

APPENDIX A - ATTACHMENT 6

Source Water Assessment Maps

This attachment consists of several source water assessment maps and a key. A separate map has been created for each ground water and surface water susceptibility model. The key describes the symbols used on all of the source water assessment maps.

In the case of ground water, there are seven source water assessment maps, one for each of the contaminant categories: pathogens, nutrients, pesticides, volatile organic compounds (VOCs), inorganics, radionuclides/radon, and disinfection byproduct precursors (DBPs).

For surface water, five source water assessment maps were developed: nutrients, pesticides, volatile organic compounds (VOCs), inorganics, and disinfection byproduct precursors (DBPs). As a result of not developing a pathogen or radionuclide susceptibility model for surface water, maps were not created for these contaminant categories.

The source water assessment maps illustrate the source water assessment area and the potential contaminant sources used in determining a source's susceptibility. Only the intensity explanatory variables are illustrated. For example, for the Nutrient Surface Water Susceptibility Model map, 1995 land use (agricultural and urban) and sewage treatment plants are shown.

The source water assessment maps show the potential sources of contamination that are within and outside of the source water assessment area. DEP decided to include the potential contaminant sources outside of the source water assessment area because there may be mapping inaccuracies. Including potential contaminant sources outside of the assessment area will illustrate those sites that fall within a close proximity to the assessment area and provide additional information. The Geographic Information System datasets were obtained from the appropriate DEP programs.

The sites in the maps were not labeled however information such as DEP program and site name can be found in Appendix A-Attachment 2 for sites in the source water assessment areas. Additional information for sites outside of source water assessment areas can be found on DEP's I-Map available at <http://www.state.nj.us/dep/>. For questions pertaining to specific sites please contact the appropriate program. Please refer to Appendix C - Attachment 1 for contact information.

Key For New Jersey Source Water Assessment Maps

Public Community Source Types



Wells

Groundwater Source Water Assessment Area



Tier 1-2 Year Time of Travel (TOT)



Tier 2-5 Year Time of Travel (TOT)



Tier 3-12 Year Time of Travel (TOT)

Surface Water Source Water Assessment Area



Compliance & Enforcement Program



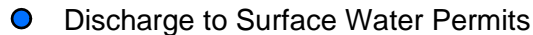
Discharge Prevention & Countermeasures Plans & Discharge Cleanup & Removal Plans (DPCC)

NJ Pollutant Discharge Elimination

System Facilities (NJPDDES)



Discharge to Groundwater Permits



Discharge to Surface Water Permits



Stormwater Permits



Sewerage Treatment Plants

Site Remediation Program Facilities



Known Contaminated Sites List 2001



Underground Storage Tanks (UST)

Solid & Hazardous Waste Facilities



Class B Recycling Facilities



Compost Facilities



Solid Waste Landfills



Solid Waste Resource Recovery Facilities



Solid Waste Transfer Facilities

Miscellaneous



DOT Roads



Golf Courses



Lakes



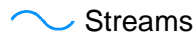
NJ County Boundaries



NJ Municipal Boundaries

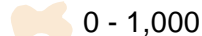


Railroads



Streams

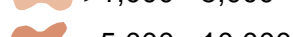
1990 Census (Population/sqmi)



