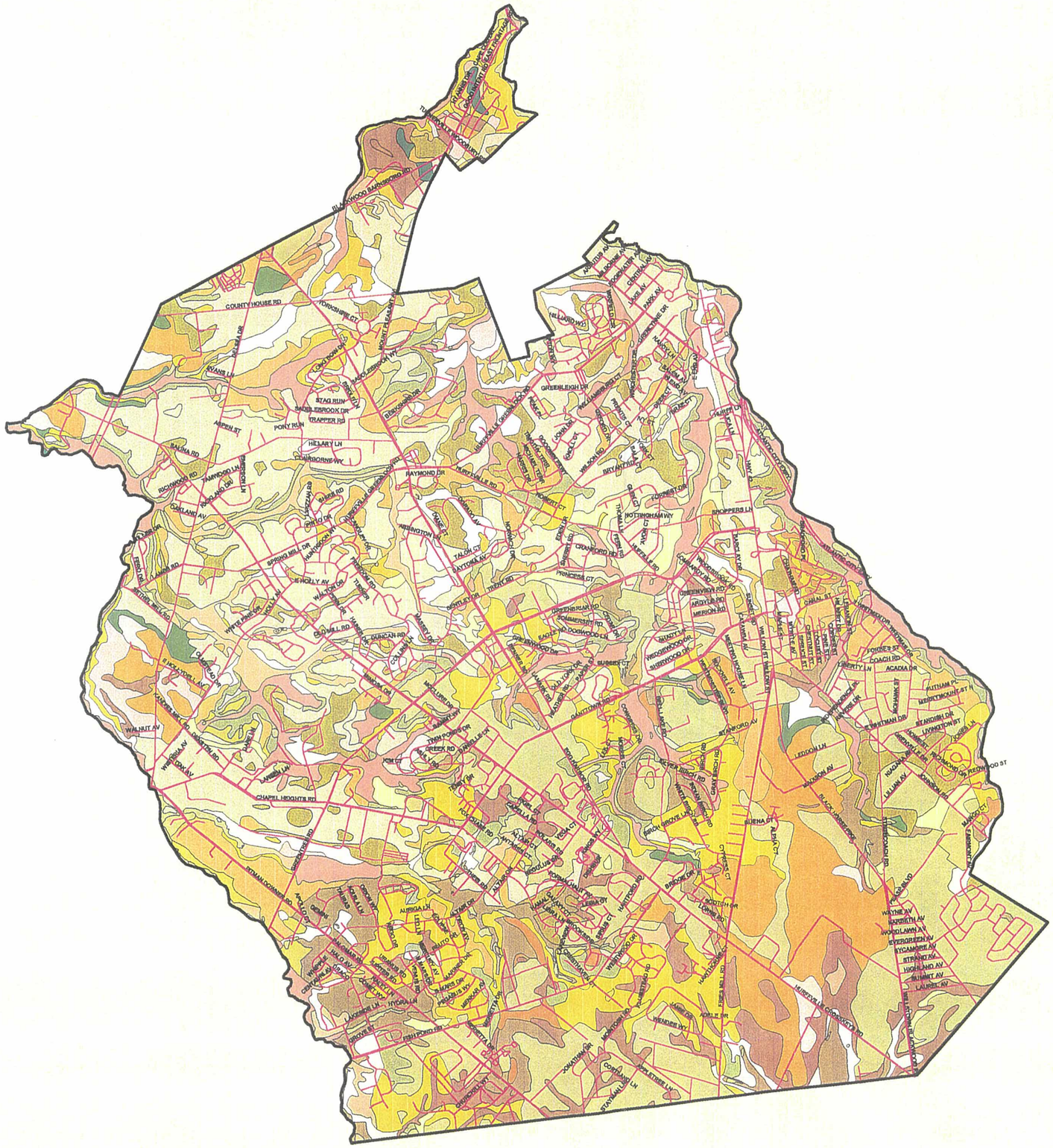
Exhibit B

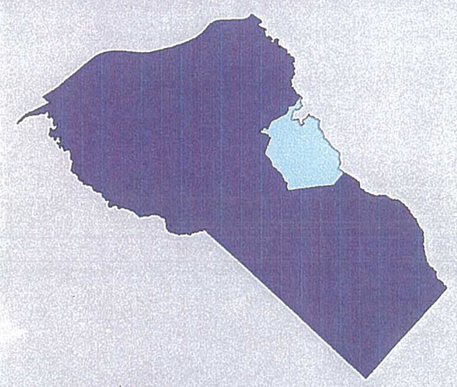
Soils Classifications

Municipal Boundary
Streets

Washington Soils

- Ad
- AmB
- ArB
- AsB
- AsC
- AuB
- AuC
- AuC3
- CmB
- CnA
- CnB
- CnC
- DoB
- DsA
- DsB
- Ek
- Fa
- Fd
- FhB
- FhC
- FnB
- FoA
- FoB
- FoC
- FoD3
- FsD
- FtE
- FtF
- Fw
- KrB
- LdB
- LeB
- Lo
- MrB
- MrD3
- MrE
- MrF
- Mu
- NbB
- Pa
- Pg
- Po
- Ps
- Sa
- SfB
- SfC
- SrA
- SrB
- SrC
- SrD3
- SsD
- SsE
- W
- WaD3
- WhB
- WhC
- WhD
- WhE
- WoB
- WsB
- WtB





Washington Township
Gloucester County
New Jersey

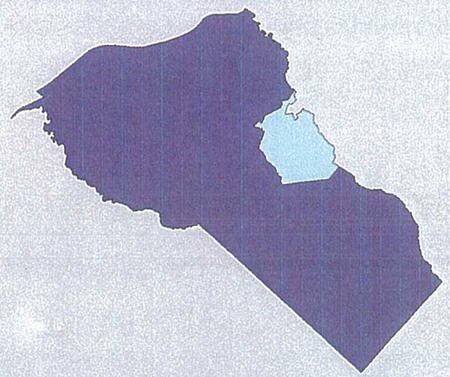
1 inch = 3,600 feet

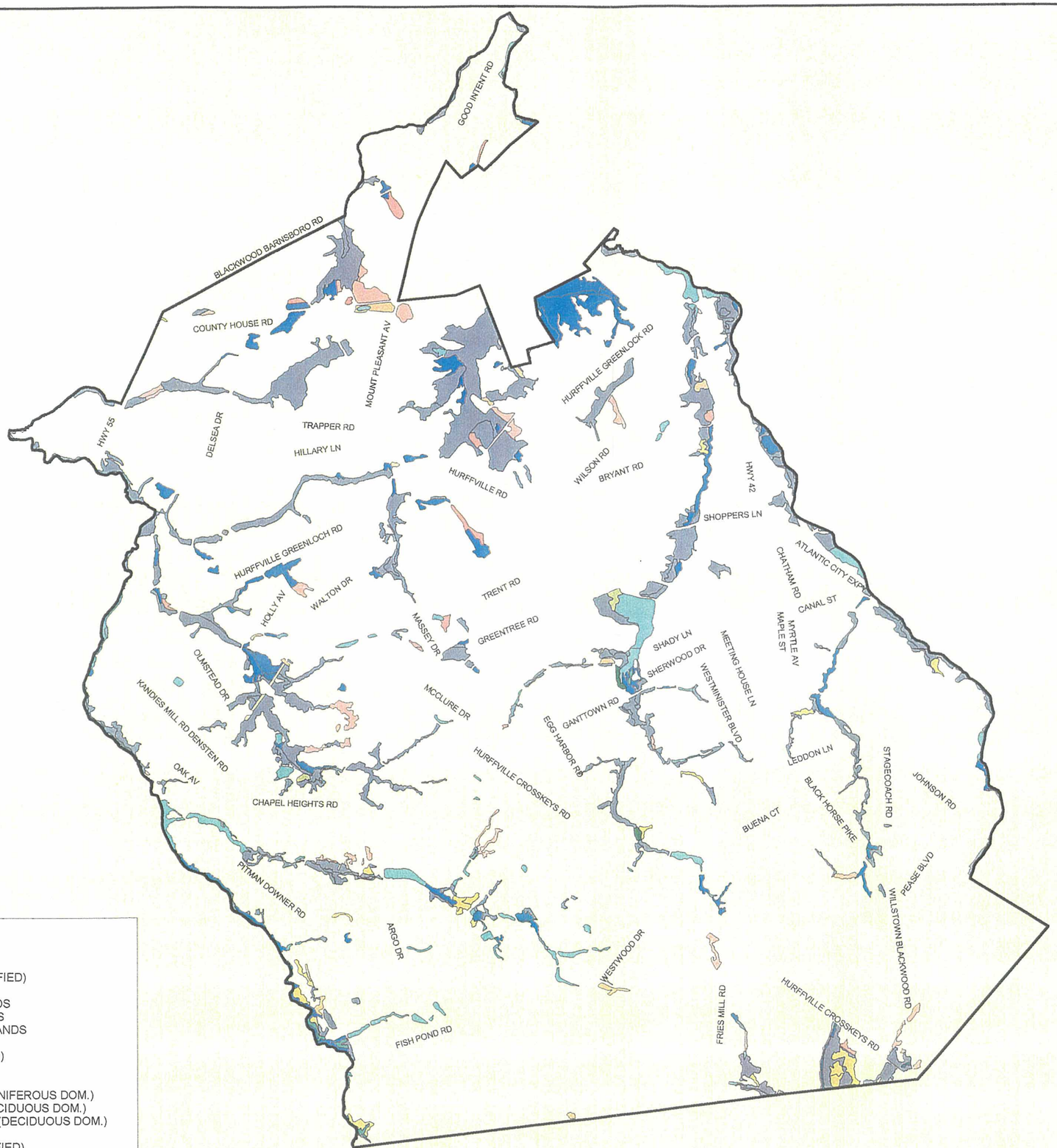
Peter P. Karabashian & Associates, Inc.
27 Gordon's Alley
Atlantic City, New Jersey 08401

Source: NJDEP

Exhibit C

Wetlands Identification Map





Municipal Boundary
Roads

Wetlands Classifications

- AGRICULTURAL WETLANDS (MODIFIED)
- ARTIFICIAL LAKES
- ATLANTIC WHITE CEDAR WETLANDS
- CONIFEROUS WOODED WETLANDS
- DECIDUOUS SCRUB/SHRUB WETLANDS
- DECIDUOUS WOODED WETLANDS
- DISTURBED WETLANDS (MODIFIED)
- HERBACEOUS WETLANDS
- MANAGED WETLANDS (MODIFIED)
- MIXED FORESTED WETLANDS (CONIFEROUS DOM.)
- MIXED FORESTED WETLANDS (DECIDUOUS DOM.)
- MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)
- NATURAL LAKES
- WETLAND RIGHTS-OF-WAY (MODIFIED)

Washington Township
Gloucester County
New Jersey

1 inch = 3,600 feet

Peter P. Karabashian & Associates, Inc.
27 Gordon's Alley
Atlantic City, New Jersey 08401

Source: NJDEP

APPENDIX **A**

Washington Township

Ordinance 3-2001

Establishing the

Open Space Trust Fund

ORDINANCE NUMBER 3-2001

WASHINGTON TOWNSHIP
GLOUCESTER COUNTY

ESTABLISHING THE OPEN SPACE TRUST FUND FOR THE TOWNSHIP OF WASHINGTON

BE IT ORDAINED by the Mayor and the Council of the Township of Washington that the following Ordinance establishing the Open Space Trust fund is hereby adopted:

Section I:

Establishment

There is hereby established an account which shall be known and designated as the "Open Space Dedicated Trust Fund" which shall be maintained in accordance with N.J.S.A. 40A:4-1 et seq. and N.J.S.A. 40A:5-1 et seq.

Funding: Utilization of Funds

A. The Open Space Trust Fund shall be funded through the dedication to the fund of an amount of two cents ($0.02) per one hundred dollars ($100.00) of assessed valuation of each annual tax levy commencing with the year 2001. The fund shall also be permitted to accept donations and testamentary bequests.

B. The funds accumulated within the trust fund may be utilized for conservation purposes and for the acquisition of land or development rights in land for active and passive recreation including appraisals and other items of expense permitted by law in connection with the acquisition and maintenance of the property or as down payment for the issuance of bonds for the same purpose or as payment for the debt service on said bonds at the discretion of the Township Council. The Township Council is to determine the properties or development rights to be acquired by gift, purchase or eminent domain proceedings pursuant to N.J.S.A. 20:3-1 et seq. within the financial constraints it establishes.

Sale of Acquired Property

No property acquired with these funds from the Open Space Trust Fund shall be leased or sold until the sale of lease of the same has been authorized by the Township Council subsequent to approval by referendum or as in the manner prescribed by law.

Section II:

This Ordinance shall take effect thirty (30) days after final passage by Council or twenty days after approval by the Mayor, whichever comes first.

Introduced: February 1, 2001

	RAPPOSELLI	BRUCE	FREDERICO	MAIER	LYONS
YES	✓	✓	✓	✓	✓
ABSTAIN					
NO					

Public hearing held 2-15, 2001

	RAPPOSELLI	BRUCE	FREDERICO	MAIER	LYONS
YES	✓		✓	✓	✓
ABSTAIN					
NO					

TOWNSHIP OF WASHINGTON

BY: _____
MATTHEW P. LYONS
Council President

ATTEST:

L. Pat Lamonica
L. PAT LAMONICA, Township Clerk

On this 15 day of Feb, 2001, I hereby approve the above ordinance.

Randee Davidson
Randee Davidson, Mayor

APPENDIX **B**

Washington Township

Ordinance 6-2001

Establishing the

Open Space Committee

ORDINANCE NUMBER 6-2001

WASHINGTON TOWNSHIP
GLOUCESTER COUNTY

AN ORDINANCE ESTABLISHING AN OPEN SPACE ADVISORY COMMITTEE FOR WASHINGTON TOWNSHIP, COUNTY OF GLOUCESTER, STATE OF NEW JERSEY

BE IT ORDAINED by the Mayor and Township Council of the Township of Washington, County of Gloucester, State of New Jersey that the following Ordinance establishing the Open Space Advisory Committee is hereby established.

The Open Space Advisory Committee will be made up of nine (9) members, eight of which will be residents of Washington Township and one (1) member from an acceptable Land Trust Organization.

The members will be selected in the following manner:

- one (1) member from the Washington Township Environmental Commission would be selected by the members of the Washington Township Environmental Commission;
- one (1) member from the Washington Township Sports Advisory Committee, this member would be selected by the members of the Washington Township Sports Advisory Committee;
- the Mayor will select two (2) members; and
- Council will select four (4) members; and
- one (1) member from a non-profit (501(c)) land trust organization with representation or involvement in Washington Township, Gloucester County. Selection of the person will be by the Mayor from submitted personal resumes and organizational resumes and recommendations by the Environmental Commission.

Conditions of appointments:

- the terms of each member shall be three (3) years. Terms of the members shall be staggered such that three (3) members terms would expire each year.
- appointments by the Mayor shall be staggered such that appointed member's term shall not expire on the same year. For the first year, the Mayor shall appoint one (1) member for three (3) years and one (1) member for a partial term of two (2) years. All terms to be renewed thereafter shall be for the full three (3) three year appointment.
- The Mayor may appoint herself as one (1) of the member appointments and shall conform to the conditions of the terms of appointment.
- appointments by Council members shall be staggered such that for the first year, one (1) member shall be appointed to a full three (3) year term, one (1) member shall be appointed to a partial term of two (2) years and two (2) members shall be appointed to a partial term of one year.
- appointment by the Washington Township Environmental Commission shall be for the first year, one (1) member shall be appointed for a partial term of two (2) years. All terms to renewed thereafter shall be for full three (3) year term.

- appointment by the Washington Township Sports Advisory Committee shall be for the first year, one (1) member shall be appointed for a partial term of one (1) year. All terms to be renewed thereafter shall be for the full three (3) year appointment.
- the member representing a land trust member will be appointed for a full three (3) year term.
- Associate members will be selected by the OSAC. There are no limits on the number of Associated members. The term of the Associated Member is three (3) years beginning with January 1 of the year approved. Associated members may participate in all the activities of the Committee, but will not have approving of voting privileges.

The OSAC would annually elect new officers (Chairman, Vice Chairman, Treasurer and Secretary) from its appointed members (associated members can not hold office positions) at its annual reorganization meeting held at the first meeting of each year.

This Ordinance shall take effect thirty (30) days after final passage by Council or twenty days after approval by the Mayor, whichever comes first.

Introduced: March 15, 2001

	RAPPOSELLI	BRUCE	FREDERICO	MAIER	LYONS
YES	✓	✓	✓		✓
ABSTAIN					
NO					

Public hearing held _____, 2001

	RAPPOSELLI	BRUCE	FREDERICO	MAIER	LYONS
YES	✓	✓	✓	✓	✓
ABSTAIN					
NO					

TOWNSHIP OF WASHINGTON
BY: _____
MATTHEW P. LYONS
Council President

ATTEST:
L. Pat Lamonica
L. PAT LAMONICA, Township Clerk

On this 9th day of April, 2001, I hereby approve the above ordinance.

Randee Davidson
Randee Davidson, Mayor

APPENDIX C

Washington Township

Conservation

Land Plan

JAMES C. ANDERSON ASSOCIATES, INC.

Conservation Land Plan
for
Washington Township
Gloucester County, New Jersey

Presented To:

Washington Township
Environmental Commission
Washington Township Municipal Building
PO Box 1106
Turnersville, NJ 08012

January, 1992

JAMES C. ANDERSON ASSOCIATES, INC.

