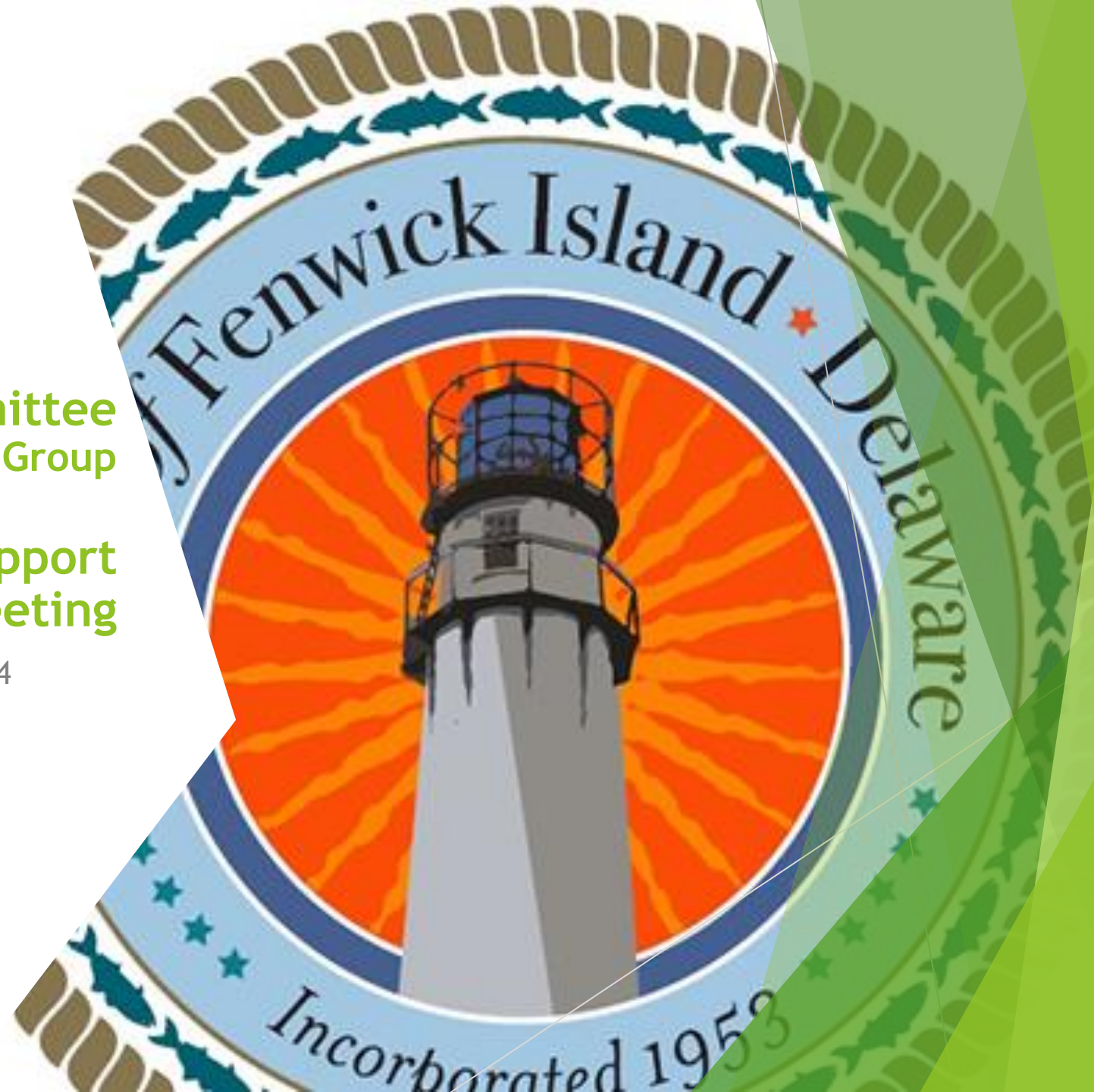


**Residential Concerns Committee
Green Infrastructure Working Group**

**Community Forestry Support
Meeting**

September 11, 2024



Welcome

- ▶ Follow-up from Fenwick Nurtures Nature Event in July
 - ▶ Taryn Davidson - Delaware Forest Service
 - ▶ Upcoming site visits scheduled for September 25th (possible Sept. 24th)
 - ▶ Soil sampling in preparation for fall planting
- ▶ Other updates
 - ▶ Plan to continue bringing in subject matter experts on topics around green infrastructure.
 - ▶ Hold follow-up meetings with the Green Infrastructure Working Group.