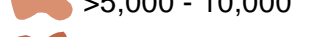
0 - 1,000



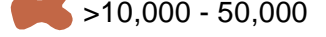
>1,000 - 5,000



>5,000 - 10,000



>10,000 - 50,000



>50,000 - 150,220

1995 Impervious Surface (%)



0



5



10



15



20



25



30



35



40



45



50



55



60



65



70



75



80

85

90

95

100

Land Use/Land Classification Types



1995 Agriculture LU/LC



1995 Barren LU/LC



1995 Commercial/Industrial LU/LC



1995 Developed LU/LC



1995 Residential LU/LC



1995 Urban LU/LC



1995 Wetlands LU/LC



1995 Wetlands LU/LC



1986 Agriculture LU/LC



1970 Agriculture LU



1970 Urban LU



1970 Urban LU



1990 Septic Tank Density (per sqmi)



0.0 - 0.9



>0.9 - 1.8



>1.8 - 2.7



>2.7 - 3.6

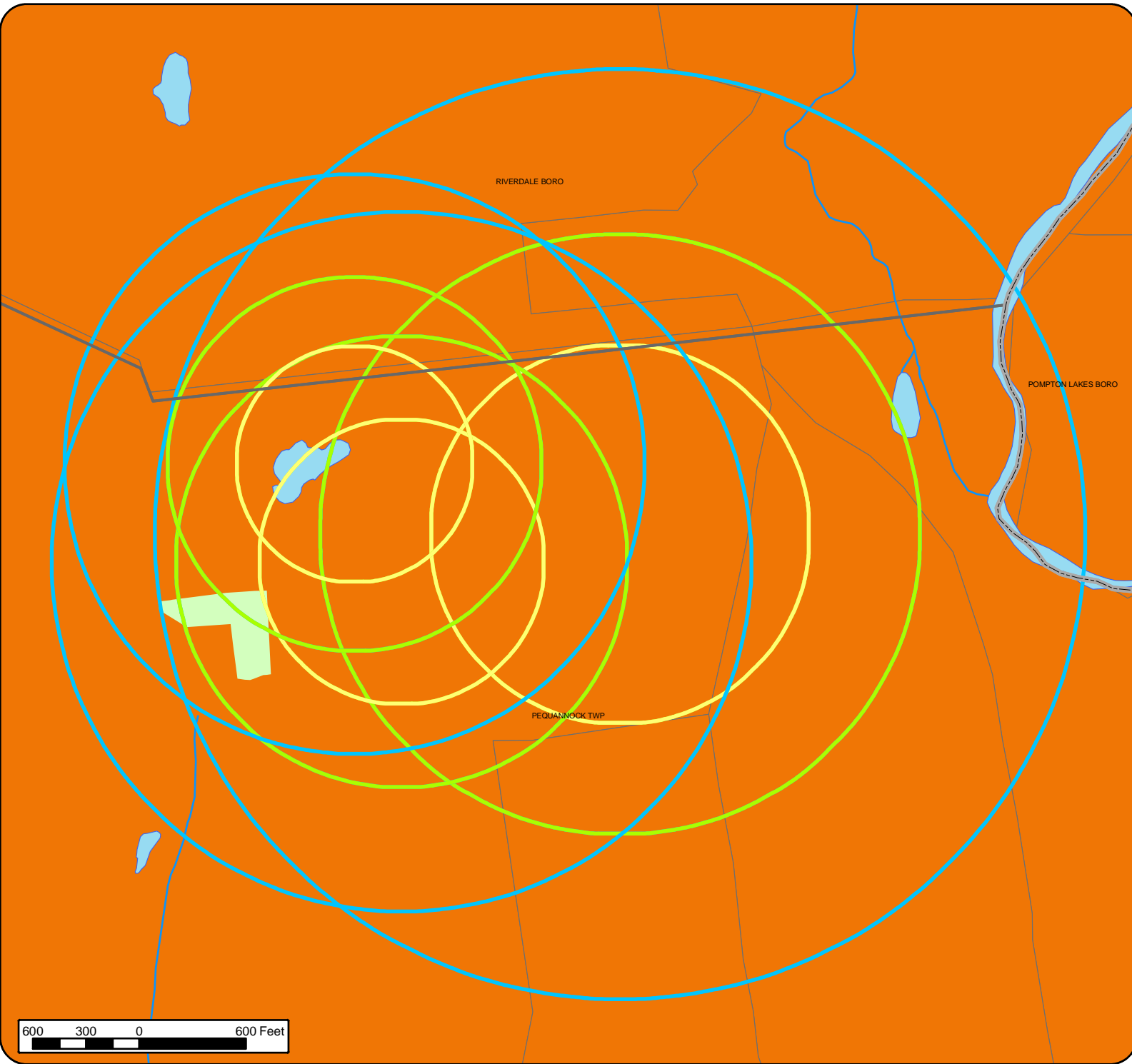
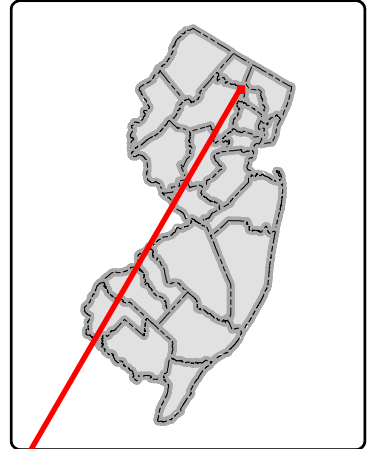