3 University Plaza
Hackensack, NJ 07061
(201)343-2266

907 Pleasant Valley Avenue
Mount Laurel, NJ 08054
(609) 722-6700

375 W. North Street
Dover, DE 19901
(302) 678-5737

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- 2.2 Flood Hazard Areas
- 2.3 Endangered Species Habitat

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- 3.1 Landfills and Hazardous Waste Sites
- 3.2 Registered Underground Storage Tanks

4.0 Potential Conservation Greenways

- 4.1 Passive Greenways
- 4.2 Active Greenways

5.0 Establishing and Protecting Greenways

1.0 Introduction

At the request of the Environmental Commission of Washington Township, Gloucester County, New Jersey, James C. Anderson Associates (JCA) has prepared a Conservation Land Plan for Washington Township. This report, in addition to a series of three maps, has been developed in order to assist the Environmental Commission in their effort to promote the conservation of the Township's natural resources and provide environmental education to the public.

The maps accompanying this report include; Environmentally Sensitive Areas, Areas of Environmental Concern, and a Map of Proposed Conservation Greenways. These were developed utilizing a U.S. Geologic Quadrangle base map, which was included as part of an Environmental Resource Inventory previously prepared for the Washington Township Environmental Commission. Information used in preparing the maps was obtained from various sources including the New Jersey Department of Environmental Protection and Energy (NJDEPE), the Federal Emergency Management Agency, the U.S. Fish and Wildlife Service, U.S. Geological Survey and field survey.

2.0 Environmentally Sensitive Areas

2.1 Wetlands

The map of Environmentally Sensitive areas highlights areas of priority for conservation. These areas include wetlands, floodplains, and habitat suitable for, or known to be utilized by, threatened and endangered species of plants and/or animals.

Wetland areas within Washington Township were identified mainly by utilizing the National Wetland Inventory (NWI), Maps. These maps were developed by the U.S. Department of the Interior, Fish and Wildlife Service primarily by analyses of aerial photographs based on vegetation, visible hydrology and geography. Additional wetland area was highlighted based on previous field survey performed by JCA and on review of the U.S.D.A. Soil Survey of Gloucester County for hydric (wetland) soil types.

The wetland areas indicated on the Environmentally Sensitive Areas Map include both Palustrine and Lacustrine Systems. Lacustrine systems are generally open water areas greater that 20 acres and lacking associated vegetation. Bells Lake is the only area within Washington Township identified as Lacustrine Limnetic Open Water (LIOW). All other wetland areas within Washington Township are classified as Palustrine wetlands. These wetlands are associated with a particular type of vegetative community. The many small lakes within the Township, such as Washington Lake, Kandle

Lake, Spring Lake, Ward Lake and Grenlock Lake are all under 20 acres, closely associated with a vegetated wetland system and are, therefore, classified as Palustrine Open Water (POW).

The majority of undeveloped wetlands remaining in Washington Township are associated with lakes, streams or creeks . Streams and creeks include the Mantua Creek and the South Branch of Big Timber Creek in addition to several smaller tributaries: Bull Run, Duffield Run, Porch Branch, Bethel Run, and Bees Branch. These wetlands are identified on the National Wetland Inventory Map as Paulistrine Deciduous Hardwoods (PF01), Palustrine Scrub/Shrub Wetlands (PSS1), Palustrine Needleleaved Evergreen (PF04), or a mixture of these wetland types. Wetland areas not associated with streams or lakes generally occur in areas of low relief where surface run-off concentrates and seasonal water tables are near or at the surface for a period of time every year. There are several such areas identified on the NWI maps for Washington Township. It is likely that many more such areas exist which are not included on the NWI maps since only areas of five (5) acres or greater are included in the mapping. These areas can be identified only through extensive field survey.

During preparation of this report and accompanying maps, JCA compared 1990 aerial photography of the Township to the NWI maps which were prepared utilizing photography from 1975. Several areas identified as wetlands in 1975 are now developed and, therefore, no longer functioning as natural wetland systems.

2.2 Flood Hazard Areas

The flood hazard areas delineated on the Sensitive Areas Maps were obtained from Flood Insurance Rate Maps (FIRM) for the Township of Washington issued by the Federal Emergency Management Agency. The areas highlighted as flood zones correspond to the areas of the 100 year flood designated as Zones A1-A30 and Zone A on the FIRM. Within Washington Township 100 year flood zones occur along major streams and their tributaries. Flood zones are mapped along Mantua Creek and Big Timber Creek and along portions of Bethel Run, Porch Branch, and Duffield Run.

In many cases flood zones consists of wetland habitat, thereby increasing the value of these areas for flood storage, wildlife habitat, and groundwater recharge. Any development within such areas greatly decreases their ability to perform these functions.

2.3 Endangered Species Habitat

Information on potential habitat of threatened and

endangered species within Washington Township was obtained from the State of New Jersey, Department of Environmental Protection and Energy, Division of Parks and Forestry, Office of Natural Lands Management. The Office of Natural Lands Management Natural Heritage Program, maintains a data base which contains listings of rare species and habitat locations and sightings throughout the state.

The Natural Heritage Program periodically updates and reviews its data in order to identify priority sites for natural diversity in the State. Priority sites are some of the State's best habitats for rare and endangered species and natural communities. One such priority site is located within Washington Township in the area of Grenloch Lake and is indicated on the map. This area provides habitat for the Chickasaw Plum (Prunus angustifolia) which is listed on the State list of endangered species and is ranked as S1, which signifies that it's extremely rare within the State due to the specialized habitat conditions it requires.

The Chickasaw Plum is found in greater numbers throughout the southern U.S. It is a shrub or small tree reaching a maximum height of twenty feet and producing white flowers in the spring and red or yellow fruits in late summer. Several other endangered species in addition to the Chickasaw Plum have been positively identified within Washington Township. These species have the potential to occur where suitable habitat is present. These include one amphibian, the Bog Turtle (Clemmys muhlenbergii), and three species of plants; Swamp-Pink (Helonias bullata), Virginia Bunchflower (Melanthium virginicum), and the Two-Flowered Bladderwort (Utricularia biflora).

The Environmentally Sensitive Areas Map denotes two areas of threatened and endangered species habitat. The areas indicate a general area in which occurrences of rare species have been documented. The exact location of sightings are not indicated.

As a result of previous field work performed by JCA, an occurrence of Swamp-Pink was observed along Mantua Creek near Ward Lake. This location was confirmed by NJDEPE during October 1991 and is noted on the Sensitive Areas Map. Swamp-Pink is in the Orchid Family and is found in marshy areas. It is on the Federal Threatened Species List and has a status of "endangered" within the State of New Jersey. A listing of threatened and endangered species for Gloucester County is included as Appendix A. The possibility for these species to occur in Washington Township is dependent on the presence of suitable habitat.

3.0 Areas of Environmental Concern

The Areas of Environmental Concern Map highlights areas within the Township which could potentially pose a threat to environmental quality by contributing to contamination of air, soils, and/or water resources. The types of areas researched for the preparation of this map include landfills, hazardous waste sites and underground storage tanks. The major threat posed by these sites is to groundwater quality.

Preservation of groundwater quality should be of high priority for Washington Township. Approximately 20-30 percent of Washington Township residents rely on private wells for water supply. The municipal water supply is also drawn from wells within the boundary of Washington Township.

3.1 Landfills and Hazardous Waste Sites

In order to identify and locate landfills and hazardous waste sites within Washington Township, JCA utilized the Environmental Information Inventory compiled by the NJDEPE, Division of Solid Waste Management (DSWM) in 1985. The Environmental Information Inventory is a reference guide which lists and maps locations of all registered solid waste landfills and hazardous waste sites where clean up is being pursued under either the New Jersey Spill Compensation and Control Act or Federal Superfund Legislation.

The Inventory identifies only one such site within Washington Township. This is the Washington Township Sanitary Landfill on Grenloch Road. The facility is no longer in operation and the area is currently utilized as ball fields. The NJDEPE, DSWM was contacted directly concerning the possibility of additional sites within the Township; however, no changes in the list have been made. There are several such sites located just beyond the boundaries of Washington Township which could have the potential to impact the environment within the Township. These include Kinsley Landfill located in Deptford Township, Gloucester County, and Matteo Solid Waste Disposal Area and Lakeland Solid Waste Disposal Area, both located in Gloucester Township, Camden County.

3.2 Registered Underground Storage Tanks

The Areas of Environmental Concern Map includes all underground storage tanks within Washington Township which were registered with the NJDEPE, Bureau of Underground Storage Tanks as of October, 1991. The majority of underground storage tanks are associated with automobile gasoline and service centers. Most of these facilities are located along Route 42 in the eastern part of the Township and a large number are along Delsea Drive in the western portion of the Township. These types of facilities could

pose a serious threat to soils, groundwater, and/or surfa water resources should a tank begin to leak or an accide spill occur during filling. It should be noted that the.. may be many more tanks in-place in Washington Township than are registered.

4.0 Potential Conservation Greenways

The establishment of a system of interconnected greenway corridors throughout Washington Township will ensure the preservation of valuable open space for both recreation and wildlife habitat. Two types of greenways can be created toward meeting the goals of providing for recreation, (active greenways) and passive greenways to be maintained in a natural state for wildlife habitat and preservation of native vegetation. The Environmentally Sensitive Areas Plan identified areas of wetlands, flood plains, and endangered species habitat. A large amount of open space remaining within Washington Township encompasses one or more of these types of areas. Most of these areas are associated with Mantua Creek, the South Branch of Big Timber Creek, and other small tributaries to these waterways.

The Greenway Corridors Plan highlights potential conservation greenways throughout the Township. Most of these greenways run along streams and encompass the majority of wetlands area in the Township. In order to provide an interconnected system of greenways, it will be necessary to obtain several easements. Most of the easements proposed on the plan are through farmland. Farmland encompasses the majority of open space remaining in Washington Township.

4.1 Passive Greenways

Two areas within Washington Township have been positively identified as habitat of New Jersey State endangered species. The Chickasaw Plum tree has been identified by the NJDEPE within the area adjacent to Grenloch Lake. This area has been identified as a priority site for conservation. Areas occupied by this tree must be conserved in their natural state to insure habitat protection.

Swamp-Pink, an orchid which is on both NJ State and the Federal Endangered Species List, has recently been confirmed within an area along the Mantua Creek in the south west portion of the Township. The potential for Swamp Pink to occur along the creek in this area is high since the habitat is appropriate. It is recommended that this area also be preserved for habitat protection.

Areas immediately adjacent to streams and those which contain wetlands should also be preserved in a natural state in order to maintain the natural function of wetlands and safeguard surface water quantity. Wetlands are important as

areas for flood storage wildlife habitat, and protection of both surface and ground water quality.

4.2 Active Greenways

Areas to be utilized as active greenways can be established within the highly developed eastern half of the Township. Hiking trails and picnic areas could be created in the upland area along the stream which runs from Grenloch Lake to Bells Lake and south to Irvin Lake. A similar system could be developed along Little Lebanon Brook from Big Timber Creek south to Baum Pond. From Bells Lake paths could connect this area to the Township High School, Municipal Complex and then continue west to Washington Lake and then north to Bethel Mill Park.

If greenways easements can be obtained as shown on the Greenway Corridors Plan, a system interconnecting areas in the northwest portion of the Township could be established.

5.0 Establishing and Preserving Greenways

The Township needs to adopt a plan for establishing greenways and to ensure their protection and preservation once established. It will be necessary to use several methods for obtaining land and easements for incorporation into greenways.

The easiest method to achieve this is to require developers to set aside such areas within new developments as open space for recreation and preservation. A large portion of the Township has already succumbed to development and, therefore, other measures must be used in these areas. Since wetlands and wetland buffer areas are protected by State and Federal Legislation, their value for development purposes is limited.

Other methods of acquiring land include: landowners leave lands to the Township through landgrants or wills, Greenacres Funds, and agreements with developers.

APPENDIX A

Threatened and Endangered Species of Gloucester County, New Jersey

State of New Jersey
Department of Environmental Protection and Energy
Division of Parks and Forestry
Office of Natural Lands Management
CN 404 Trenton New Jersey 08625-0404
(609) 984-1339
FAX (609) 984-1427

Scott A. Weiner
Commissioner

November 25, 1991

Carol Fonorow
James C. Anderson Associates, Inc.
907 Pleasant Valley Avenue
Mount Laurel, NJ 08054

Re: Land Conservation Plan

Dear Ms. Fonorow:

Thank you for your data request regarding rare species information for a Land Conservation Plan for Washington Township, Gloucester County.

Enclosed is a list of rare species documented from Washington Township. Additionally, enclosed is a list of rare vertebrates of Gloucester County together with a description of their habitats. If suitable habitat is present at a project site, these species would have potential to be present. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend you contact the Division of Fish, Game and Wildlife Endangered and Nongame Species Program.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and natural communities. One of these sites is located within Washington Township. Please refer to the enclosed Priority Site Map of the Runnemede USGS quadrangle for the location and boundary of this site. Also attached is a list of the rare species documented within this priority site.

In order to red flag the general locations of documented occurrences of rare and endangered species and natural communities, in 1988 we prepared computer generated Natural Heritage Index Maps. Enclosed please find these maps for the Pitman East, Runnemede, and Woodbury USGS quadrangles. If individual projects are to be located in the shaded areas of these maps, the Natural Heritage Program can be contacted for additional information.

Printed on recycled paper

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

Thank you for consulting the Natural Heritage Program. The fee to cover the cost of processing this data request is $30.00. Payment should be made payable to Treasurer, State of New Jersey and mailed to Office of Natural Lands Management, DEPE Div. of Parks and Forestry, CN404, Trenton, NJ 08625-0404. To ensure that your payment is properly credited, please provide a copy of this letter with your remittance. Feel free to contact us again regarding any future data requests.

Sincerely,

Thomas F. Breden

Thomas F. Breden
Coordinator\Ecologist
Natural Heritage Program

cc: JoAnn Frier-Murza
Thomas Hampton

CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the data base. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEP Division of Coastal Resources, Bureau of Freshwater Wetlands, CN 402, Trenton, NJ 08625.

This cautions and restrictions notice must be included whenever information provided by the Natural Heritage Database is published.

25 NOV 1991

PRIORITY SITE IN WASHINGTON TOWNSHIP, GLOUCESTER COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** LAKE GRENLOCH (SITE 1 ON RUNNEMEDE QUADRANGLE)								
PRUNUS ANGUSTIFOLIA	CHICKASAW PLUM		E		G5	S1	1988-08-10	Y

1 Records Processed

WASHINGTON TOWNSHIP, GLOUCESTER COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
CLEMMYS MUHLENBERGII	BOG TURTLE	C2	E		G3	S2	1979-05-31	Y
*** Vascular plants								
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G2	S2	1991-03-28	Y
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G2	S2	1989-01-30	Y
MELANTHIUM VIRGINICUM	VIRGINIA BUNCHFLOWER		E		G5	S1	1934-??-??	Y
PRUNUS ANGUSTIFOLIA	CHICKASAW PLUM		E		G5	S1	1988-08-10	Y
UTRICULARIA BIFLORA	TWO-FLOWERED BLADDERWORT		E		G5	S1	1943-07-03	?

6 Records Processed



NATURAL HERITAGE

PRIORITY SITE MAPS

The Priority Site Maps identify boundaries of some of the most important sites in the State for endangered and threatened plants, animals and ecosystems. These maps do not contain all of the important areas in the State for endangered biological diversity. They only depict the boundaries of priority sites which have been delineated by the Office of Natural Lands Management to date. These areas should be considered to be top priorities for the preservation of biological diversity. If these areas are allowed to be degraded or destroyed, we may lose some of the most unique components of our natural heritage.