Today's Agenda



Green Infrastructure artifact review/highlights



Presentation from Taryn Davidson



Discuss Soil Sampling



Discuss Site Visits



Questions & Follow-on Topic - Pocket Gardens

What is Green Infrastructure?

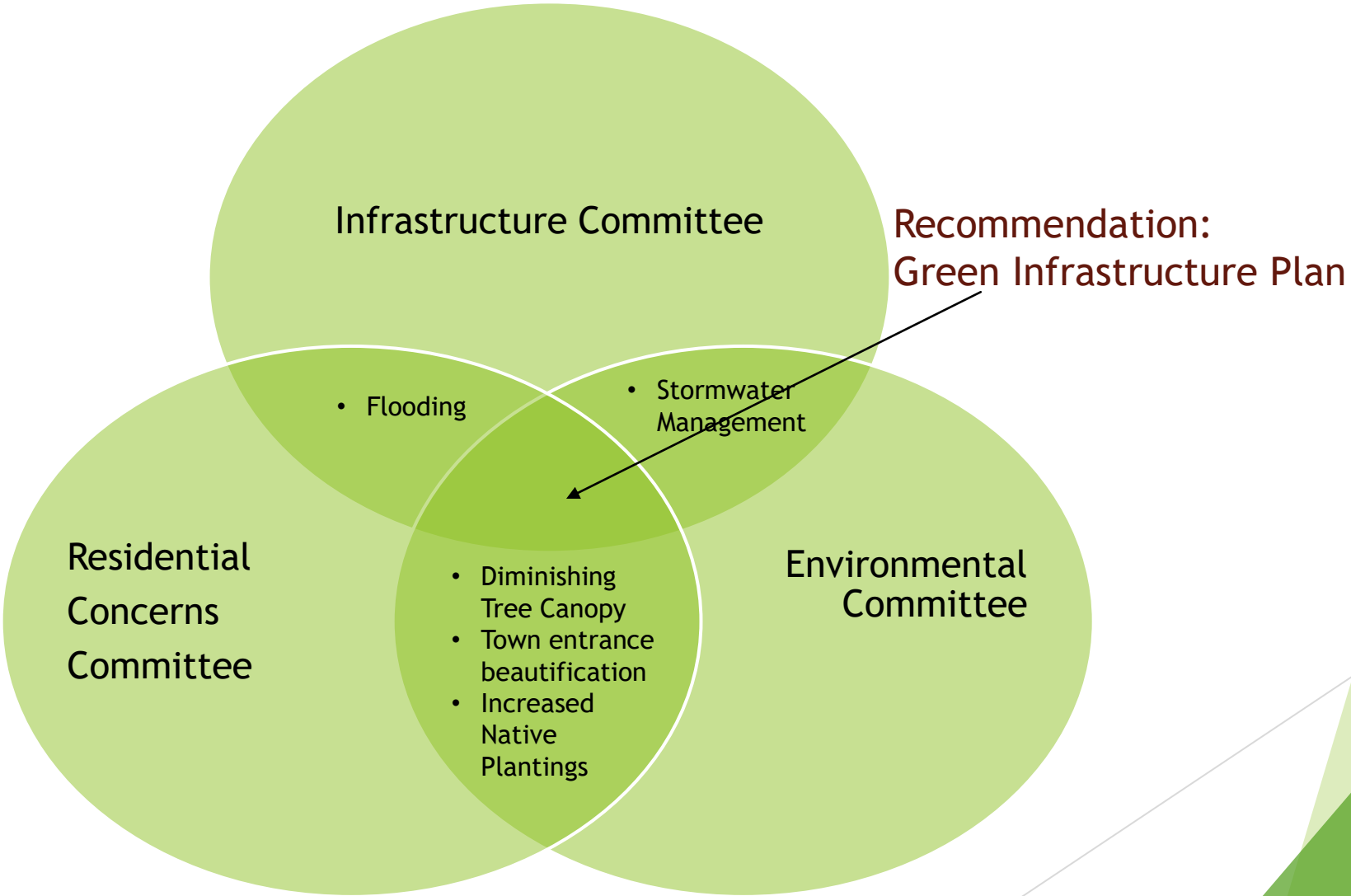
Our Fenwick Island Green Infrastructure Fact Sheet was developed to help residents understand what green infrastructure is and why it is important.