>3.6 - 7.5



>7.5 - 4859.6

Pequannock Township Water Department Pathogens Groundwater Susceptibility Model



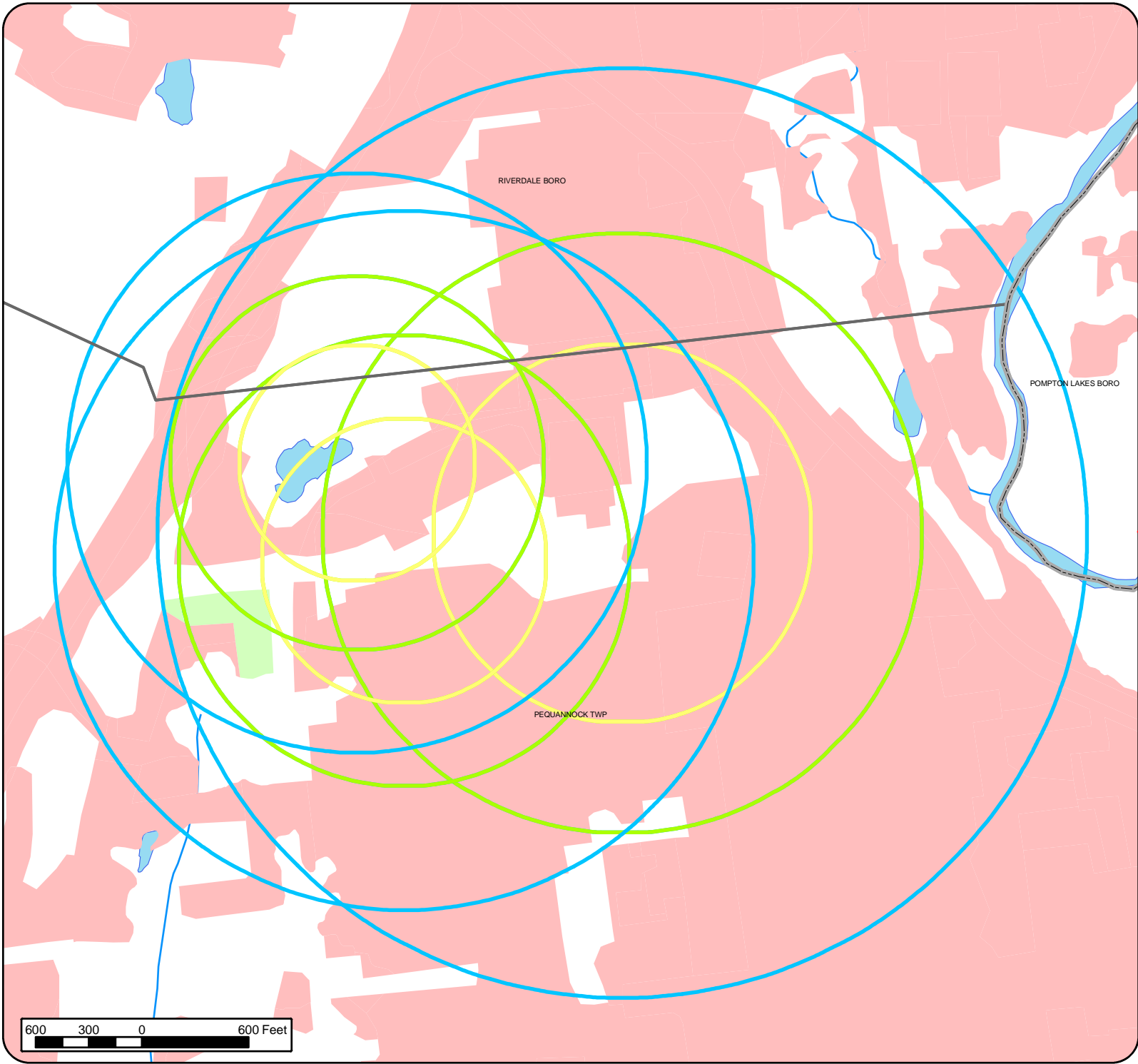
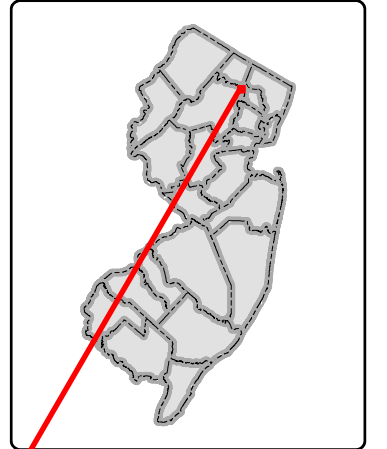
Explanatory Variables Shown

- Distance to 1995 Agriculture LU/LC
- Density of Septic Tanks 1990
- Presence of Streams in Tier 1



Map Production: Ed Apalinski, NJDEP/BSDW, 10/2003
Map Projection: NJ State Plane, US Survey Feet, NAD83