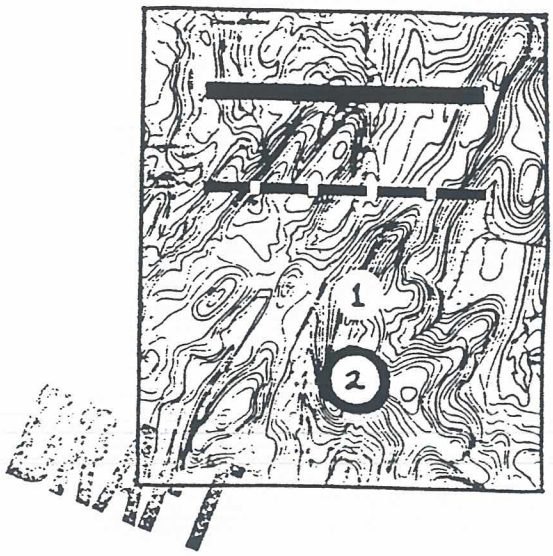
MAP KEY

STANDARD SITE BOUNDARY LINE
(sites smaller than 3,200 acres)

MACROSITE BOUNDARY LINE
(sites larger than 3,200 acres)

SITE LOCATOR DOT

LOCATOR DOT FOR SITES SMALLER THAN DOT



Natural Heritage

PRIORITY SITE MAP

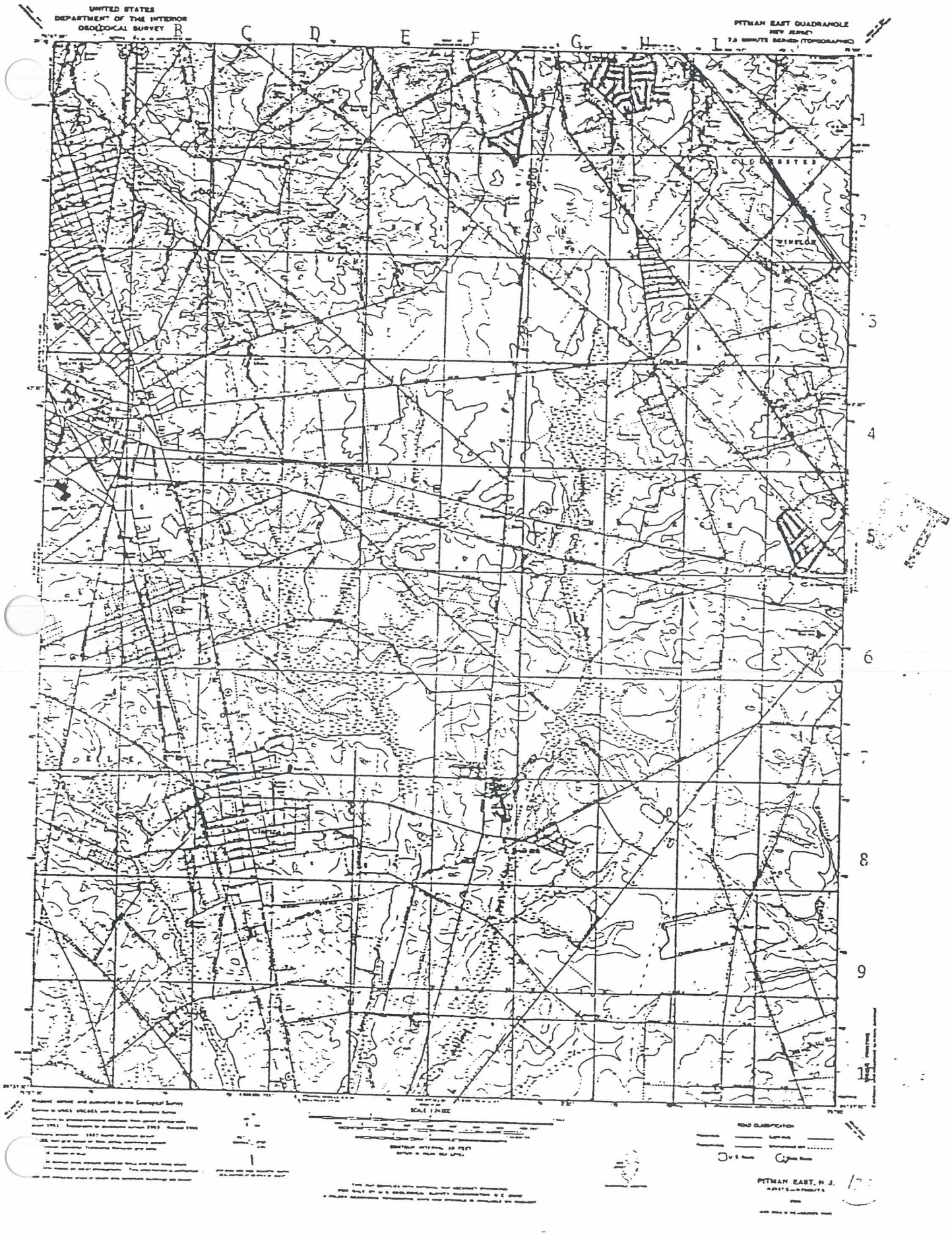
3907571



NATURAL HERITAGE INDEX MAPS

The Natural Heritage Database contains several thousand records of individual occurrences of endangered and threatened species and ecosystems. Many of these occurrences either have not been documented in recent years or have not had habitat boundaries delineated. Because much work remains to be done to delineate habitat boundaries and determine current status for these occurrences, Natural Heritage Index Maps were devised to red flag general areas in which the occurrences are located. The index maps are meant to be used as a tool to point to areas which may be of significance for endangered biological diversity. These maps do not depict all endangered species habitat in the State, but merely general areas which contain documented occurrences. Many additional areas may contain unidentified or poorly documented occurrences.

The maps have been produced using a computer generated grid which shades a grid cell approximately 330 acres in size if an endangered or threatened species or ecosystem has been documented anywhere within the cell. To use these maps, we suggest that you first find the location to be checked on the quad maps and then refer to the same grid location of the Natural Heritage Index Maps. The Natural Heritage Program can be contacted for additional information as specific projects are planned.

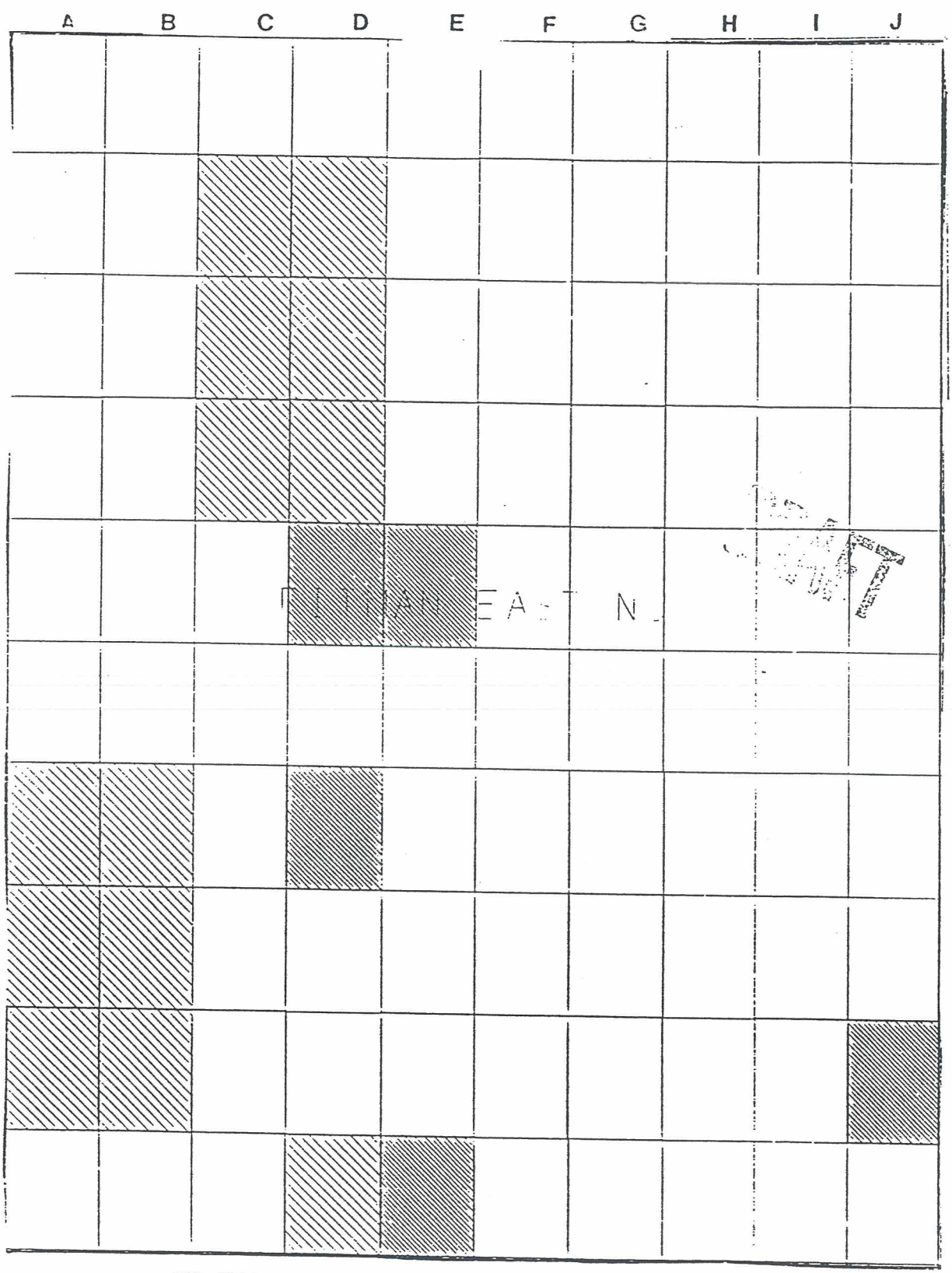

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
PITMAN EAST QUADRANGLE
NEW JERSEY
7.5 MINUTE SERIES (TOPOGRAPHIC)
B
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WINSLOW
PITMAN EAST, N. J.

NATURAL HERITAGE DATA

GENERALIZED LOCATIONS FOR RARE & ENDANGERED ELEMENTS OF NATURAL DIVERSITY

DOCUMENTED LOCATION KNOWN PRECISELY

DOCUMENTED LOCATION KNOWN WITHIN 1.5MI.



NOTE: THIS IS NOT A COMPLETE MAP OF RARE AND ENDANGERED SPECIES HABITAT FOR THIS AREA. IT REFLECTS DATA ON KNOWN OCCURRENCES COMPILED AS OF THE ABOVE DATE. IT INCLUDES BOTH HISTORICALLY AND RECENTLY DOCUMENTED OCCURRENCES. ADDITIONAL OCCURRENCES MAY BE FOUND ON UNSURVEYED HABITAT. FOR MORE INFORMATION, CONTACT THE OFFICE OF NATURAL LANDS MANAGEMENT, CN404, TRENTON NJ 08625.

MAY 1988

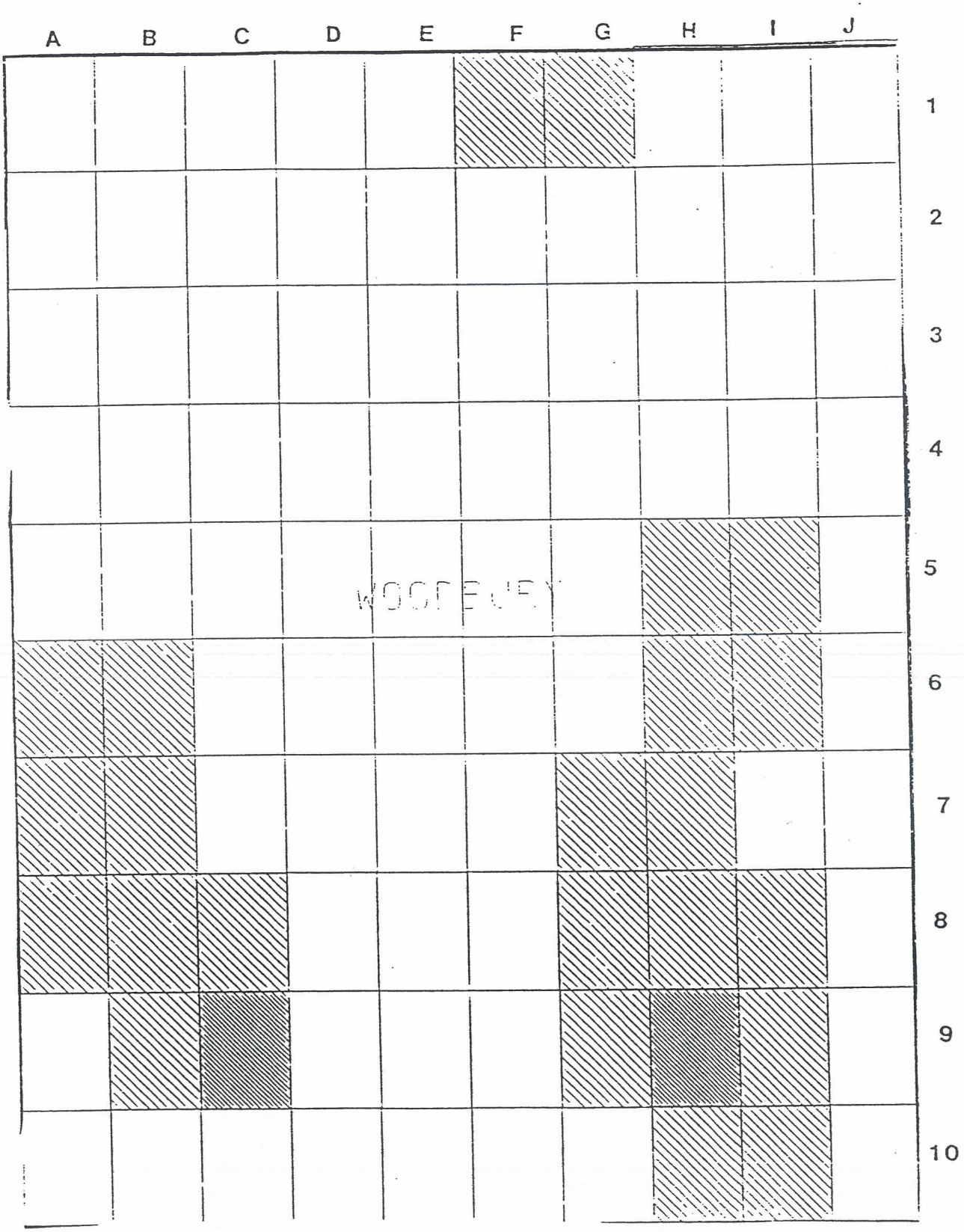
UPDATED SEMIANNUALLY

NATURAL HERITAGE DATA

GENERALIZED LOCATIONS FOR RARE & ENDANGERED ELEMENTS OF NATURAL DIVERSITY

DOCUMENTED LOCATION
KNOWN PRECISELY

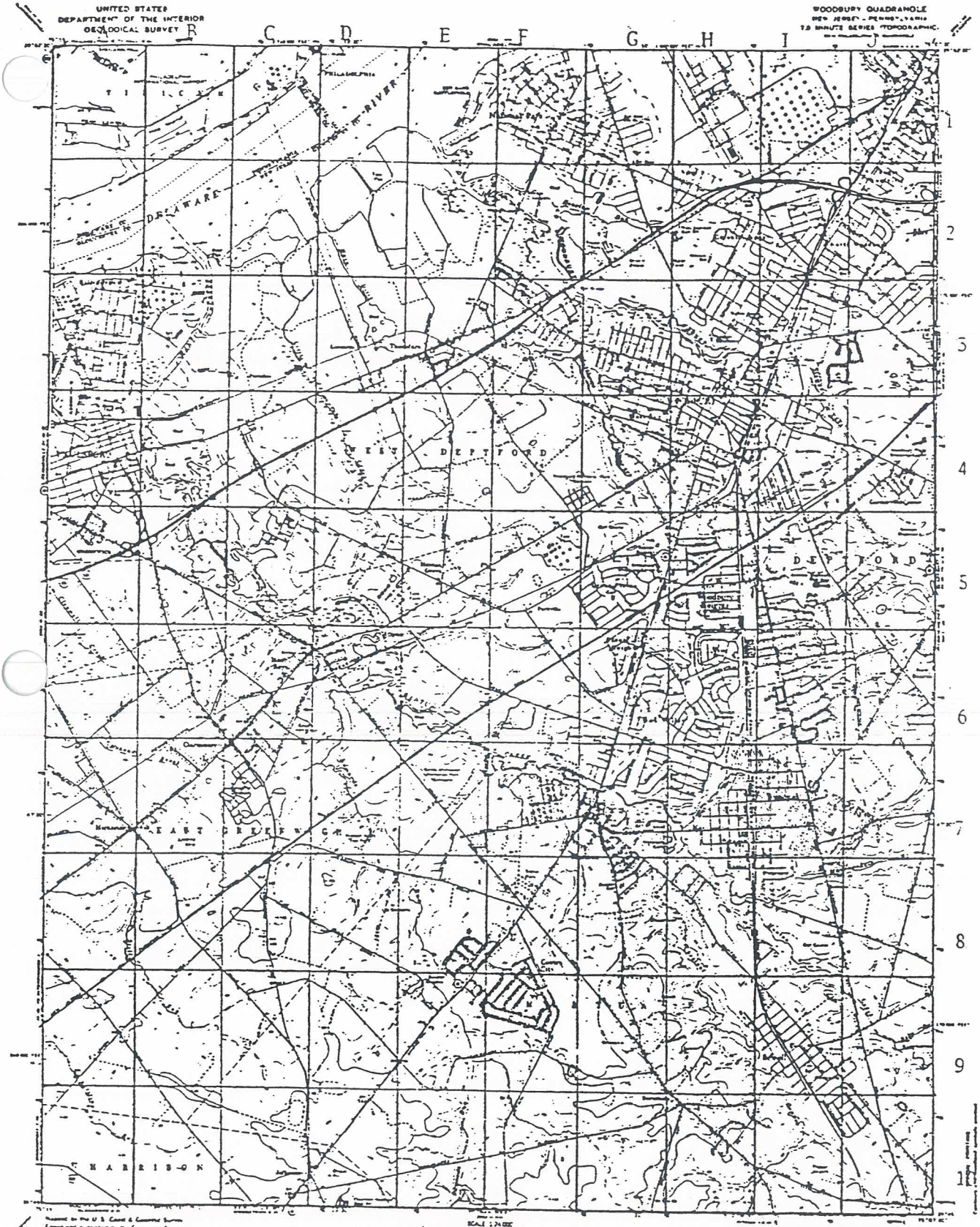
DOCUMENTED LOCATION
KNOWN WITHIN 1.5MI.