- ▶ According to the Delaware Department of Natural Resources and Environmental Control (DNREC), “green infrastructure is a nature-based approach to address environmental challenges such as stormwater runoff, flooding, erosion, and water and air pollution. Green infrastructure uses natural processes to manage water and improve environmental quality.” Green infrastructure includes measures that **mimic natural processes to store, reuse, or reduce stormwater.**
- ▶ To quote the city of Norfolk VA in their plan...“ "green" infrastructure: the marshes, creeks, parks and trees that **provide habitat, filter the air and water, moderate air temperatures, and provide recreation and scenic beauty**”

Quick Review of topic information

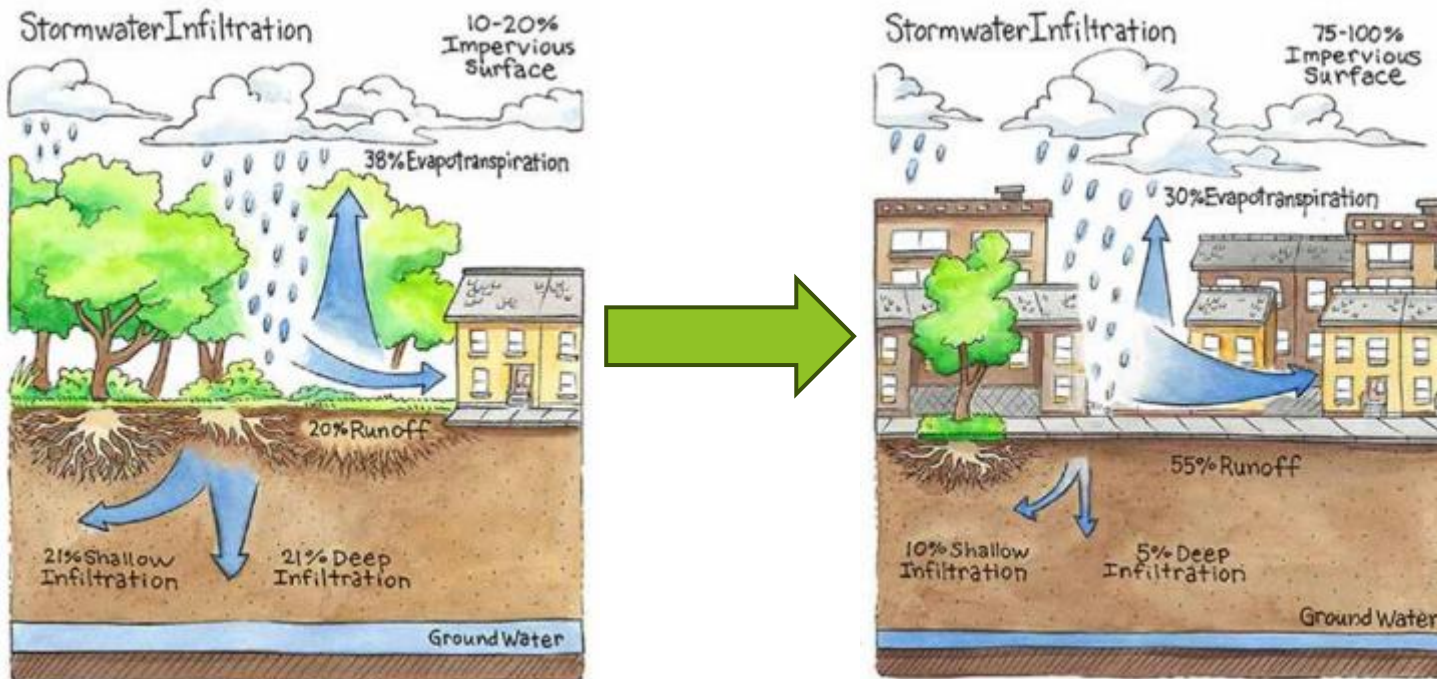
Congress	EPA	DNREC	Fenwick Island	Fenwick Residents
<p>Water Infrastructure Improvement Act</p> <ul style="list-style-type: none">• A plan that is incorporated into a permit may include the implementation of green infrastructure and projects to reclaim, recycle, or reuse water.• EPA must promote the use of green infrastructure	<p>Promote Green Infrastructure</p> <ul style="list-style-type: none">• Extensive Website from basics to publications• Handbook for Municipalities entitled “Coastal Stormwater Management through Green Infrastructure” <p>EPA 842-R-14-004</p>	<p>Green Infrastructure Primer</p> <ul style="list-style-type: none">• Green Infrastructure promotes using natural vegetation and soils to:• filter pollutants from surface and stormwater• improve infiltration of water into soil and groundwater• reduce the volume of stormwater during high-intensity events• moderate air and water temperatures by shading and through evapotranspiration by plants	<p>New Comprehensive Plan</p> <p>which includes:</p> <ul style="list-style-type: none">• Incorporation of green infrastructure opportunities• Promotion of innovative green infrastructure options• Increase tree canopy and native landscaping• Make improvements to towns stormwater infrastructure• Promote rain gardens and other innovative green infrastructure	<p>Implementation Ideas</p> <ul style="list-style-type: none">• Plant a tree or two• Ask contractors to consider green infrastructure• Incorporate a rain garden• Use a rain barrel to collect water• Install planter boxes• Use permeable pavements for “green driveways”• Incorporate green roofs