**Pequannock Township
Water Department**
**Nutrient Groundwater
Susceptibility Model**



Explanatory Variables Shown

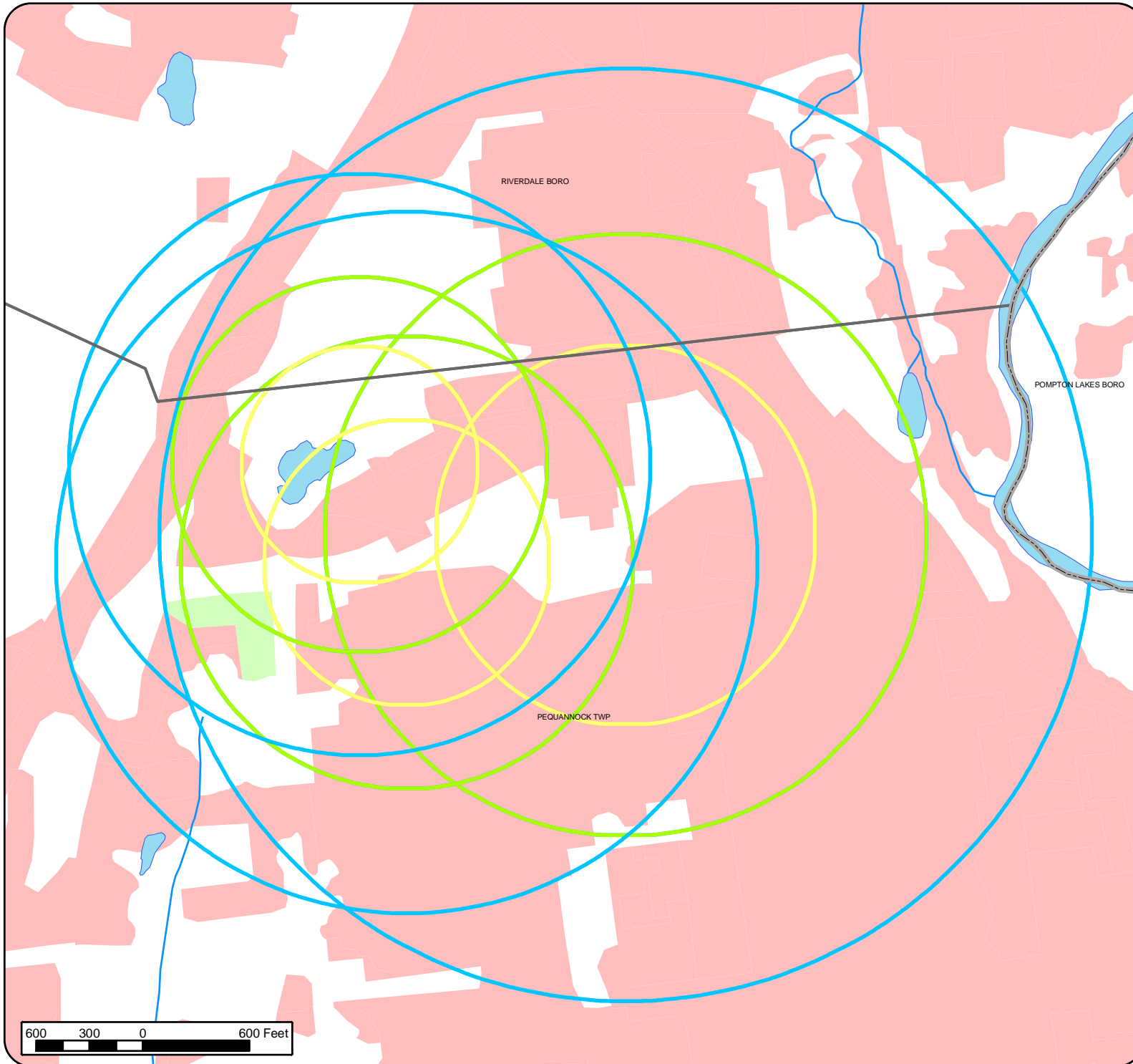
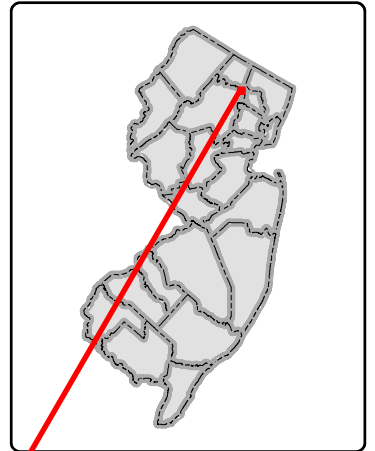
- Percent 1995 Urban LU/LC
- Percent 1986 Agriculture LU/LC



Map Production: Ed Apalinski, NJDEP/BSDW, 10/2003
Map Projection: NJ State Plane, US Survey Feet, NAD83

Pequannock Township Water Department

Pesticide Groundwater Susceptibility Model



Explanatory Variables Shown

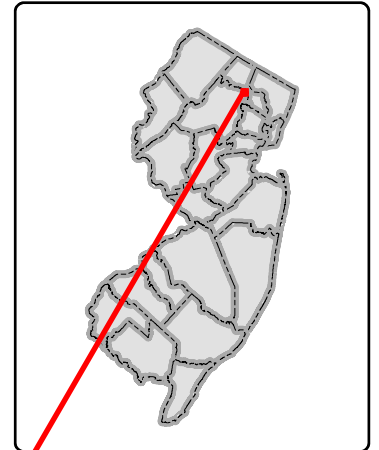
- Distance to 1995 Agriculture LU/LC
- Percent of 1995 Urban LU/LC
- Percent of 1986 Agriculture LU/LC
- Distance to Golf Courses



Map Production: Ed Apalinski, NJDEP/BSDW, 10/2003
Map Projection: NJ State Plane, US Survey Feet, NAD83