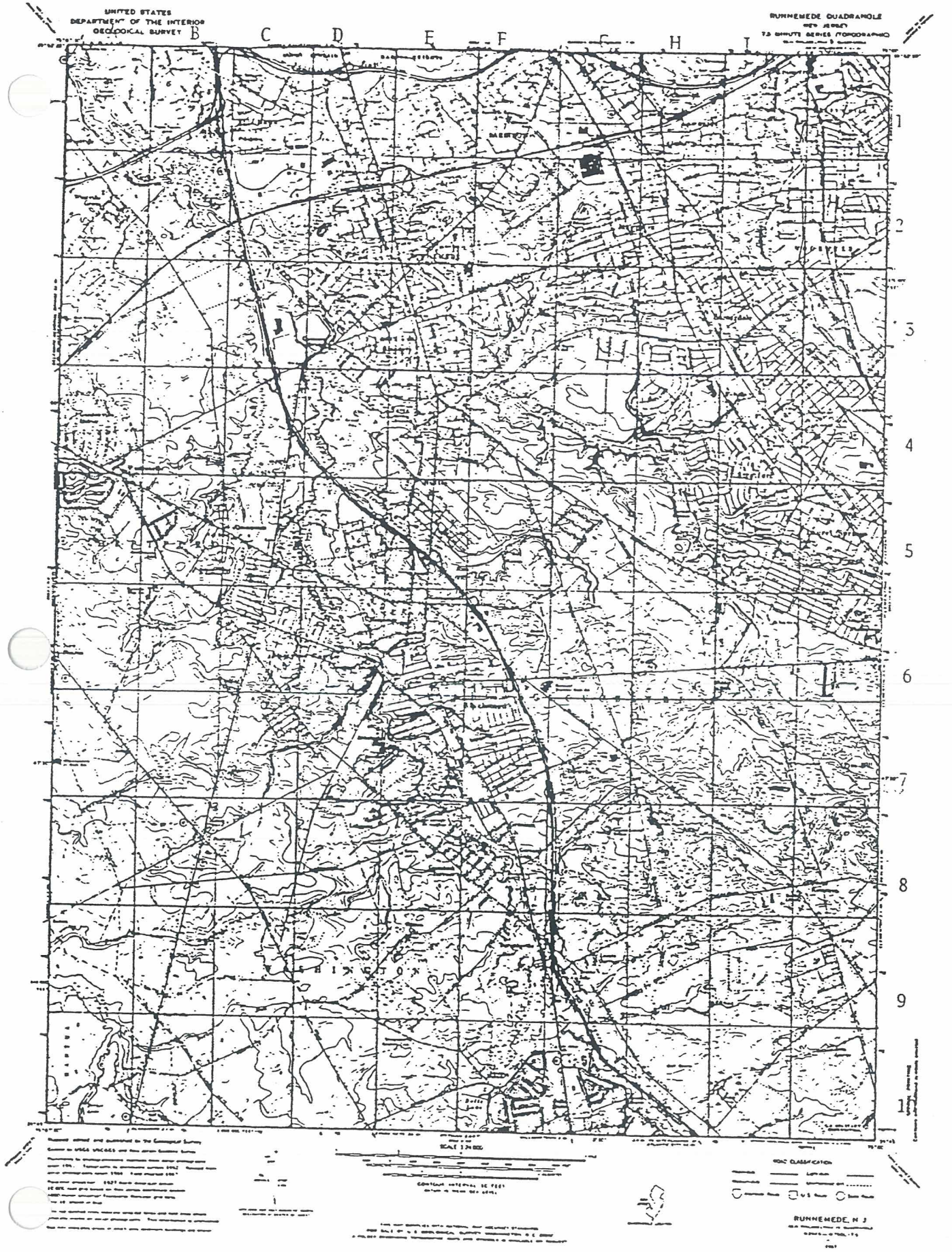


NOTE: THIS IS NOT A COMPLETE MAP OF RARE AND ENDANGERED SPECIES HABITAT FOR THIS AREA. IT REFLECTS DATA ON KNOWN OCCURRENCES COMPILED AS OF THE ABOVE DATE. IT INCLUDES BOTH HISTORICALLY AND RECENTLY DOCUMENTED OCCURRENCES. ADDITIONAL OCCURRENCES MAY BE FOUND ON UNSURVEYED HABITAT. FOR MORE INFORMATION, CONTACT THE OFFICE OF NATURAL LANDS MANAGEMENT, CN404, TRENTON NJ 08625.

MAY 1988

UPDATED SEMIANNUALLY


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WOODBURY QUADRANGLE
NEW JERSEY - PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
B
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D
E
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G
H
I
J
1
2
3
4
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10
DELAWARE RIVER
WEST DEPTFORD
DEPTFORD
EAST DEPTFORD
HARRISON
WOODBURY, N.J.-PA.

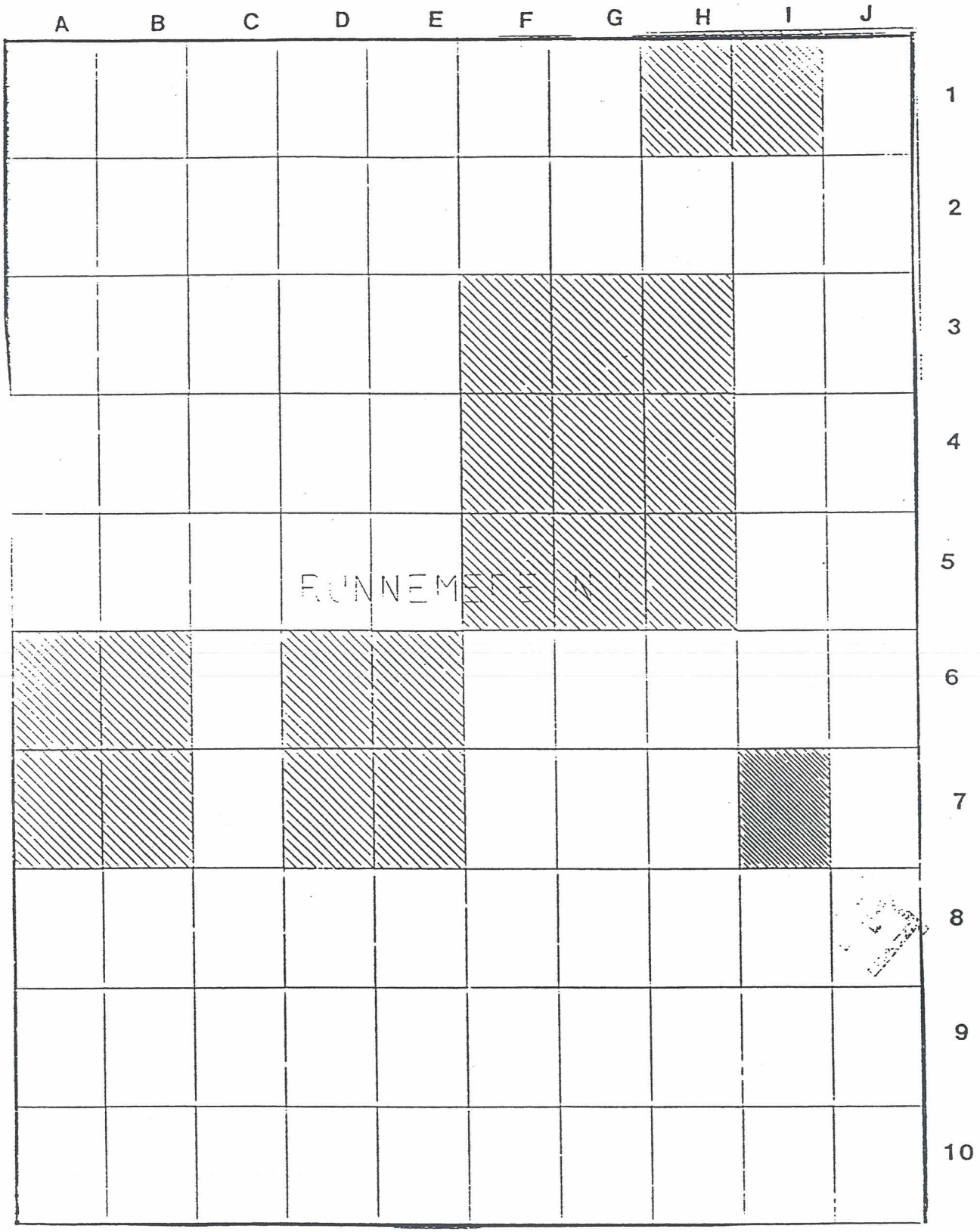

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
RUNNEMEDE QUADRANGLE
B C D E F G H I
1 2 3 4 5 6 7 8 9 10
RUNNEMEDE, N. J.

NATURAL HERITAGE DATA

GENERALIZED LOCATIONS FOR RARE & ENDANGERED ELEMENTS OF NATURAL DIVERSITY

DOCUMENTED LOCATION
KNOWN PRECISELY

DOCUMENTED LOCATION
KNOWN WITHIN 1.5MI.



NOTE: THIS IS NOT A COMPLETE MAP OF RARE AND ENDANGERED SPECIES HABITAT FOR THIS AREA. IT REFLECTS DATA ON KNOWN OCCURRENCES COMPILED AS OF THE ABOVE DATE. IT INCLUDES BOTH HISTORICALLY AND RECENTLY DOCUMENTED OCCURRENCES. ADDITIONAL OCCURRENCES MAY BE FOUND ON UNSURVEYED HABITAT. FOR MORE INFORMATION, CONTACT THE OFFICE OF NATURAL LANDS MANAGEMENT, CN404, TRENTON NJ 08625.

MAY 1988

UPDATED SEMIANNUALLY

APPENDIX B

Registered Underground Storage Tank Facilities Within Washington Township, Gloucester County

Registered Underground Storage Tank Facilities Within Washington Township, Gloucester County			
UST#	Facility Name/Owner	Facility Address/ Owner Address	No. of Tanks
0185493	B.P. Gas & Service B.P. Oil Company	Rt. 41 & Rt. 47 Deptford, NJ 08096 10475 Perry Hwy. S. Wexford, PA 15090	5
0049287	Joseph Fazzio, Inc. Joseph Fazzio	Pitman-Downer & Glass., Glassboro, NJ 08028 Box 554, RD 1 Glassboro, NJ 08028	2
0035561	Arnold Buick, Inc. Arnold Smerilson	RR 147, Box 15 Hurffville, NJ 08080 Same	1
0121943	Hillcrest Memorial Hillcrest Memorial	Delsea Drive Hurffville, NJ 08080 P.O. Box 233 Pitman, NJ 08071	1
0027245	Stratton Motors, Inc c/o G. S. Crowley	Rt. 47, Delsea Drive RR 1 Hurffville, NJ 08080 510 N. Broadway Pitman, NJ 08071	2
0112826	Gloucester Co. Mo. Granville Donavan	Delsea Drive Rt.47 Hurffville, NJ 08080 Gloucester Co. Mos. Woodbury, NJ 08096	2
0163262	Joel Magaziner Chev. Joel Magaziner	Delsea Dr. & Bethel Pitman, NJ 08071 P.O. Box 9 Pitman, NJ 08071	2
0887609	Townie's Service James T. Emond	Rt. 47 & E. Holly Ave. Pitman, NJ 08071 Same	5

Registered Underground Storage Tank Facilities Within Washington Township, Gloucester County			
0012395	Five Points Gas Ross Fogg	Routes 41 & 47 Sewell, NJ 08080 182 Hancocks Bridge Rd Salem, NJ 08079	5
0110422	Five Points Gas & Co. John J. Enright	Corner of Rts.41 & 47 Sewell, NJ 08080 RR 4, Box 292 Delsea Drive Sewell, NJ 08080	3
0036344	Five Points Gas & Co. Coastal Mart, Inc.	Rts. 41 & 47 Sewell, NJ 08080 Rt. 130 S. Westville, NJ 08080	3
0036362	The Oil Man Corp. John J. Enright	RR 4, Box 292 Delsea Drive Sewell, NJ 08080 Same	1
0110431	The Oil Man Corp. John J. Enright Sr.	RR 4, Box 292 Delsea Drive Sewell, NJ 08080 Same	6
0039666	Rental World, Inc. Louis M. Testa	181-A Black Horse Pike Sicklerville, NJ 08081 Same	1
0227793	St. Charles Borromea Diocese of Camden	113 Stage Coach Rd Sicklerville, NJ 08081 1845 Haddon Ave. P.O. 709 Camden, NJ 08101-0709	1
0011990	Amoco Service Station Amoco Oil Co.	Rt. 42 & Ganttown Rd. Turnersville, NJ 08012 150 So. Warner Rd. King of Prussia, PA 19406	4

Registered Underground Storage Tank Facilities Within Washington Township, Gloucester County			
0063696	Cumberland Gulf #126 Cumberland Farms Inc.	Rt. 3, Box 327C Black Horse Pike Turnersville, NJ 08260 777 Dedham Street Canton, MA 02021	7
0083405	Exxon Store 3-2159 Exxon Co. USA	1101 Black Horse Pike Turnersville, NJ 08102 4550 Dacoma, 3rd Floor Houston, TX 77092	3
0272298	First Baptist Church First Baptist Church	Stage Coach Rd. Turnersville, NJ 08012 P.O. Box 610 Turnersville, NJ 08012	2
0206200	Jiffy Lube Lambs Land, Inc.	792 Black Horse Pike Turnersville, NJ 08012 Same	3
0190974	Maple Shade Mazda Robert Dimmerman	150 Black Horse Pike Turnersville, NJ 08081 Same	
0204879	Marie Marsh Marie Marsh	722 Black Horse Pike Turnersville, NJ 08012 Same	2
0229593	Mobil Oil Corp. Mobil Oil Corp.	Black Horse Pike & Fries Mill Road Turnersville, NJ 08012 3225 Gallows Road Fairfax, VA 22037	3
0075107	NJ Bell Telephone John Koeble	Jarvis Road Turnersville, NJ 08012 650 Park Avenue East Orange, NJ 07017	1
0076412	Shell Service Station Shell Oil Co.	Black Horse Pike Turnersville, NJ 08012 2 Penn's Way New Castle, DE 19720	4

Registered Underground Storage Tank Facilities Within Washington Township, Gloucester County			
0074469	Star Enterprise Star Enterprise	Black Horse Pike & Greentree Road Turnersville, NJ 08012 303 Fellowship Road Moorestown, NJ 08057	12
0256881 0138737	State Line Isuzu State Line Isuzu	1821 Black Horse Pike Turnersville, NJ 08012 Same	3 2
0164658	Sunoco #0010-0602 Sun Refining & Marketing	Black Horse Pike Turnersville, NJ 08012 1810 Market Street Philadelphia, PA 19103	4
0154037 0148971	The Pep Boys The Pep Boys	Black Horse Pike & Ganttown Road Turnersville, NJ 08016 311 W. Allegheny Ave. Philadelphia, PA 19132	2 2
0020909 0150392	Twp. of Washington Twp. of Washington	P.O. Box 1106 McClure Drive Turnersville, NJ 08012 Same	7
0007355	Turnersville Mobil Puritan Oil Co.	Black Horse Pike Turnersville, NJ 08012 1 S. Black Horse Pike Bellmawr, NJ 08031	5
0181019	Car Host William Mattera	2050 Black Horse Pike Turnersville, NJ 08012 105 Chadds Ford Ct. Sewell, NJ 08012	4
0088978	Irval Realty, Inc. Irval Realty, Inc.	Rt. 16 Turnersville, NJ 08012 P.O. Box 215 Blackwood, NJ 08012	5

Registered Underground Storage Tank Facilities Within Washington Township, Gloucester County			
0111304	Martin Imports, Inc. Martin Lustgarden	Rt. 42 & 555 Turnersville, NJ 08012 Box 1104 Turnersville, NJ 08012	5
0187284	Health Care Center Kennedy Health Facility	Egg Harbor Road Turnersville, NJ 08012 RR 1, P.O. Box 110A Sewell, NJ 08080	1
0059682	Jade Petroleum Star Enterprise	Black Horse Pike Washington Twp., NJ 08012 303 Fellowship Road Moorestown, NJ 08057	5
0146810	Serpente's Exxon J. Serpente D. Babious	Delsea Drive Washington Twp., NJ 08080 1300 Rt. 73 South Mount Laurel, NJ 08054	2
0117407	Washington Twp. NJ Transit Bus Operations	Black Horse Pike Washington Twp., NJ 08060 180 Bayden Ave. Maplewood, NJ 07040	8

APPENDIX **D**

Washington Township

Open Space Committee

Ranking Checklist

WASHINGTON TOWNSHIP OPEN SPACE COMMITTEE

RANKING CHECKLIST



Parcel Owner _____

Parcel Street Address _____

Block _____ Lot _____ Size of Parcel _____ acres Date: _____

General Description (including current use): _____

_____

Environmental Factors:

a) Presence of Wetlands (check one only):
   1) Wetlands Present on property (2 points) ☐
   2) Buffer for wetlands only (1 point) ☐
   3) Wetlands/buffer not present on property (0 points) ☐

   subtotal: _____

b) Stream Corridor/Water Frontage (check one only):
   1) Exceptional water frontage (3 points) ☐
   2) Limited water frontage (2 points) ☐
   3) Adjacent to property with water frontage (1 point) ☐
   4) Water not present on property (0 points) ☐

   subtotal: _____

c) Presence of Woodlands (check one only):
   1) Mature hardwoods over 50% of parcel (3 points) ☐
   2) Mature hardwoods over 25% of parcel (2 points) ☐
   3) Less mature woods/conifers (1 point) ☐
   4) Immature woods/scrubs/tree line (1 point) ☐
   5) No wooded areas on or adjacent to parcel (0 points) ☐

   subtotal: _____

d) Contamination (negative points):
   1) Contamination present (-4 points) ☐
   2) Debris on site; Hazard unknown (-3 points) ☐
   3) Contamination present ; proposed remediation (-1 point) ☐
   4) No contamination (0 points) ☐

   subtotal: _____

e) Steep Slopes (check one only):
   1) Steep Slopes present on property (1 point) ☐
   2) No steep slopes present (0 points) ☐

   subtotal: _____

f) Unique Habitat/Endangered or Threatened Species
   1) Unique habitat/endangered or threatened species present (1 point) ☐
   2) Not present on property (0 Points) ☐

subtotal: _____

g) Wellhead protection areas (check only one):
   1) Parcel within wellhead protection zone (2 points) ☐
   2) Parcel not within wellhead protection zone (0 points) ☐

subtotal: _____

Rural Characteristics:

a) Proximity to Protected Open Space
   1) Adjacent to existing Open Space (2 points) ☐
   2) Near existing Open space (1 point) ☐
   3) Not near existing open space (0 points) ☐

subtotal: _____

b) Proximity to Farm land
   1) An active farm (4 points) ☐
   2) Adjacent to farm land (3 points) ☐
   3) Near farm land (2 points) ☐
   4) Not near farm land (0 points) ☐

subtotal: _____

c) Active Recreational Opportunity
   1) Identified as future recreational facility (4 points) ☐
   2) Potential Recreational need (2 points) ☐
   3) No significant contribution (0 points) ☐

subtotal: _____

d) Passive Recreation Opportunities
   1) Contains or links proposed trail & Greenway Plan (3 points) ☐
   2) Provides access to proposed trail (2 points) ☐
   3) Potential passive recreational opportunity (1 points) ☐
   4) Unlikely to contribute to passive recreation (0 points) ☐

subtotal: _____

e) Historical Property:
   1) Designated an historical site (2 points) ☐
   2) Not an historical site (0 points) ☐

subtotal: _____

Block _____ Lot ____

f) Size of Parcel(s)