Integrated Committee Concerns



Impact to Water Runoff

- ▶ Trees filter stormwater and reduce overall runoff volume. So, planting and managing trees is a natural way to mitigate stormwater.
 - ▶ An interesting fact: a typical street tree's crown can intercept between 760 gallons to 3000 gallons per tree per year, depending on the species and age.
- ▶ Stormwater runoff increases as land is developed, without consideration of a **green infrastructure plan**.



Reference: Trees to Offset Stormwater Summary, 2019, Forest Service (Dept. of Ag.)

Impact of Planting One Tree - 'So What?'

20,000 gallons PER DAY
An acre of maple trees can put as much as **20,000 gallons of water into the air** each day.

Reduce noise BY 50%
Trees muffle urban noise almost as effectively as stone walls. A properly designed buffer of trees and shrubs can reduce noise by about 5-10 decibels.
—USDA National Agroforestry Center

Controls SOIL erosion

In 50 years **one tree produces** \$31,250 worth of oxygen, provides \$62,000 worth of air pollution control, recycles \$37,500 worth of water and controls \$31,250 worth of soil erosion.
—USDA Forest Service

DAVEY
Proven Solutions for a Growing World

A single tree produces approx. 260 lbs of oxygen per year, meaning two mature trees provide enough oxygen for a family of four.
—CarbonDay.com

enough **OXYGEN** for a **Family of 4**

one person causes **10 TONS OF CO2 PER YEAR**

One person causes about 10 tons of carbon dioxide to be emitted a year. **One tree removes about 1 ton of CO2 per year**, and 1 acre of trees absorbs 2.6 tons of CO2 per year.

The background features a series of overlapping, semi-transparent green geometric shapes, primarily triangles and quadrilaterals, that create a dynamic, layered effect. The colors range from a light, pale green to a vibrant, saturated lime green. The shapes are positioned on the right side of the frame, extending towards the center, while the left side remains mostly white.

Taryn Davidson - Presentation

Soil Sampling



Serving Agriculture and Soil Fertility Professionals

A Matrix Sciences Company

101 CLUKEY DR HARRINGTON, DE 19952
(302) 566-6094 www.agrolab.us

NEW ACCOUNT APPLICATION

DATE: _____

COMPANY NAME: _____

LAST NAME: _____ FIRST NAME: _____

ESTIMATED # OF SAMPLES ANNUALLY: _____

BILLING AND SHIPPING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE: (____) _____

ACCOUNT SETUP: _____

Soil Sampling



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A Matrix Sciences Company

101 Clukey Dr Harrington, DE 19952
(302) 566-6094 www.agrolab.us

SOIL SAMPLE INFORMATION

Date: _____

If requesting Recommendations,
please indicate the crop and the yield.

Submitted By (Agrolab Acct)

--

Test Code Reference Guide

• Basic Soil Fertility (BSF) • Sandy Loam Special (SLS) • Complete Soil Fertility (CSF)
• Nitrate and Ammonium (22) • Basic with Nitrates (37) • Lawn Special (LS) • Garden
Special (GS) • Golf & Turf Special (GTS) • Wildlife Food Plot (WFP) • Complete Texture
(134)

TEST CODE	RECS	GRAPH	RESULTS FOR (i.e. Grower's Name)	LOCATION (i.e. Farm Name)	Sample ID (i.e. Field Name)	LAB ID (lab use only)

Soil Sampling

A soil analysis sets up plant growth for adequate nutrients and prevents nutrient shortfalls.