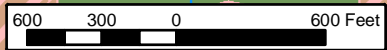
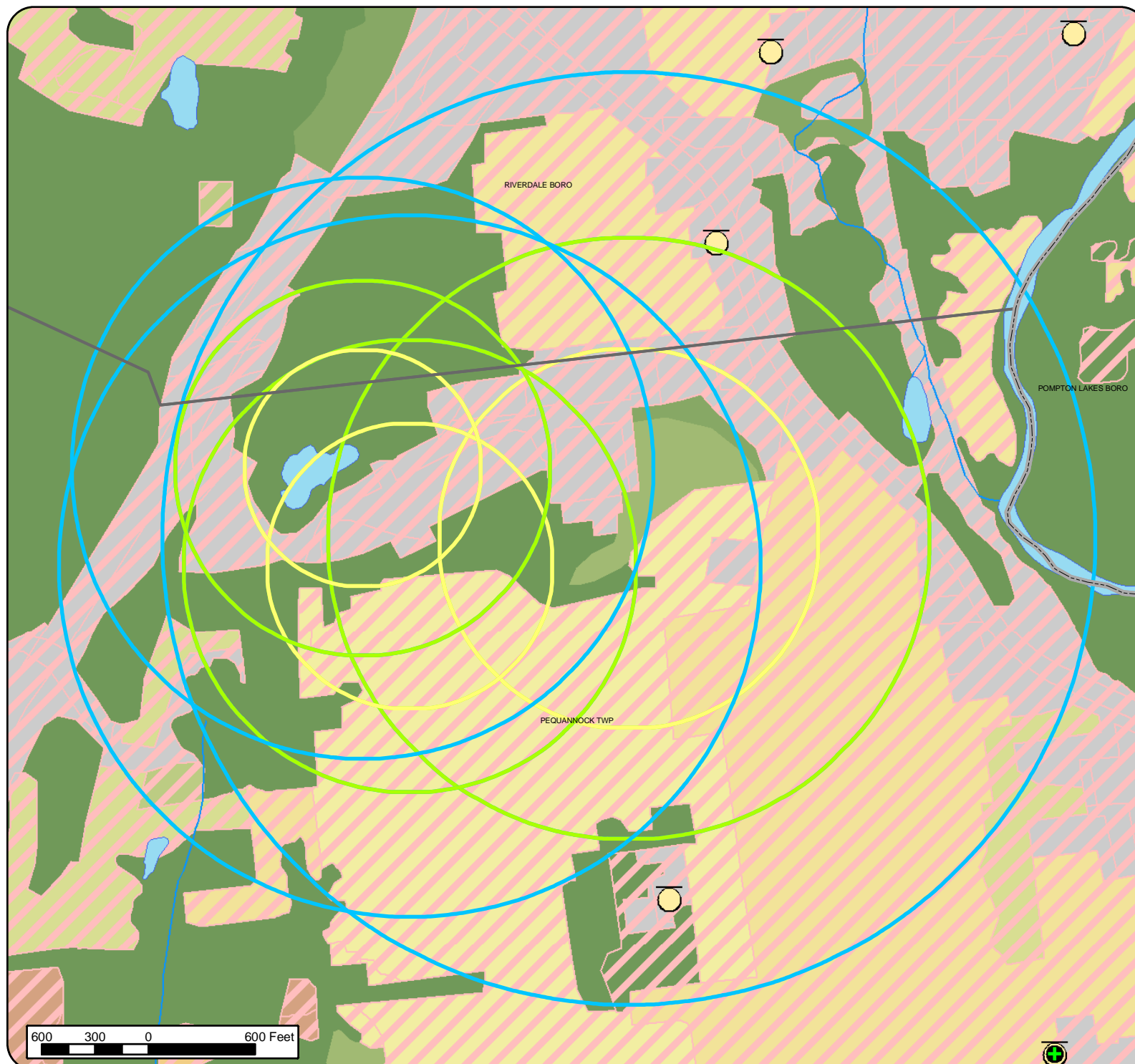
Pequannock Township Water Department