1) Greater than 20 acres (5 points) ☐
2) Between 10 and 20 acres (3 points) ☐
3) Between 5 and 10 acres (1 point) ☐
4) Less than 5 acres (0 points) ☐

subtotal: _____

Development Pressure Factors:

a) Ownership:

1) Absentee, Estate, Foreclosure (2 points) ☐
2) Resident Owner (1 point) ☐
3) Other (0 points) ☐

subtotal: _____

b) Market Availability

1) For Sale (5 points) ☐
2) Under Market Investigation (4 points) ☐
3) Future Availability Likely (3 points) ☐
4) Unlikely to Become Available (0 points) ☐

subtotal: _____

c) Suitability for Development

1) Subdivision Approved - easily developed (5 points) ☐
2) Subdivision application filed – minor impediments (4 points) ☐
3) Subdivision application filed – major impediments (3 points) ☐
4) Subdivision plans not submitted (0 point) ☐

subtotal: _____

d) Infrastructure Availability

1) Available Roads, Public water and sewer (3 points) ☐
2) Any two of above (2 points) ☐
3) Any one of the above (1 point) ☐
4) None of the above (0 points) ☐

subtotal: _____

Intangibles (+/- 1 point each)

_____

_____

FINAL TOTAL: _____

Inspectors: _____

_____

APPENDIX **E**

Washington Township
Open Space Committee
A Guide for Reforestation of Open Space

From field to forest restoration:

A Guide for reforestation of

open space

In Washington Township

Virginia Webb
July 23, 2001

From Field to Forest: A Guide Reforestation of 0pen Space in Washington Township

Our expectations for a town park are based upon our past personal experiences. Perhaps we have moved from the city to the suburbs. Few of us now live in the same town where we grew up. The town parks we have known largely have mowed lawns with facilities for active recreation such as Fairmont Park, or our own well used Washington Lake Park. Perhaps we expect to find facilities here for athletic activities, the performing arts, or trails for running and walking, and playgrounds for young children. Less familiar to us are local parks such as Alcyon Lake Park in Pitman, Ceres Park in Mantua Township, Wenonah Park, or Scotland Run in Franklin Township. While these parks have some of the same facilities to Washington Township, they also include large wooded areas devoted to conservation. These conservation areas are accessible for foot traffic on trails.

Many citizens are concerned because the rapid development of housing and commercial areas has destroyed so much of the farmlands and woodlands to generate taxable income. We have become familiar with how development means increased demand on town's infrastructure for municipal services and paying rising taxes. It means that open space land for passive recreation must include landscape plans that are naturally sustainable plant communities and require low maintenance.

We may not realize how our individual homes with mowed lawns rather than an ecologically sound plant community effects our quality of life. We do not know that mowed grass competes against the establishment of trees and other tall species as well as competition of invasive species with native plants. We apply herbicides to eliminate competition between different plant species. We must apply fertilizer as grass species use up soil nutrients quickly (especially when clippings are bagged). We irrigate as natural rainfall is often inadequate. We apply fungicides and other chemicals to control disease and insect pests that invade our grass. This must be done because an unnatural ecosystem (such as a lawn) is more prone to disruption. All of these chemicals contribute to nonpoint source pollution. Yet few of us at present are ready to convert our backyards into bird and wildlife friendly habitats with a mowed lawn only in the front to meet the town ordinance for property maintenance (See" Landscaping for Water Conservation: A Guide for Your Home " (1) However, when humans interfere with plant communities, (including farmlands) there are many problems that would be controlled in a natural system. Without the continued interference of humans, our yards would have natural succession over time.

The inclusion of riparian buffers (2) helps to reduce pollution and sustain water quality. Riparian forest buffers are lands along a stream, river, pond or lakes that protects the waterway. They filter pollutants such as pesticides and fertilizers and storm drain runoff by preventing chemicals from contaminating our groundwater so that with treatment, we have clean drinking water. See "Watershed Newsletter Spring Summer 2001" for further

information (3). The current Environmental Protection Agency recommendation is 75 feet on both sides of the waterway. Because of the demands that the nineteen communities drawing upon the Raritan-Cohanesy-Mohany aquifer make, there are serious concerns about the decline in water levels in this aquifer.

The major cause of air pollution motor vehicle exhaust. Under the influence of sunlight, carbon dioxide combine with the oxygen in the atmosphere to produce ozone, the main gas in smog. Nitrogen dioxide is responsible for the brown color in smog. Smog is not to be confused with the ozone high in the atmosphere which protects us from ozone high in the atmosphere which protects us from ultraviolet light. Smog causes lung irritation to the lungs in healthy people and further damage to people with lung disease as cancer or asthma. (4). Trees, and to a lesser extent, living plant tissue, soils, and other organic store atmospheric carbon dioxide In the process of photosynthesis to make food give off oxygen. Carbon takes up half the weight of a tree. To measure how much of the atmospheric carbon is stored in a forrest, foresters literally measures diameters, and calculate their biomass. Then they sample and weigh other components, However, a secondary forest will never equal the size of a primary forest as the trees will take many, many years to reach the same size. (See Nature Conservancy, 7/8/01 p.2 for additional information (5). Acid dose and ozone have been shown to increase the decline and excess mortality of Oaks and hickories in the Eastern U.S. (6)

It is recommended that native plants and grasses be used wherever possible. You may ask, Why native plants? An article from the Pinelands Preservation Newsletter explains the benefits of native plants. (7).

What is a native plant? Native plants are desirable as they create a plant community that is sustainable through natural selection. A broad definition of "native plant" might be that native plants were indigenous to the landscape before European settlers arrived in North America. However, New Jersey was exposed to plant introductions from both Europeans and North Americans.

Why native plants? Native plants promote diversity. Growing natives contributes to the ecological balance developed in New Jersey over the millennia. Native Exotic shrubs as Japanese honeysuckle, Japanese barberry and mulifloral rose have crowded out many native shrubs. Purple loosetrife was a favorite garden plant during the 1800's. It has escaped forming dense impenetrable stands along stream banks such as the Delaware crowding out native species found nowhere else in New Jersey. The Natural Heritage Program and the Natural Heritage Data Services explain the program and provide a data base of endangered and threatened species (8).

Save Money, Time, and Energy When used intelligently, native plants require less maintenance, are less expensive, and save energy compared to most exotics. Watering non-native plants that aren't adapted to New Jersey's Climate wastes energy as well as water,costs you money and contributes to the pollution of surface water. Fertilizers,

pesticides, and herbicides used in landscape and lawn maintenance run off into streams and creaks, polluting water bodies. Native trees will stabilize the banks of waterways.

No Pesticides Needed Native plants have been exposed to New Jersey's pests ever since they have existed here, and continue to display their resistance and disease in our own yards. Pesticides are biocides. Their toxic effects are not confined to pests but spill over to cause health problems for wildlife and people. Beneficial insects are found in New Jersey as the Lady Beetle, spiders, green lacewing, and hover fly. See Natural Pest Control (9) for details. Native plants will include plants that provide habitat for birds, butterflies, and wildlife. See "Attracting Butterflies and Hummingbirds in Your Garden" (10). It is for these reasons that it is strongly recommended that we use native plants whenever possible. An excellent guide to native landscapes is "From Field to Forest: A Guide to Native Landscapes for Gardeners and Naturalists." (11)

Passive Recreational Opportunities Passive outdoor recreational opportunities will be created in land in the earlier stages of forrest succession, where shrubs and plants are predominant with the creation of a wildflower meadow. Meadows create recreational opportunities based upon activities on trails created for foot traffic and/or bicycles, These trails can be linked to trails in other adjacent towns as part of the planned Greenway. Among the possibilities for trail recreation are fitness walking and running. Benches on the trails would provide quiet peaceful places to read, rest. fhink, and talk. It is noted that runners now use the trails in Washington Lake Park as soft dirt is easier on the body than macadam. Presently, we do not have a park where dogs on leash can be walked giving their owners exercise at the same time. A big concern here is how to manage dogs using the trails for a bathroom where their waste gets stepped on and can effect plant life. There would be places to fish on ponds or lakes.

Open space park land can serve as a living laboratory for environmental education. If the trails have markers, environmental education can occur by individual users. Plant, bird and wildlife observation can occur Individually and as groups of children and adults. It will provide education in identification and habitat requirements as the plants grow and change with the seasons. Sites with ponds or lakes would be places to fish. Streams and ponds or lakes with navigable water are ideal for kayaks and canoes with little habitat disruption. These outdoor trail experiences can lead to support for environmental preservation and perhaps develop volunteer help in our community. It can encourage homeowners to to create backyard habitat on their own property. Many organizations are giving volunteers "perks" for their efforts. The Natural Wildlife Federation has extensive education materials for children. See the Natural Wildlife Federation web site for details on environmental education for children. (12)

The reforestation meadow will offer changes in successive bloom during the growing season, and color changes during the autumn, so that the trails reflect seasonal changes increasing the pleasure of repeated use. It will contribute to the biodiversity of

New Jersey by protecting wildlife and plant life habitat, especially for any endangered or threatened species. Over time through forest succession, the trees planted in the meadow will grow crowding out wildflowers and shrubs that need sun to wildflowers and shrubs that need shade to grow in the understory.

By creating open space with native plants and trees, we may put ourselves in a better position to find grants from private nonprofit funding resources for watershed preservation. Potential private funding from environmental organizations or foundations are: the "Watershed Newsletter Spring/ Summer 2001" (3) the New Jersey Conservation Foundation (13), the New Jersey Tree Foundation (14), we may be able to secure Public funds available through the Green Acres program and the New Jersey Community Forestry Program (15). If we were to find the water quality in our cedar swamp needed for threatened and endangered species through the NJ Nongame Fish and Game Program, we may be able to find funding for creating wildlife habitat. (16). Funds are available from the National and Historic Resources for building trails (17).

Planning the Development of Fallow Fields into Forested Land

Converting fallow land into a meadow with shrubs and wildflowers and planting trees at the same time is my recommendation to reach the goals of the Open Space Committee. A plan for reforestation must be included in our application for Green Acres funds. Without accelerating the process of natural selection, it will take many years to create a forest. For example, See "Plant Succession" for details on secondary selection on an abandoned farm is Maryland. Annuals (like weeds and crabgrass need 1-2 years. Perennials (herbs and tall grasses) require 2-5 years. Between 5-10 years, young pine seedlings will appear in the tall grass. It will take 10-150 for a mature pine forrest to grow. To develop a deciduous hardwood forest (c climax) 150+ years are needed. See Plant Succession for details (18). A reforestation plan must be included in our Green Acres Application. To create a meadow, it is necessary to know the tasks, the time and the cost of development for the first year.

Since our committee must make a recommendation for approval to the Council, and they must negotiate the sale price, the process cannot begin until the Township actually has title to the property. I do not have the knowledge or experience to develop and maintain an ecologically sound sustainable forest. I have done considerable research, and these references are included in this report as numbered footnotes. I would also like to express my appreciation to Bob Gruber, our Township Chief Park Ranger, for his support and availability to me. He has a degree in forestry management.

In my opinion, we need consultation with a professional forester so that our efforts meet our goals for creating a meadow with native shrubs and trees will control energy, time and costs. Our planting goals are partially selected in my letter to Mark Vodak, Chief State Forester. My reply from Mark Vodak, suggests the possibility that his program associate,

Anthony Pasquini. could be a resource in developing a landscape plan. However Mr. Pasquini is recovering from knee surgery. I will followup on this with a note after our Open Space meeting on meeting July 23 to give him a chance to recover. See copy of e-mail reply from Mark Vodak 7-13-01(19). After our meeting, I will have a better sense of our projected timetable for the acquisition of open space land.

A second resource for reforestation consultants to develop the landscape plan is The New Jersey Community Forestry Program (15) Their mission is the planning and design management of vegetation around communities to maximize their visual, social, economic, and environmental benefits on public land. The program is administered by the State Forestry program of the Department of Environmental Protection. On the resources of the New Jersey Community Forestry Program web site is a list of its Board of Tree experts.(15) G. Lester Alpaugh has been recommended, but there are other tree experts serving Gloucester County. Among the services of certified tree experts are Planning and Consulting Services and Community Forestry Plans. Before we actually contact a forestry consultant, we need to know the potential resources available through state DEP services. We may well be eligible for state Green Acres Programs. Grant funds are available from the Community Forestry Program.(15). Potential grant sources for state funds as well as nonprofits has not been explored. We will need to know what information is required to complete the grant application and and whether our landscape plan fits with the organization's policy for grants. A list of nonprofit resources used by The Pineland Preservation Alliance Vol.8, Number 5 p.5. (7) is included on page 5 of the Newsletter. (20). It is essential that we know the grant application requirements so that we can gather needed information in developing our landscape plan with a forestry consultant. With the landscape plan and purchasing resources, we can then estimate costs for materials, labor, and equipment not presently owned to apply for the grant. We will need to know whether we can renew the grant as maintenance costs must be funded during the second and next few years.

Steps to Creating a Meadow and Planting Trees for Reforestation

To develop a meadow with native, grasses, plants, shrubs, and trees, the following steps would need to be taken to create the landscape plan and estimate the cost of materials. See "How to Create Your Own Wildflower Meadow" (21) and "Establishing a Wildflower Meadow (22) for an explanation of the planting process.

1 **A Field Survey** will be needed at the selected sight to learn where the land may have slopes, is partially wooded, or includes wetlands. It must include an inventory both the native and invasive plants. Hopefully, we can use state resources as consultants.

2. **Developing a Landscape Plan** A landscape plan is an architectural drawing of the proposed open space park similar to those drawn by professional landscapers.

It would show trails and architectural features such as restrooms, boundary markers and gates, and trails. The landscape plan would focus on native grasses, herbaceous seeds or wildflowers, shrubs and trees, the amount needed , and the estimated cost for the plot.

I would propose that we mark the boundaries of the park with plants with thorns as the Carolina Multifloral rose (9) is not as invasive as the familiar variety. An additional concern is deer eating the bark of our trees and shrubs. There are tree collars to protect young trees from wildlife. We would need to include a deer repellant as DeerAway which lasts for two month. This product is sold on the Soil Moist web site (23). Hopefully, Anthony Pasquini of the Forestry Service will be able help us with plant selection. For more detailson creatring a landscape design see "Create Livable Landscape" (24). It is noted that this book is written for home landscapers.

3. **Select the Right Seed Mix and the Trees and Shrubs to Plant** The landscape plant list would include seeds that offer successive bloom, fall color, as well as food for birds and wildlife. Seed mixes for low maintenance meadows contain a mixture of native grasses and annual and perennial plants. If the meadow receives fewer than 6 hours of direct sun per day, grass and plants should be chosen than will thrive in part shade. The first year, more meadow annual plant seeds grasses are included in the mix than perennial seeds. The second year, grass is again planted with meadow seeds, but more perennial seeds can be included. Bob Gruber recommends Penn State Seed (25) in Mt Holly for grasses and agricultural products. They said they would try to work with us once we had our plant list. While there are providers for seeds online, I prefer a local business. Mail order online providers of seed for grasses and wildflowers are; Wild Seeds Farms (26), American Meadows (27), Albright Seed Company (28), and there are others. Hannas Seeds gives a list of clovers and other legumes restore nitrogen in the soil.(29). Wildlife Seeds has mixtures that will attract Birds, Waterfowl, and other wildlife. (30). We would need to consider native grasses here, but this information would need to be obtained. Perhaps the New Jersey Native Plant Society could be of assistance (31).

The next question is where to buy native plants or seeds in the size we need at wholesale prices. The The NJ Forrest Service can provide 1-2 year old seedlings under their Community Reforestation Program (15) Their tree nursery in Jackson has inexpensive trees but they are 1-2 feet tall. Bob Gruber, Chief Park Ranger recommends that we buy "sapling trees 4-5' feet tall. Arrowwood and they Nursery on Malaga Rd. in Monroe Twp. carries native trees, shrubs, and perennials, They would have a line of "whiplash trees" or sapling trees 4 to 5 feet tall. See the Arrowwood Nursery Catalogue (32). Joe Arsenaugh is well known for his work in

wetland conservation. There is only one other nursery in North Jersey that sells wholesale. Bowman's Hill is a wildflower preserve and nursery that sells native Pennsylvania plants retail. Their plant list can be used to define native plants (33). Sources for native plants retail can be found on the list of nurseries, published by the New Jersey Native Plant Society (31).