It is the only practical way of determining whether lime or fertilizer is needed. However, if the soil sample does not represent the general soil condition of the field or area while sampling, the decisions and recommendation may be wrong or misleading. An acre of soil to the depth of plowing weighs approximately 1,000 tons. Ten grams or less of soil is used for each test in the laboratory. Therefore, it is very important that the soil sample be characteristic of the field or area from which it was taken. The following guidance will help to take proper soils samples. It is important to contact your local Matrix Sciences lab for further guidance and appropriate forms for submittal.

When to take soil samples

Take soil samples at any convenient time and consistent from year to year. Account for the timely decisions needed to apply lime and fertilizer that are based on the analysis. It is best to sample in the Fall or early Spring when the area is void of large plants and fertilizer. For diagnostic samples, pull samples any time and include a good and not good samples to the lab in conjunction to plant samples.

Sampling Area

Areas identified for sampling should be as uniform as possible. Do not pull and mix soils of differing color and/or texture. As a general rule of thumb, anywhere that the soil differs because of significant factor; soil type, drainage, elevation, topography, productivity, management practice, tillage, etc. should be sampled separately. The area for sampling should not exceed 15 acres as it will not identify any variability in the field. 1-3 acre grid sample will identify this variability and is a great tool to eliminate such variability in soil fertility.

Frequency of sampling

Soil should be sampled every 1-2 years or dependent on the soil type and the value of the crop. Fertility level, soil type,



Soil Sampling

Sample Depth

In general, soil samples should be taken to a root depth of 6 to 8 inches but vary from region to region. When evaluating soil nitrogen, a deeper sample is recommended and at times a 0-6 and 6-12 in samples are recommended.

Soil pH

Soils that have low ionic exchange, such as sandy soils, will demonstrate a broad pH change during the growing season from fertilizer applications and Hydrogen released from root growth. During dry growing seasons, it is important to allow for the soil to become "flushed" by at least 6-8 inches of rain prior to sampling. Often, soil Ph will be lower than expected when sampled immediately after harvest without soil flushing.

Materials Needed

Materials needed include: plastic pail, soil probe or soil auger, soil sample bags, laboratory sample information forms, and shipping boxes. Plastic material is recommended. Metals, such as galvanized, will compromise the soil analysis. Soil sample bags,

Soil Sampling



AgroLab, Inc.

Soil Fertility for Lawns & Gardens Quick Reference Guide

The following information is provided to better assist AgroLab customers in the interpretation of the analytical data.

Buffer pH Liming Table

In general, one should consider lime if pH is below 6.0. Lime recommendations provided by AgroLab are based on the amount of typical Lime (65% ECCE) needed to change the current pH to 6.5. Single applications should not exceed 50 lbs per 1,000 sq. ft.

Soil Buffer pH	Target Soil pH				
	5.2	5.8	6.2	6.5	6.8
6.9					
6.8					
6.7					
6.6					
6.5					
6.4					
6.3					

Gray area: Consider lime amendment



Quick Reference:

Approximate % Sufficiency is defined as the plant's potential growth and yield. A sufficiency of 80% (low rating) means the plant growth/yield will be 80% of its potential, if nutrients are not applied.

<i>AgroLab Mehlich 3 Soil Test P ppm</i>	<i>Approximate % Sufficiency</i>	<i>Sufficiency Levels</i>
0-25	25-50	Low
26-50	51-89	Medium

Soil Sampling



Fee Schedule

Prices Effective August 2024



**UD Soil Testing Program
&
Core Laboratory for Soil, Plant and Water Analysis**

531 S. College Avenue, 152 Townsend Hall
Newark, DE 19716-2170
(302) 831-1392 (Phone) • (302) 831-0605 (Fax)
E-mail: soiltest@udel.edu

Website: <https://www.udel.edu/extension/soiltest>

Hours: 9:00 to 4:30 Monday – Friday

Site Visits

- ▶ September 25 - 30 minute visits with 15 minute break between locations.
- ▶ Sign up online - Fenwick Island Town Hall Website

Follow-on Topic - Pocket Gardens

- ▶ Meghan Noe Fellow - Inland Bays

- ▶ Director of Estuary Science and Restoration for Inland Bays



Final Questions