VOCs Groundwater Susceptibility Model



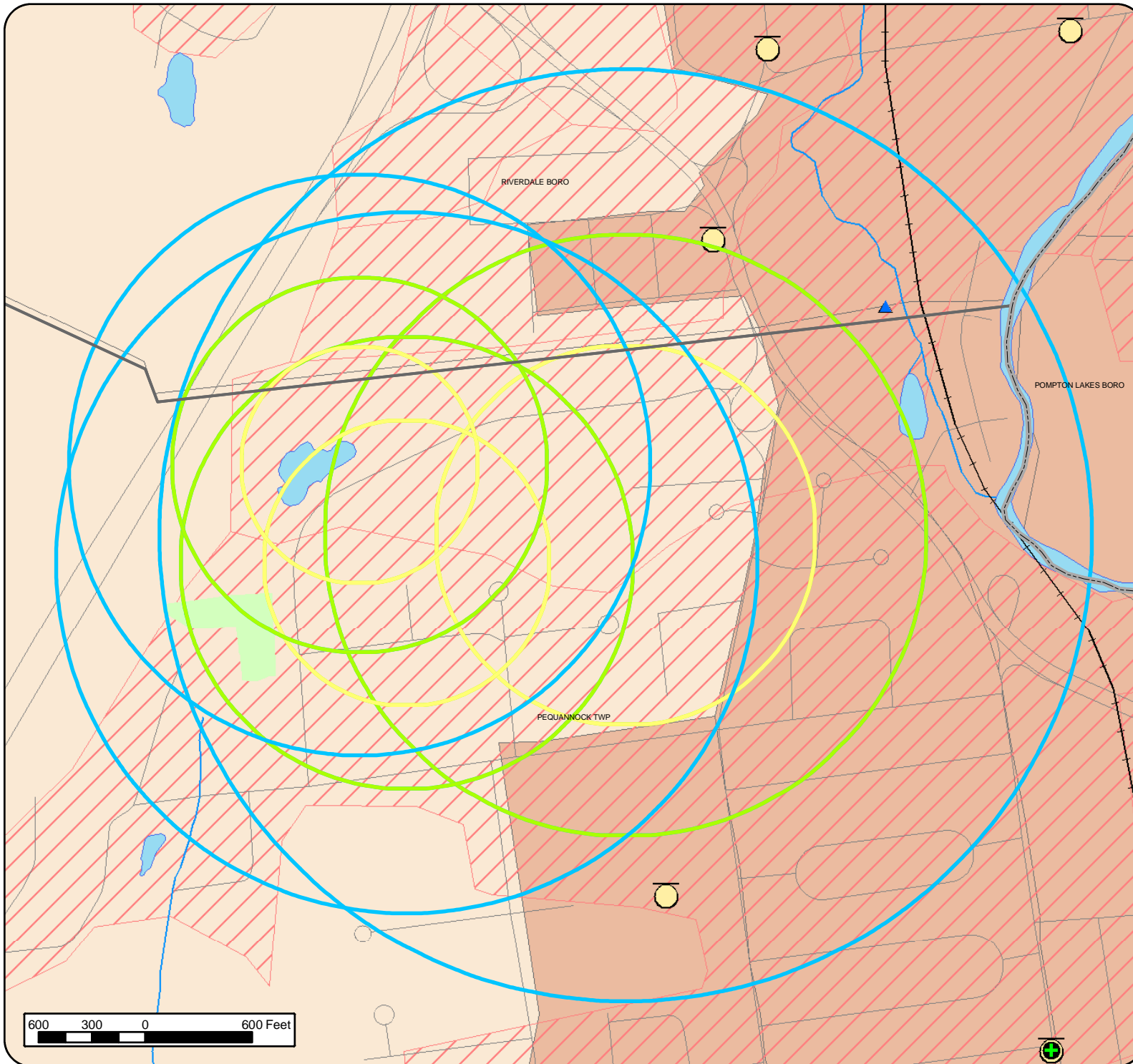
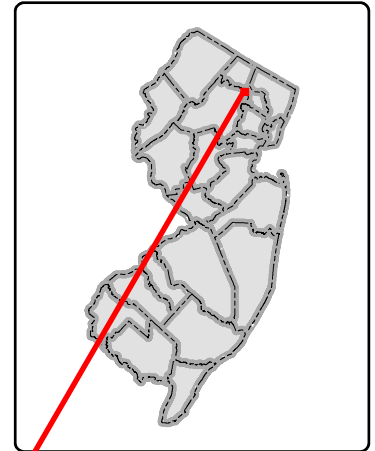
Explanatory Variables Shown

- Percent 1995 Impervious Surface
- Percent 1995 Commercial/Industrial LU/LC
- Square Miles 1995 Urban LU/LC
- Density Known Contaminated Sites 2001,
Solid Waste Landfills,
Underground Storage Tank Registrations