Seed mixes for low maintenance meadows contain a mixture of native grasses and annual and perennial plants. If the meadow receives fewer than 6 hours of direct sun per day, grass and plants should be chosen than will thrive in part shade. The first year, more meadow annual flower seeds and grasses are included in the mix than perennial seeds. The second year grass is again planted with meadow seeds, but more perennial seeds can be included. Bob Gruber recommends Penn State Seed in Mt Holly for grasses and agricultural products. (25) They said they would try to work with us once we had our plant list. While there are providers online, I prefer a local business. Online seed sources for grass, legunes and meadow flowers are WildSeed Farms (26), American Meadows (27), Allbirght Seeds, (28) Hannas Seeds (29) , and Wildlife Seeds (30).

A list of New Jersey nurseries for native plants is included in the resources (31) . Arrowwood Nursery on Malaga Rd in Monroe Twp. is a nearby wholesale nursery for native plants and trees (32). An Arrowwood Nursery Catalogue included in the Resources. Arrowwood Nursery would have the native "whiplash trees" 4 - 5 feet tall recommended by Bob Gruber. The "Arrowwood Nursery Catalogue" can be used as a plant list for New Jersey plants and a source for wholesale prices. See also "Sources for Native Plants" from the New Jersey Native Plant Society to learn plants are considered native. Bowman's Hill Wildflower Preserve is a nonprofit wildflower preserve and nursery that sells Pennsylvania native plants retail (33). Their plant list can also be used to define plants that are native but will grow here without becoming invasive.

4. Controlling Weeds and Nonnative Grasses the next step is to control the nonnative plants. Weeds often grow taller and compete with your seedlings for the limited available moisture light and space. before you plant, you must provide weed control for your tree and shrub seedlings. Vegetation can be removed by cultivating, disking, harrowing, rototilling or hoeing. Controlling weeds for tree and shrub seedlings means keeping them from a two to four foot zone around your seedlings. Weed areas between seedlings should only be mowed only once, preferably at the end of the growing season. Annual mowing will reduce the damage from rabbits and rodents. See "Weed Control" brochure (34) and the North American Weed Management Associations Invasive Plant management web site for additional information (35).

Herbicides do a good job of controlling weeds when applied at the proper amount and at the right time. In most situations a combination of pre-emergemce and post-emergence herbicides is effective. When removing trees and shrubs, a gel can be mixed with the herbicide so that it can be painted on to kill the rootss. Herbicides can be obtained from distributors of agricultural supplies such as Penn State Seed (25).

5. Prepare the soil. Once the soil is mostly weed free, spread 1 to 2 inches of compost over the cleared area, moisten slightly, and rotary till or fork it to the top 3 to 6 inches of soil. Again it is prudent to wait a week or so, then till or hoe to kill any germinating grasses. Rake smooth. This brochure notes that tree spacing depends upon the objective of the planting.

6. Sow seeds and Plant Trees and Shrubs Seed is much easier to plant than individual plants or plugs. Sowing in mid to late summer eliminates many of the sprouting seeds that often plague spring plants, but this is useful only for grasses and perennial flowers. If you choose a mix containing a mix containing many annual flowers, plant in the early spring. A broadcast spreader can be purchased to mount on an all terrain vehicle (ATV) Obtain the grass and wildflower seed mix recommended by the forestry consultant and rake gently into the top one inch of the soil. Allow the plants to become well established, keep soil moist for the first growing season. In subsequent years, plant additional perennials and grasses to fill gaps in the annuals.

At the same time, we will need to plant our trees and shrubs. A seedling list from the nursery of the NJ Community Forestry Program (15) is included. While fall may be a better time for trees and shrubs as it allows them time to establish roots, spring is a better time to sow seed for grasses and wildflowers. Pot grown stock that is not shipped has a greater chance of survival than bare root stock. A useful wildflower planting reference is "Growing and Propagating Wildflowers." (36). Two books written for gardeners, "From Seed to Bloom: How to Grow over 500 Hundred Annuals, Perennials and Herbs" (37) and the "New Jersey Gardener's Guide"(38) might be useful. If we want to learn more about identification native plants, field guides such as (39) Guide to Wildflowers in the Mid-Atlantic Region"are a good way to identify the plants and see a map of the plants' range. "The Guide to New Jersey Trees" published by the NJ Forestry Service is recommended.(40)

7. Mulching Trees and Shrubs Mulch can be used around seedlings to control weeds. Bark mulch provides a blanket around trees, shrubs, and perennial plants. The advantages of using organic mulch are that it moderates soil temperature and makes a more favorable environment for roots. It reduces evaporation of rain or irrigation water, reduces the spread of disease, and blocks

the germination of many weed seeds. Bark or wood chip mulch can be used around your seedlings to control weeds. Bark mulch is preferred to wood chips as bark decomposes more slowly. Wood breaks down more quickly and is susceptible to insect damage. (41,42).

The brochure "Planting Hardwood Seedlings (43) is an excellent guide for planting trees and shrubs. This brochure notes that tree spacing depends upon the objectives of the planting and the growth and height of the tree. Wildlife plantings should be placed 4 to 8 feet apart. The New Jersey Forestry Tree Nursery has tree seedlings available for reforestation See the "Reforestation Program and NJ Program" brochures in the Resources packet for information on trees available and prices. "Planting Hardwood Seedlings " (43) also discusses caring for the trees and shrubs.

"Ten Commandments for Seedling Survival !" (44) gives rules to improve forest tree seedling survival. They are:

a. Do not allow seedlings to dry out. Seedlings must never be allowed to dry out from nursery to planting in the established field. Remember, "if they dry, they die."

b. Transport Seedlings Carefully as rough handling can damage root systems and predisposes seedlings to stress.

d. Avoid extreme temperatures Fluctuations in temperature, especially excessive heat, during storage and transport can result in seedling trauma during outplanting.

e. Plant promptly Once seedlings are lifted, minimize storage time, especially early in the season and avoid extended transport time.

f. Do not prune or trim seedling roots. Seedling need every single root to absorb moisture and nutrients form the ground.

g. Do not wash or shake gel from seedling roots. Gel applied to roots at the nursery prevents drying out during transport, decreases plants shock and improves acclimation to the planting site.

h. Plant bareroot seedlings after October, preferably after December 15 and before April. Cooler temperatures are more conducive to seedling survival and healthy growth.

i. Plant seedlings deeply Greater exposure to the soil and its water content-evenone half inch of added depth of the planting, significantly improves survival rates.

j. Use mechanical planting if possible Although slightly more expensive, planting mechanically yields better results and is an investment that pays off. Depends on how many trees and shrubs you have. You may also purchase a plant bar. For 100 to several thousand tree seedlings, a

post hole digger can be used. The best time is when the ground is soft.
k. Do not attempt to plant seedling that have frozen in the pack Freezing i rreversibly damages the root system, leading to seedling death.

Conclusion

There is much more involved in establishing a meadow with reforestation than I had known when I began to research for this report. Yet I feel even more committed to the value of a forest restoration project that will preserve a little of the remaining wildlife habitat in Washington Township. Wildlife can find food to eat and places to rear their young. By focusing on native New Jersey plants, and wildlife habitat, we will create an ecologically balanced community. We will create opportunities for experiential environmental education for ourselves, our children and grandchildren, and the next generations to come. Changing a field from farm land to forrest will have low maintenance cost.

Throughout history plants have been of paramount importance to medicine. Forty to fifty percent of all medicinal drugs originate from wild plants. In fact, 25 percent of all prescriptions written annually in the United States contain chemicals derived from plants. An example is St. John' Wort natural herb used for depression.

With all the stress modern living, a quiet place for passive recreation seems undervalued against the demands for sports and recreational places. Perhaps it is because we are so busy, we do not allow ourselves the chance to relax in the peaceful forest preservation places. I hope that this report will allow us to rethink how we value reforestation as contributing opportunities for passive recreation as well as creating ecological sound plant and wildlife communities.

Resources

Resources are listed in the numbered order referred to in the text . Web sites may provide links to other sites, or with a mega search engine, links on that topic can be explored, if needed. All but the Field Guide are part of my personal library.

1. Landscaping for Water Conservation
2 Riparian Buffers
3. Watershed Newsletter Spring /Summer 2001
4. The LungNet (http://www.newdgp.au.org/genin/ling /pollution-health.html
5. "The Nature Conservancy" July/August 2001 p.26
6. The Role of Air Pollution in the Decline and Excess Mortality of Oaks and Hickories in the United States http://ww.biketrack.com/roleof.htm
7. Pinelands Preservation Alliance Newsletter page.
8. Geological Information Opens Space Map, Bureau of Planning and Information http://state .nj.us/dep/greenacres/plan.htm
9. The Natural Heritage Program and the Natural Heritage Data Services
10. Attracting Birds and Butterflies in Your Garden. Sally Roth. Rodale Press. 2001
11. From Field to Forest: A Guide to Nature Landscaping for Gardeners and Naturalists
12. Environmental Education, National Wildlife Federation http://nwf.org/education/
13. New Jersey Conservation Foundation/cbli/profiles/ njconservation.html
    Contact person for New Jersey is Janet Eisenhauer 856-589-4317
14. New Jersey Tree Foundation http//:www.state.nj.us/dep/forestry/
15. Community Forestry Program html.www.state.nj.us/dep/forestry community/home/htm.
16. Brochure Endangered and Nongame Species Program community web site www.state. nj.us/dep/fgw/ensphome/ home./html
17. Letter and Application for Funding Grants from Natural and Historic Resources
18. BSCi Lecture Notes p,4 www,life,umd.edu/classroom/bsci/124/lec34. html
19. Letter from Mark Vodak
20. Inside the Pinelands p.5
21. How to Create Your Own Wildflower Meadow http://www.american
22. Establishing A Wildflower Meadow http://www.garden.org/howtos/ .taf?8d=129 Create scripts/howtos7
23. Soil Moist http://soilmoist,com/soiland.html.
24. "Create Livable Landscspe Design" ,John F. Collins, ASLA, and Marrvin I. Adelman ASLA

25. Penn State Seeds, Mt. Holly, NJ www.pennstate seeds.com
26. WildSeed Farms Catalogue 1-800-848-0078. www,wildseedfarms.com
27. American Meadows http:/www.American Meadows.com
28. Albright Seeds www allbright seeds.com
30. Wildlife Seeds www wildlife seeds.com
31. New Jersey Native Plant Society http://www.npsnj/org
32. Arrowwood Nursery Catalogue,Arrowwood Nursery, Malaga Rd. Monroe Twp.
33. Bowman's Hill Wildflower Preserve. Native plants of Pennsylvania nursery http://bhwp.org/psgrd/nursery/htm
34. Copy of Weed Control Brochure
35. North American Weed Management Association
36. "Growing and Propagating Wildflowers." Harry R. Phillips
37. "From Seed to Bloom: How to Grow over 500 Hundred Annuals, Perennials. and Herbs" Eileen Powell
38. New Jersey Gardener's Guide" Peggi Ballister-Howells
39. "The Guide to New Jersey Trees" New Jersey Forestry Service
40. Benefits of Mulches http.clemson.edu/groups/hort/homehort/CTMulch.htm
41. Mulches for Gardens and Landscapes http://www.cahe.nmsu.edu/pubs/ h/h=121.htm
42. Planting hardwood Seedlings
43. Ten Commandments for Seedling Survival http://www.forestry.about/ science/forestry/library/weekly/aa121299.htm

From Field to Forest Restoration:

A Guide for Reforestation of

Open Space

In Washington Township

Virginia Webb
July 23, 2001

From Field to Forest: A Guide Reforestation of 0pen Space in Washington Township

Our expectations for a town park are based upon our past personal experiences. Perhaps we have moved from the city to the suburbs. Few of us now live in the same town where we grew up. The town parks we have known largely have mowed lawns with facilities for active recreation such as Fairmont Park, or our own well used Washington Lake Park. Perhaps we expect to find facilities here for athletic activities, the performing arts, or trails for running and walking, and playgrounds for young children. Less familiar to us are local parks such as Alcyon Lake Park in Pitman, Ceres Park in Mantua Township, Wenonah Park, or Scotland Run in Franklin Township. While these parks have some of the same facilities to Washington Township, they also include large wooded areas devoted to conservation. These conservation areas are accessible for foot traffic on trails.

Many citizens are concerned because the rapid development of housing and commercial areas has destroyed so much of the farmlands and woodlands to generate taxable income. We have become familiar with how development means increased demand on town's infrastructure for municipal services and paying rising taxes. It means that open space land for passive recreation must include landscape plans that are naturally sustainable plant communities and require low maintenance.

We may not realize how our individual homes with mowed lawns rather than an ecologically sound plant community effects our quality of life. We do not know that mowed grass competes against the establishment of trees and other tall species as well as competition of invasive species with native plants. We apply herbicides to eliminate competition between different plant species. We must apply fertilizer as grass species use up soil nutrients quickly (especially when clippings are bagged). We irrigate as natural rainfall is often inadequate. We apply fungicides and other chemicals to control disease and insect pests that invade our grass. This must be done because an unnatural ecosystem (such as a lawn) is more prone to disruption. All of these chemicals contribute to nonpoint source pollution. Yet few of us at present are ready to convert our backyards into bird and wildlife friendly habitats with a mowed lawn only in the front to meet the town ordinance for property maintenance (See" Landscaping for Water Conservation: A Guide for Your Home " (1) However, when humans interfere with plant communities, (including farmlands) there are many problems that would be controlled in a natural system. Without the continued interference of humans, our yards would have natural succession over time.

The inclusion of riparian buffers (2) helps to reduce pollution and sustain water quality. Riparian forest buffers are lands along a stream, river, pond or lakes that protects the waterway. They filter pollutants such as pesticides and fertilizers and storm drain runoff by preventing chemicals from contaminating our groundwater so that with treatment, we have clean drinking water. See "Watershed Newsletter Spring Summer 2001" for further

information (3). The current Environmental Protection Agency recommendation is 75 feet on both sides of the waterway. Because of the demands that the nineteen communities drawing upon the Raritan-Cohanesy-Mohany aquifer make, there are serious concerns about the decline in water levels in this aquifer.

The major cause of air pollution motor vehicle exhaust. Under the influence of sunlight, carbon dioxide combine with the oxygen in the atmosphere to produce ozone, the main gas in smog. Nitrogen dioxide is responsible for the brown color in smog. Smog is not to be confused with the ozone high in the atmosphere which protects us from ozone high in the atmosphere which protects us from ultraviolet light. Smog causes lung irritation to the lungs in healthy people and further damage to people with lung disease as cancer or asthma. (4). Trees, and to a lesser extent, living plant tissue, soils, and other organic store atmospheric carbon dioxide In the process of photosynthesis to make food give off oxygen. Carbon takes up half the weight of a tree. To measure how much of the atmospheric carbon is stored in a forrest, foresters literally measures diameters, and calculate their biomass. Then they sample and weigh other components, However, a secondary forest will never equal the size of a primary forest as the trees will take many, many years to reach the same size. (See Nature Conservancy, 7/8/01 p.2 for additional information (5). Acid dose and ozone have been shown to increase the decline and excess mortality of Oaks and hickories in the Eastern U.S. (6)

It is recommended that native plants and grasses be used wherever possible. You may ask, Why native plants? An article from the Pinelands Preservation Newsletter explains the benefits of native plants. (7).

What is a native plant? Native plants are desirable as they create a plant community that is sustainable through natural selection. A broad definition of "native plant" might be that native plants were indigenous to the landscape before European settlers arrived in North America. However, New Jersey was exposed to plant introductions from both Europeans and North Americans.

Why native plants? Native plants promote diversity. Growing natives contributes to the ecological balance developed in New Jersey over the millennia. Native Exotic shrubs as Japanese honeysuckle, Japanese barberry and mulifloral rose have crowded out many native shrubs. Purple loosetrife was a favorite garden plant during the 1800's. It has escaped forming dense impenetrable stands along stream banks such as the Delaware crowding out native species found nowhere else in New Jersey. The Natural Heritage Program and the Natural Heritage Data Services explain the program and provide a data base of endangered and threatened species (8).

Save Money, Time, and Energy When used intelligently, native plants require less maintenance, are less expensive, and save energy compared to most exotics. Watering non-native plants that aren't adapted to New Jersey's Climate wastes energy as well as water,costs you money and contributes to the pollution of surface water. Fertilizers,

pesticides, and herbicides used in landscape and lawn maintenance run off into streams and creaks, polluting water bodies. Native trees will stabilize the banks of waterways.

No Pesticides Needed Native plants have been exposed to New Jersey's pests ever since they have existed here, and continue to display their resistance and disease in our own yards. Pesticides are biocides. Their toxic effects are not confined to pests but spill over to cause health problems for wildlife and people. Beneficial insects are found in New Jersey as the Lady Beetle, spiders, green lacewing, and hover fly. See Natural Pest Control (9) for details. Native plants will include plants that provide habitat for birds, butterflies, and wildlife. See "Attracting Butterflies and Hummingbirds in Your Garden" (10). It is for these reasons that it is strongly recommended that we use native plants whenever possible. An excellent guide to native landscapes is "From Field to Forest: A Guide to Native Landscapes for Gardeners and Naturalists." (11)

Passive Recreational Opportunities Passive outdoor recreational opportunities will be created in land in the earlier stages of forrest succession, where shrubs and plants are predominant with the creation of a wildflower meadow. Meadows create recreational opportunities based upon activities on trails created for foot traffic and/or bicycles, These trails can be linked to trails in other adjacent towns as part of the planned Greenway. Among the possibilities for trail recreation are fitness walking and running. Benches on the trails would provide quiet peaceful places to read, rest. fhink, and talk. It is noted that runners now use the trails in Washington Lake Park as soft dirt is easier on the body than macadam. Presently, we do not have a park where dogs on leash can be walked giving their owners exercise at the same time. A big concern here is how to manage dogs using the trails for a bathroom where their waste gets stepped on and can effect plant life. There would be places to fish on ponds or lakes.