Pequannock Township Water Department

Inorganic Groundwater Susceptibility Model



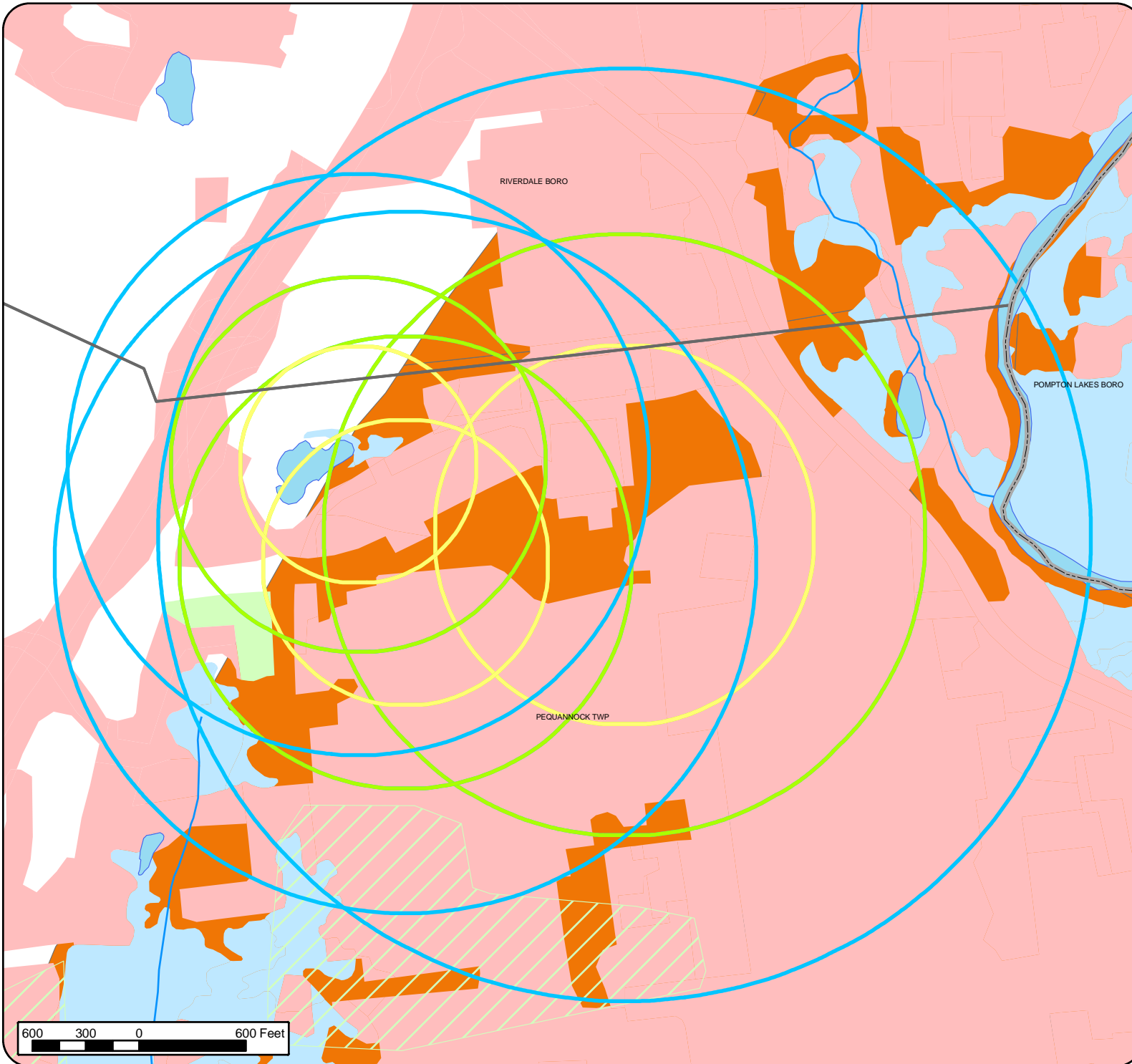
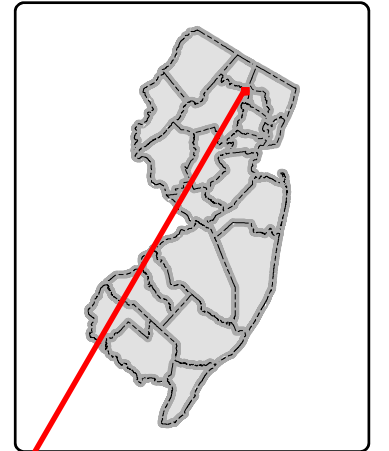
Explanatory Variables Shown

- Distance to 1995 Agriculture LU/LC
- Percent 1995 Barren LU/LC
- Percent 1970 Urban LU
- Population Density 1990 Census (Tier 1)
- Distance to NJ DOT Roads
- Length of Railroads
- Distance to Sewerage Treatment Plants
- Density of Sewerage Treatment Plants
- Density of Class B Recycling Facilities,
- Compost Facilities, DPCC Facilities,
- Known Contaminated Sites 2001,
- NJPDES Discharge to Groundwater,
- NJPDES Discharge to Surface Water,
- NJPDES Storm Water,
- Solid Waste Landfills,
- Solid Waste Resource Recovery Facilities,
- Solid Waste Transfer Facilities,
- Underground Storage Tank Registrations



Map Production: Ed Apalinski, NJDEP/BSDW, 10/2003
Map Projection: NJ State Plane, US Survey Feet, NAD83