Open space park land can serve as a living laboratory for environmental education. If the trails have markers, environmental education can occur by individual users. Plant, bird and wildlife observation can occur Individually and as groups of children and adults. It will provide education in identification and habitat requirements as the plants grow and change with the seasons. Sites with ponds or lakes would be places to fish. Streams and ponds or lakes with navigable water are ideal for kayaks and canoes with little habitat disruption. These outdoor trail experiences can lead to support for environmental preservation and perhaps develop volunteer help in our community. It can encourage homeowners to to create backyard habitat on their own property. Many organizations are giving volunteers "perks" for their efforts. The Natural Wildlife Federation has extensive education materials for children. See the Natural Wildlife Federation web site for details on environmental education for children. (12)

The reforestation meadow will offer changes in successive bloom during the growing season, and color changes during the autumn, so that the trails reflect seasonal changes increasing the pleasure of repeated use. It will contribute to the biodiversity of

New Jersey by protecting wildlife and plant life habitat, especially for any endangered or threatened species. Over time through forest succession, the trees planted in the meadow will grow crowding out wildflowers and shrubs that need sun to wildflowers and shrubs that need shade to grow in the understory.

By creating open space with native plants and trees, we may put ourselves in a better position to find grants from private nonprofit funding resources for watershed preservation. Potential private funding from environmental organizations or foundations are: the "Watershed Newsletter Spring/ Summer 2001" (3) the New Jersey Conservation Foundation (13), the New Jersey Tree Foundation (14), we may be able to secure Public funds available through the Green Acres program and the New Jersey Community Forestry Program (15). If we were to find the water quality in our cedar swamp needed for threatened and endangered species through the NJ Nongame Fish and Game Program, we may be able to find funding for creating wildlife habitat. (16). Funds are available from the National and Historic Resources for building trails (17).

Planning the Development of Fallow Fields into Forested Land

Converting fallow land into a meadow with shrubs and wildflowers and planting trees at the same time is my recommendation to reach the goals of the Open Space Committee. A plan for reforestation must be included in our application for Green Acres funds. Without accelerating the process of natural selection, it will take many years to create a forest. For example, See "Plant Succession" for details on secondary selection on an abandoned farm is Maryland. Annuals (like weeds and crabgrass need 1-2 years. Perennials (herbs and tall grasses) require 2-5 years. Between 5-10 years, young pine seedlings will appear in the tall grass. It will take 10-150 for a mature pine forrest to grow. To develop a deciduous hardwood forest (c climax) 150+ years are needed. See Plant Succession for details (18). A reforestation plan must be included in our Green Acres Application. To create a meadow, it is necessary to know the tasks, the time and the cost of development for the first year.

Since our committee must make a recommendation for approval to the Council, and they must negotiate the sale price, the process cannot begin until the Township actually has title to the property. I do not have the knowledge or experience to develop and maintain an ecologically sound sustainable forest. I have done considerable research, and these references are included in this report as numbered footnotes. I would also like to express my appreciation to Bob Gruber, our Township Chief Park Ranger, for his support and availability to me. He has a degree in forestry management.

In my opinion, we need consultation with a professional forester so that our efforts meet our goals for creating a meadow with native shrubs and trees will control energy, time and costs. Our planting goals are partially selected in my letter to Mark Vodak, Chief State Forester. My reply from Mark Vodak, suggests the possibility that his program associate,

Anthony Pasquini. could be a resource in developing a landscape plan. However Mr. Pasquini is recovering from knee surgery. I will followup on this with a note after our Open Space meeting on meeting July 23 to give him a chance to recover. See copy of e-mail reply from Mark Vodak 7-13-01(19). After our meeting, I will have a better sense of our projected timetable for the acquisition of open space land.

A second resource for reforestation consultants to develop the landscape plan is The New Jersey Community Forestry Program (15) Their mission is the planning and design management of vegetation around communities to maximize their visual, social, economic, and environmental benefits on public land. The program is administered by the State Forestry program of the Department of Environmental Protection. On the resources of the New Jersey Community Forestry Program web site is a list of its Board of Tree experts.(15) G. Lester Alpaugh has been recommended, but there are other tree experts serving Gloucester County. Among the services of certified tree experts are Planning and Consulting Services and Community Forestry Plans. Before we actually contact a forestry consultant, we need to know the potential resources available through state DEP services. We may well be eligible for state Green Acres Programs. Grant funds are available from the Community Forestry Program.(15). Potential grant sources for state funds as well as nonprofits has not been explored. We will need to know what information is required to complete the grant application and and whether our landscape plan fits with the organization's policy for grants. A list of nonprofit resources used by The Pineland Preservation Alliance Vol.8, Number 5 p.5. (7) is included on page 5 of the Newsletter. (20). It is essential that we know the grant application requirements so that we can gather needed information in developing our landscape plan with a forestry consultant. With the landscape plan and purchasing resources, we can then estimate costs for materials, labor, and equipment not presently owned to apply for the grant. We will need to know whether we can renew the grant as maintenance costs must be funded during the second and next few years.

Steps to Creating a Meadow and Planting Trees for Reforestation

To develop a meadow with native, grasses, plants, shrubs, and trees, the following steps would need to be taken to create the landscape plan and estimate the cost of materials. See "How to Create Your Own Wildflower Meadow" (21) and "Establishing a Wildflower Meadow (22) for an explanation of the planting process.

1 **A Field Survey** will be needed at the selected sight to learn where the land may have slopes, is partially wooded, or includes wetlands. It must include an inventory both the native and invasive plants. Hopefully, we can use state resources as consultants.

2. **Developing a Landscape Plan** A landscape plan is an architectural drawing of the proposed open space park similar to those drawn by professional landscapers.

It would show trails and architectural features such as restrooms, boundary markers and gates, and trails. The landscape plan would focus on native grasses, herbaceous seeds or wildflowers, shrubs and trees, the amount needed , and the estimated cost for the plot.

I would propose that we mark the boundaries of the park with plants with thorns as the Carolina Multifloral rose (9) is not as invasive as the familiar variety. An additional concern is deer eating the bark of our trees and shrubs. There are tree collars to protect young trees from wildlife. We would need to include a deer repellant as DeerAway which lasts for two month. This product is sold on the Soil Moist web site (23). Hopefully, Anthony Pasquini of the Forestry Service will be able help us with plant selection. For more detailson creatring a landscape design see "Create Livable Landscape" (24). It is noted that this book is written for home landscapers.

3. **Select the Right Seed Mix and the Trees and Shrubs to Plant** The landscape plant list would include seeds that offer successive bloom, fall color, as well as food for birds and wildlife. Seed mixes for low maintenance meadows contain a mixture of native grasses and annual and perennial plants. If the meadow receives fewer than 6 hours of direct sun per day, grass and plants should be chosen than will thrive in part shade. The first year, more meadow annual plant seeds grasses are included in the mix than perennial seeds. The second year, grass is again planted with meadow seeds, but more perennial seeds can be included. Bob Gruber recommends Penn State Seed (25) in Mt Holly for grasses and agricultural products. They said they would try to work with us once we had our plant list. While there are providers for seeds online, I prefer a local business. Mail order online providers of seed for grasses and wildflowers are; Wild Seeds Farms (26), American Meadows (27), Albright Seed Company (28), and there are others. Hannas Seeds gives a list of clovers and other legumes restore nitrogen in the soil.(29). Wildlife Seeds has mixtures that will attract Birds, Waterfowl, and other wildlife. (30). We would need to consider native grasses here, but this information would need to be obtained. Perhaps the New Jersey Native Plant Society could be of assistance (31).

The next question is where to buy native plants or seeds in the size we need at wholesale prices. The The NJ Forrest Service can provide 1-2 year old seedlings under their Community Reforestation Program (15) Their tree nursery in Jackson has inexpensive trees but they are 1-2 feet tall. Bob Gruber, Chief Park Ranger recommends that we buy "sapling trees 4-5' feet tall. Arrowwood and they Nursery on Malaga Rd. in Monroe Twp. carries native trees, shrubs, and perennials, They would have a line of "whiplash trees" or sapling trees 4 to 5 feet tall. See the Arrowwood Nursery Catalogue (32). Joe Arsenaugh is well known for his work in

wetland conservation. There is only one other nursery in North Jersey that sells wholesale. Bowman's Hill is a wildflower preserve and nursery that sells native Pennsylvania plants retail. Their plant list can be used to define native plants (33). Sources for native plants retail can be found on the list of nurseries, published by the New Jersey Native Plant Society (31).

Seed mixes for low maintenance meadows contain a mixture of native grasses and annual and perennial plants. If the meadow receives fewer than 6 hours of direct sun per day, grass and plants should be chosen than will thrive in part shade. The first year, more meadow annual flower seeds and grasses are included in the mix than perennial seeds. The second year grass is again planted with meadow seeds, but more perennial seeds can be included. Bob Gruber recommends Penn State Seed in Mt Holly for grasses and agricultural products. (25) They said they would try to work with us once we had our plant list. While there are providers online, I prefer a local business. Online seed sources for grass, legunes and meadow flowers are WildSeed Farms (26), American Meadows (27), Allbirght Seeds, (28) Hannas Seeds (29) , and Wildlife Seeds (30).

A list of New Jersey nurseries for native plants is included in the resources (31) . Arrowwood Nursery on Malaga Rd in Monroe Twp. is a nearby wholesale nursery for native plants and trees (32). An Arrowwood Nursery Catalogue included in the Resources. Arrowwood Nursery would have the native "whiplash trees" 4 - 5 feet tall recommended by Bob Gruber. The "Arrowwood Nursery Catalogue" can be used as a plant list for New Jersey plants and a source for wholesale prices. See also "Sources for Native Plants" from the New Jersey Native Plant Society to learn plants are considered native. Bowman's Hill Wildflower Preserve is a nonprofit wildflower preserve and nursery that sells Pennsylvania native plants retail (33). Their plant list can also be used to define plants that are native but will grow here without becoming invasive.

4. Controlling Weeds and Nonnative Grasses the next step is to control the nonnative plants. Weeds often grow taller and compete with your seedlings for the limited available moisture light and space. before you plant, you must provide weed control for your tree and shrub seedlings. Vegetation can be removed by cultivating, disking, harrowing, rototilling or hoeing. Controlling weeds for tree and shrub seedlings means keeping them from a two to four foot zone around your seedlings. Weed areas between seedlings should only be mowed only once, preferably at the end of the growing season. Annual mowing will reduce the damage from rabbits and rodents. See "Weed Control" brochure (34) and the North American Weed Management Associations Invasive Plant management web site for additional information (35).

Herbicides do a good job of controlling weeds when applied at the proper amount and at the right time. In most situations a combination of pre-emergemce and post-emergence herbicides is effective. When removing trees and shrubs, a gel can be mixed with the herbicide so that it can be painted on to kill the rootss. Herbicides can be obtained from distributors of agricultural supplies such as Penn State Seed (25).

5. Prepare the soil. Once the soil is mostly weed free, spread 1 to 2 inches of compost over the cleared area, moisten slightly, and rotary till or fork it to the top 3 to 6 inches of soil. Again it is prudent to wait a week or so, then till or hoe to kill any germinating grasses. Rake smooth. This brochure notes that tree spacing depends upon the objective of the planting.

6. Sow seeds and Plant Trees and Shrubs Seed is much easier to plant than individual plants or plugs. Sowing in mid to late summer eliminates many of the sprouting seeds that often plague spring plants, but this is useful only for grasses and perennial flowers. If you choose a mix containing a mix containing many annual flowers, plant in the early spring. A broadcast spreader can be purchased to mount on an all terrain vehicle (ATV) Obtain the grass and wildflower seed mix recommended by the forestry consultant and rake gently into the top one inch of the soil. Allow the plants to become well established, keep soil moist for the first growing season. In subsequent years, plant additional perennials and grasses to fill gaps in the annuals.

At the same time, we will need to plant our trees and shrubs. A seedling list from the nursery of the NJ Community Forestry Program (15) is included. While fall may be a better time for trees and shrubs as it allows them time to establish roots, spring is a better time to sow seed for grasses and wildflowers. Pot grown stock that is not shipped has a greater chance of survival than bare root stock. A useful wildflower planting reference is "Growing and Propagating Wildflowers." (36). Two books written for gardeners, "From Seed to Bloom: How to Grow over 500 Hundred Annuals, Perennials and Herbs" (37) and the "New Jersey Gardener's Guide"(38) might be useful. If we want to learn more about identification native plants, field guides such as (39) Guide to Wildflowers in the Mid-Atlantic Region"are a good way to identify the plants and see a map of the plants' range. "The Guide to New Jersey Trees" published by the NJ Forestry Service is recommended.(40)

7. Mulching Trees and Shrubs Mulch can be used around seedlings to control weeds. Bark mulch provides a blanket around trees, shrubs, and perennial plants. The advantages of using organic mulch are that it moderates soil temperature and makes a more favorable environment for roots. It reduces evaporation of rain or irrigation water, reduces the spread of disease, and blocks

the germination of many weed seeds. Bark or wood chip mulch can be used around your seedlings to control weeds. Bark mulch is preferred to wood chips as bark decomposes more slowly. Wood breaks down more quickly and is susceptible to insect damage. (41,42).

The brochure "Planting Hardwood Seedlings (43) is an excellent guide for planting trees and shrubs. This brochure notes that tree spacing depends upon the objectives of the planting and the growth and height of the tree. Wildlife plantings should be placed 4 to 8 feet apart. The New Jersey Forestry Tree Nursery has tree seedlings available for reforestation See the "Reforestation Program and NJ Program" brochures in the Resources packet for information on trees available and prices. "Planting Hardwood Seedlings " (43) also discusses caring for the trees and shrubs.

"Ten Commandments for Seedling Survival !" (44) gives rules to improve forest tree seedling survival. They are:

a. Do not allow seedlings to dry out. Seedlings must never be allowed to dry out from nursery to planting in the established field. Remember, "if they dry, they die."

b. Transport Seedlings Carefully as rough handling can damage root systems and predisposes seedlings to stress.

d. Avoid extreme temperatures Fluctuations in temperature, especially excessive heat, during storage and transport can result in seedling trauma during outplanting.

e. Plant promptly Once seedlings are lifted, minimize storage time, especially early in the season and avoid extended transport time.

f. Do not prune or trim seedling roots. Seedling need every single root to absorb moisture and nutrients form the ground.

g. Do not wash or shake gel from seedling roots. Gel applied to roots at the nursery prevents drying out during transport, decreases plants shock and improves acclimation to the planting site.

h. Plant bareroot seedlings after October, preferably after December 15 and before April. Cooler temperatures are more conducive to seedling survival and healthy growth.

i. Plant seedlings deeply Greater exposure to the soil and its water content-evenone half inch of added depth of the planting, significantly improves survival rates.

j. Use mechanical planting if possible Although slightly more expensive, planting mechanically yields better results and is an investment that pays off. Depends on how many trees and shrubs you have. You may also purchase a plant bar. For 100 to several thousand tree seedlings, a

post hole digger can be used. The best time is when the ground is soft.
k. Do not attempt to plant seedling that have frozen in the pack Freezing i rreversibly damages the root system, leading to seedling death.

Conclusion

There is much more involved in establishing a meadow with reforestation than I had known when I began to research for this report. Yet I feel even more committed to the value of a forest restoration project that will preserve a little of the remaining wildlife habitat in Washington Township. Wildlife can find food to eat and places to rear their young. By focusing on native New Jersey plants, and wildlife habitat, we will create an ecologically balanced community. We will create opportunities for experiential environmental education for ourselves, our children and grandchildren, and the next generations to come. Changing a field from farm land to forrest will have low maintenance cost.

Throughout history plants have been of paramount importance to medicine. Forty to fifty percent of all medicinal drugs originate from wild plants. In fact, 25 percent of all prescriptions written annually in the United States contain chemicals derived from plants. An example is St. John' Wort natural herb used for depression.

With all the stress modern living, a quiet place for passive recreation seems undervalued against the demands for sports and recreational places. Perhaps it is because we are so busy, we do not allow ourselves the chance to relax in the peaceful forest preservation places. I hope that this report will allow us to rethink how we value reforestation as contributing opportunities for passive recreation as well as creating ecological sound plant and wildlife communities.

Resources

Resources are listed in the numbered order referred to in the text . Web sites may provide links to other sites, or with a mega search engine, links on that topic can be explored, if needed. All but the Field Guide are part of my personal library.

1. Landscaping for Water Conservation
2 Riparian Buffers
3. Watershed Newsletter Spring /Summer 2001
4. The LungNet (http://www.newdgp.au.org/genin/ling /pollution-health.html
5. "The Nature Conservancy" July/August 2001 p.26
6. The Role of Air Pollution in the Decline and Excess Mortality of Oaks and Hickories in the United States http://ww.biketrack.com/roleof.htm
7. Pinelands Preservation Alliance Newsletter page.
8. Geological Information Opens Space Map, Bureau of Planning and Information http://state .nj.us/dep/greenacres/plan.htm
9. The Natural Heritage Program and the Natural Heritage Data Services
10. Attracting Birds and Butterflies in Your Garden. Sally Roth. Rodale Press. 2001
11. From Field to Forest: A Guide to Nature Landscaping for Gardeners and Naturalists
12. Environmental Education, National Wildlife Federation http://nwf.org/education/
13. New Jersey Conservation Foundation/cbli/profiles/ njconservation.html Contact person for New Jersey is Janet Eisenhauer 856-589-4317
14. New Jersey Tree Foundation http//:www.state.nj.us/dep/forestry/
15. Community Forestry Program html.www.state.nj.us/dep/forestry community/home/htm.
16. Brochure Endangered and Nongame Species Program community web site www.state. nj.us/dep/fgw/ensphome/ home./html
17. Letter and Application for Funding Grants from Natural and Historic Resources
18. BSCi Lecture Notes p,4 www,life,umd.edu/classroom/bsci/124/lec34. html
19. Letter from Mark Vodak
20. Inside the Pinelands p.5
21. How to Create Your Own Wildflower Meadow http://www.american
22. Establishing A Wildflower Meadow http://www.garden.org/howtos/ .taf?8d=129 Create scripts/howtos7
23. Soil Moist http://soilmoist,com/soiland.html.
24. "Create Livable Landscspe Design" ,John F. Collins, ASLA, and Marrvin I. Adelman ASLA

25. Penn State Seeds, Mt. Holly, NJ www.pennstate seeds.com
26. WildSeed Farms Catalogue 1-800-848-0078. www,wildseedfarms.com
27. American Meadows http:/www.American Meadows.com
28. Albright Seeds www allbright seeds.com
30. Wildlife Seeds www wildlife seeds.com
31. New Jersey Native Plant Society http://www.npsnj/org
32. Arrowwood Nursery Catalogue,Arrowwood Nursery, Malaga Rd. Monroe Twp.
33. Bowman's Hill Wildflower Preserve. Native plants of Pennsylvania nursery http://bhwp.org/psgrd/nursery/htm
34. Copy of Weed Control Brochure
35. North American Weed Management Association
36. "Growing and Propagating Wildflowers." Harry R. Phillips
37. "From Seed to Bloom: How to Grow over 500 Hundred Annuals, Perennials. and Herbs" Eileen Powell
38. New Jersey Gardener's Guide" Peggi Ballister-Howells
39. "The Guide to New Jersey Trees" New Jersey Forestry Service
40. Benefits of Mulches http.clemson.edu/groups/hort/homehort/CTMulch.htm
41. Mulches for Gardens and Landscapes http://www.cahe.nmsu.edu/pubs/ h/h=121.htm
42. Planting hardwood Seedlings
43. Ten Commandments for Seedling Survival http://www.forestry.about/ science/forestry/library/weekly/aa121299.htm

APPENDIX **F**

Washington Township

Open Space Committee

Public Meeting Minutes

&

Newspaper Articles

Public Meeting

Open Space Advisory Committee

August 7, 2001

Washington Township Municipal Building

523 Egg Harbor Road, Turnersville, NJ 08012

John Boyer, Chairman of the Washington Township Open Space Advisory Committee, opened the meeting at 7:05 p.m. on Tuesday, August 7, 2001. Mr. Boyer explained that the purpose of the meeting was to provide an overview to the public of the status of planning for open space protection in Washington Township, and to get input and feedback.

Approximately 3,000 acres of land remain undeveloped; about 900 acres of that amount is zoned for residential use. In 2000, with the amount of undeveloped land in the Township diminishing, former Mayor Gerald Luongo initiated an effort to place a referendum issue on the ballot for the November 2000 general election. The issue was supported by both mayoral candidates in last year's election, and residents voted overwhelmingly in support a ballot question that called for the creation of a 2 cent tax (per $100 assessed property value) for purposes of acquisition and/or protection of lands for purposes of conservation and recreation. In January 2001, the Washington Township Council adopted an ordinance to assess an open space tax and to establish an Open Space Trust Fund. Subsequently, the Township Council adopted another ordinance which authorized creation of the Open Space Advisory Committee. Advisory Committee members are, for the most part, appointed by the Mayor and Council. The current membership

consists mostly persons who worked on the creation of the referendum and the Open Space Trust Fund; additional members have been appointed to represent the Washington Township Environmental Commission and the Sports Advisory Committee. The Township Council has also authorized the issue of approximately $6 million in bonds (based on anticipated revenue from the Open Space tax authority) to be contributed to the fund. Because the Township has an Open Space property tax, we are eligible for matching funds for qualifying purchases from the New Jersey Green Acres Program.

To date, the Open Space Advisory Committee has evaluated about 70 parcels of undeveloped, residentially-zoned land, to determine their relative value for open space protection (including possible acquisition) by the Township. In addition, three other parcels were considered because of unique circumstances: the Bennett tract, adjacent to soccer fields currently under development, on County House Road; the Dare parcel, adjacent to Washington Lake Park; and the Thorne parcel, near Grenloch Lake Park. A map showing all of the parcels considered was displayed in the meeting room. A map showing existing open space in the Township was also exhibited.

The Advisory Committee evaluated the parcels against criteria that addressed attributes of the parcels including environmental value, potential recreational value, and development pressure. (A copy of the checklist was included in the informational package distributed at the meeting.) The parcels have been ranked according to their scores, and a list of 17 "high priority" parcels has been given to the Mayor and Council. These are properties for which the Advisory Committee feels it is important to act quickly to investigate the feasibility of acquisition,

because they offer significant open space opportunities for the Township and/or they may be facing near-term development pressure. Mr. Boyer explained that this list is confidential and will not be made available, as Township officials are currently negotiating with owners for the potential purchase of at least some of those properties.

The Open Space Advisory Committee is currently developing an Open Space and Recreation Plan. The Plan, after review and acceptance by Township Council and the Planning Board, would be a used to guide the future acquisition, management and use of open space and recreational land within the Township. The Plan will also be submitted to the Green Acres Program. If accepted, this will make the Township eligible for additional matching funds from the State for the purchase of qualifying lands (perhaps an additional $6 million).

Other sources of revenue for land acquisition and/or preservation will also be investigated, including other State, County and Federal funds; non-profit land trusts; and environmental organizations.

The goals identified in the draft Open Space and Recreation Plan include:

- limiting residential growth
- limiting the growth of school taxes
- enhancing the quality of life for all Township residents, so they may enjoy active and passive recreation opportunities or otherwise benefit by the aesthetic values of open and undeveloped land in the environment
- preserving remaining farm land

- preserving and/or creating greenways and connecting corridors, for pedestrian and bicycle circulation, and for stream protection
- protecting sensitive environmental features or areas, such as habitat for threatened and endangered species (there are seven in Washington Township) or wooded areas
- countering the effects of density and congestion caused by development

Mr. Boyer then solicited questions and comment.

Mr. Doug Taylor inquired as to whether any real estate agents were members of the Advisory Committee. No, there are no real estate professionals on the Advisory Committee. Mr. Taylor noted that, at the New Jersey shore, real estate agents are offering incentive payments to land owners to reserve claim to purchase their properties for periods of up to five years. Mr. Taylor suggested that the Township could face this situation of "right of first refusal" obtained by other prospective purchasers, or might consider negotiating such an agreement on behalf of the Township. Mr. Taylor also suggested another possible incentive, offering a tax abatement on desired property, until such time as a purchase could be effected. Mr. Boyer agreed that creative approaches to purchase agreements will be required. For example, the Township will have bonds, secured by the Open Space tax, in the amount of $6 million. We would hope to obtain matching funds (in the best of circumstances) for an additional $6 million. However, a rough estimate of the purchase of all properties evaluated by the Advisory Committee might be $27 million. A significant gap exists.

Ms. Lola Pellegrino asked whether Washington Lake Park is being used to its greatest potential.

For example, in the past, Ms. Pellegrino understands that ball fields in the Park could be used for games, but not for practice. Mr. Boyer explained that, for many sports, "game" fields cannot be used all the time, as the effects of overuse, including practices, can damage the fields. As an example, soccer fields at Franklin Atkinson Park can't be used this year; they need a "rest."

Mr. Boyer acknowledged the presence of Assemblyman George Geist in the audience, and invited Mr. Geist to address the meeting. Mr. Geist noted that he was gratified to be engaged in this "common cause" with the Township in its pursuit of open space preservation, and noted that the "goals and policies" identified in the distributed meeting materials are his own priorities. He distributed copies of previous Green Acres bills (1994 and 1995) that he sponsored for Washington Township, including authorization of funds for the purchase of Washington Lake Park and Grenloch Lake Park. Mr. Geist also provided copies of sections of the Budget Bill for State Fiscal Year 2002, including funds for Washington Township Parks and Recreation ($125,000) and Township Park Rangers ($100,000). Mr. Geist offered to deliver the Washington Township application for the Green Acres Incentive Program to the Department of Environmental Protection.

Mr. Boyer invited Ms. Ginny Webb of the Open Space Advisory Committee to speak. Ms. Webb explained that it was important not to inadvertently create a large maintenance burden for the Township, in the course of ongoing efforts to preserve and protect open space. She is researching how we might enhance the natural tendency of lands to gradually become reforested. There is a natural progression from fallow field to meadow to woodland that can take many years. Eventually, we might expect to see mature collections of oak, mountain laurel and holly,

for example, which are native to our area and thrive in our climate and soils. In order to reduce time and money spent on maintenance (mowing, cleaning), and to enhance the environmental value of open space (for example, as riparian or streamside buffers, or to offer opportunity for passive recreation), we would examine means of enhancing, or at minimum not interfering with, the natural succession process.

With no further questions from the floor, the formal meeting was closed at approximately 8:00 p.m. Attendees were invited to view the maps on display in the room, and ask questions of Advisory Committee members.

NEWS REPORT
AUGUST 2, 2001

Open Space committee seeks public hel

Mayor's appointees host meeting to discuss plans or preservation of land

Robert Starrantino

he Washington Township Open Space mmittee has not been resting on its lau- since its inception earlier this year. llowing last November's overwhelm- referendum passage, Mayor Randee idson and Council passed an ordi- ce establishing the OSC and dedicat- the two-cent tax to establish an Open

See page 14

Public welcome to land meeting

From page 1

Space Trust Fund.

The purpose of this fund is "to acquire land, easements and/or development rights to preserve undeveloped areas".

Utilizing a ranking checklist, the ten member OSC inventoried and conducted evaluations of nearly 70 parcels within the Township.

The OSC also met with various community members to determine the open space needs of the numerous groups and organizations that support Township residents.

Based upon these findings, the committee will provide the Mayor and Council with a detailed ranking report to facilitate the Township's purchase of open space.

The committee is also preparing an Open Space and Recreation Plan that will be submitted to the State's Green Acres Program to secure additional funding.

The OSC will hold an information session for the community on Tuesday, August 7 at 7 p.m. in the municipal building to discuss the status of its efforts to preserve open space.

Over the last several years, Washington Township has experienced tremendous growth, said Davidson, through development which has resulted in increased traffic, higher school taxes and strains on municipal services.

Currently, undeveloped lands make up approximately 1,800 acres within the township.

Of this, 1,000 acres are zoned for residential development.

All residents interested in learning more about Open Space preservation in Washington Township are invited to attend this session.

For information, call 589-0575.

GLOUCESTER COUNTY TIMES
AUGUST 8, 2001

Wash. Twp. looks to preserve land

By DANIELE CRUZ
Staff Writer

WASHINGTON TWP. — The Open Space Committee has recommended that township council purchase 17 parcels of undeveloped residential-zoned land so it may be preserved before developers buy it for housing developments.

The council has already started to negotiate with property owners, said committee Chairman John Boyer.

"This is our last, best opportunity to preserve the remaining open space," he added.

About 80 percent of township land is already developed, Boyer said, and over the past 40 years, population has grown by nearly 42,000 residents.

"I don't think there's a resident in this town that thinks we need to build more houses," Boyer said.

There are about 900 acres of undeveloped residential-zoned land left in the township, according to committee member Daria Volpe.

"If we could get 450 acres, which is half of the remaining open space undeveloped residential-zoned lands, then I would consider that a highly successful program," said Boyer.

The estimated cost for buying the 450 acres is about $12 million, according to Boyer.

Boyer said township council bonded $6 million, which was matched with another $6 million by state Green Acres funds to purchase the open space.

While additional funds will be required to maintain the land, committee member Ginny Webb suggested that reforestation of some of the parcels may save time, labor and money.

The committee hopes that in obtaining these lands they will preserve elements of the natural habitat, including streams and endangered species within the township.

Boyer said these lands have the potential to provide nature paths, bike trails and sports fields for the community.

— Daniele Cruz can be reached by e-mail at dcruz@sjnewsco.com

OPEN SPACE IS TOPIC OF MEETING

The members of the Washington Township Open Space Committee (OSC) will hold a public Information Session at 7 p.m. Tuesday August 7, at the municipal building, to discuss the status of Open Space Preservation in the Township. Currently, undeveloped lands make up approximately 1,800 acres within the township. Of this, 900 acres are zoned for residential development. For information, call 589-0520.

PHILADELPHIA INQUIRER, 6/8/01

Washington Twp. eyes 13 green acres

In a Gloucester County town where growth is a big issue, a new open-space tax made money available.

By Vicki McClure
INQUIRER SUBURBAN STAFF

WASHINGTON TOWNSHIP — Gloucester County's most populous town may soon purchase its first property with revenue from an open-space-preservation tax that voters overwhelmingly approved in November.

Last night, the Township Council introduced an ordinance to buy 13 acres near Haines Drive and Duncan Road in the Heritage Valley development. The property surrounds a township-owned pond.

Owner Charles Miller had offered to sell the ground for $310,500, but officials negotiated the price to $147,000, the value given by an independent appraiser.

A public hearing on the proposed purchase has been scheduled for July 5.

"We just kept saying, 'Bring us a reason why we should pay more,' " Council President Matt Lyons said.

"I'm just excited. This is the perfect kind of property to buy."

Washington Township has led Gloucester County in residential development for two decades and now has a population of more than 47,000.

Township growth was a campaign issue in the fall's hotly contested mayoral race between Republican incumbent Gerald J. Luongo, who defended development, and Democrat Randee Davidson, who said it had produced sprawl and traffic congestion.

Davidson defeated Luongo by 581 votes, and several voters said on Election Day that they favored her stance on curbing residential growth.

"It fits right in with what the people of Washington Township have elected us to do," Davidson said of the purchase bid.

Of the township's 14,720 acres, only 1,032 of privately owned land zoned for residential use remains undeveloped, according to an April report by the local Open Space Advisory Committee. The study did not include commercial or industrially zoned property.

The 2-cent open-tax, approved by a nearly 2-1 margin, will generate $459,118 this year for land purchases.

The Open Space Advisory Committee, formed just this year, is halfway through ranking undeveloped parcels to determine which should be purchased. Chairman John Boyer said the committee hoped to finish in July.

Lyons, meanwhile, said the council had decided to buy the Miller property before the committee completed its rankings because the location was ideal.

"I don't think there is any doubt this would be targeted by the committee," he said.

Vicki McClure's e-mail address is vmcclure@phillynews.com.

Philadelphia Inquirer ↑↑↑
8 June 2001

7/12/01
THE PHILADEL

Washington Twp. OKs land bonds

A 2-cent tax opens the way to $6 million for preserving open parcels. Such space is dwindling.

By Vicki McClure
INQUIRER SUBURBAN STAFF

WASHINGTON TOWNSHIP — A $6 million bond issue to buy land for preservation was approved by the Township Council last night.

The ordinance calls for money raised from the 2-cent open-space municipal property tax to be dedicated to the bonds' principal and interest payments.

The tax, which voters approved by a nearly 2-1 ratio in November, will generate $459,118 this year.

The bonds "will allow us to purchase land now rather than later when it is more expensive or nonexistent," Council President Matt Lyons said.

Washington Township has led Gloucester County in residential development for two decades, growing to a population of more than 47,000.

Of the township's 14,720 acres, only 1,032 of private land zoned for residential use remain undeveloped, according to an April report by the local Open Space Advisory Committee. The study did not include commercial- or industrial-zoned property.

Vicki McClure's e-mail address is vmcclure@phillynews.com.

Philadelphia Inquirer >>>
12 July 2001

State of New Jersey
County of Gloucester

Felice Wolfert

of full age, being duly sworn according to law that she is

Legal Clerk of the

NEWS REPORT

A legal weekly newspaper published in the County of Gloucester within the State of New Jersey, that notice of which the annexed is a true copy, as published in said newspaper on:

August 2 20 01 and

continued therein for _____ weeks successfully at least once each week, to wit:

_____

_____

_____

making in all 1 publications

Felice Wolfert
Signature

Sworn and subscribed before me this 2nd

day of August 20 01

John Worthington SR
NOTARY PUBLIC

JOHN WORTHINGTON, SR.
Notary Public of New Jersey
Commission Expires 1/31/2002

TOWNSHIP OF WASHINGTON

LEGAL NOTICE

The members of the Washington Township Open Space Committee (OSC) will hold a Public Information Session on Tuesday, August 7, 2001 at 7:00 p.m. to discuss the status of Open Space Preservation in the Township. The meeting will take place in the Council Room of the municipal building located at 523 Egg Harbor Road, Washington Township, Gloucester County, NJ. All those interested in learning more about the program are invited to attend. This meeting is a requirement for the Green Acres Application Washington Township is making to the New Jersey Department of Environmental Protection.

PTR FEE: $6.99
NR 8/02/01

Affidavit of Publication

State of New Jersey
Gloucester County } ss

Frank Gargano

being duly sworn, on his oath, says he is an agent of the Woodbury Daily Times, Inc., publishers of "The Gloucester County Times," a newspaper printed and published at Woodbury, State and County aforesaid, and that a notice of which the annexed is a true copy, was published in said newspaper for a period of one (1) weeks, once each week, successively, commencing on the 29. day of July 2001 and continuing

F. Gargano

Business Manager

Sworn to and subscribed before me this 30 day of July 2001

Cynthia J. Frazier

CYNTHIA J. FRAZIER
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires May 12, 2006

PUBLIC NOTICE

WASHINGTON TOWNSHIP OPEN SPACE COMMITTEE
NOTICE OF MEETING

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Cost: $16.10

(2165741) 7/29-1t