**Pequannock Township
Water Department**
Radionuclides/Radon
Groundwater
Susceptibility Model



Explanatory Variables Shown

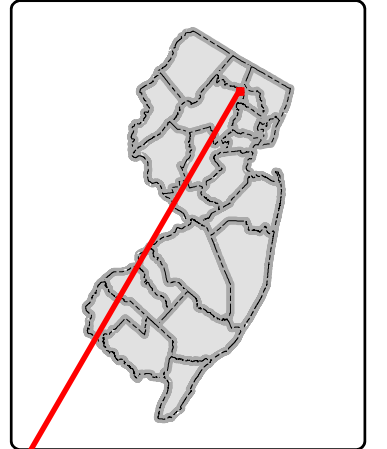
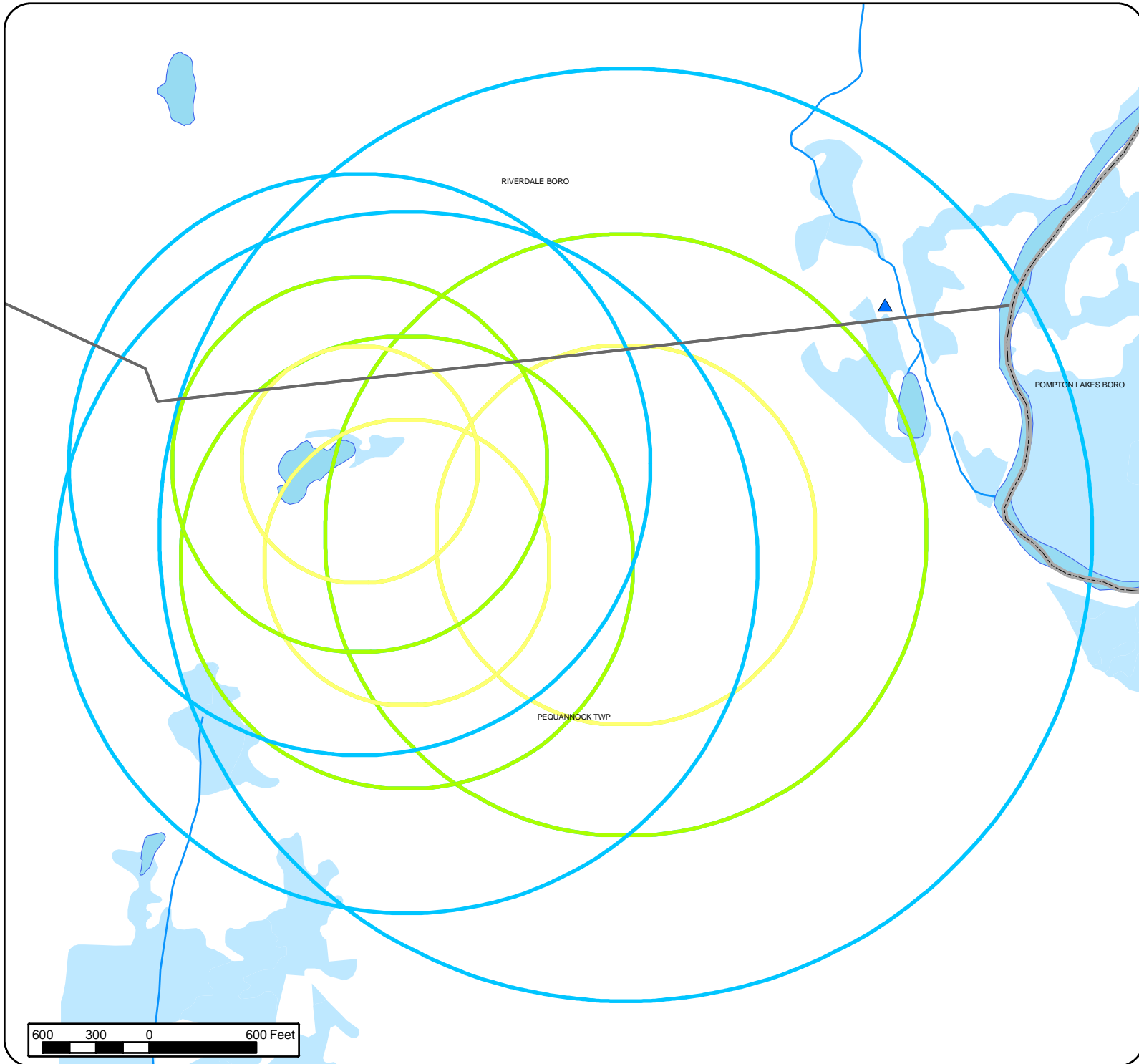
- Distance to 1995 Wetlands LU/LC
- Distance to 1995 Agriculture LU/LC
- Percent 1995 Agriculture LU/LC
- Percent 1995 Developed Land (Tier 1)
- Developed Land = Agriculture + Urban LU/LC
- Percent 1995 Urban LU/LC (Tier 1)
- Percent 1970 Agriculture LU
- Density of Septic Tanks 1990 in Piedmont



600 300 0 600 Feet

Pequannock Township Water Department

Disinfection Byproduct Precursor Groundwater Susceptibility Model



Explanatory Variables Shown

- Square Miles 1995 Wetlands LU/LC
- Number of Class B Recycling Facilities,
- Compost Facilities, DPCC Facilities,
- NJPDES Discharge to Groundwater,
- NJPDES Discharge to Surface Water,
- NJPDES Storm Water,
- Solid Waste Resource Recovery Facilities,
- Solid Waste Transfer Facilities

