Trees 4 Schools
Planning for Success

October 11, 2023

Michael Martini| Urban Forestry Consultant
Melanie McDermott, Sustainable Jersey/
Sustainability Institute, TCNJ

Agenda - Part I

1. Introductions
2. Program Requirements & Process/Timeline
3. Project Design Documents
4. Tree Species & Location
5. Site Preparation
6. Tree Planting
7. Maintenance
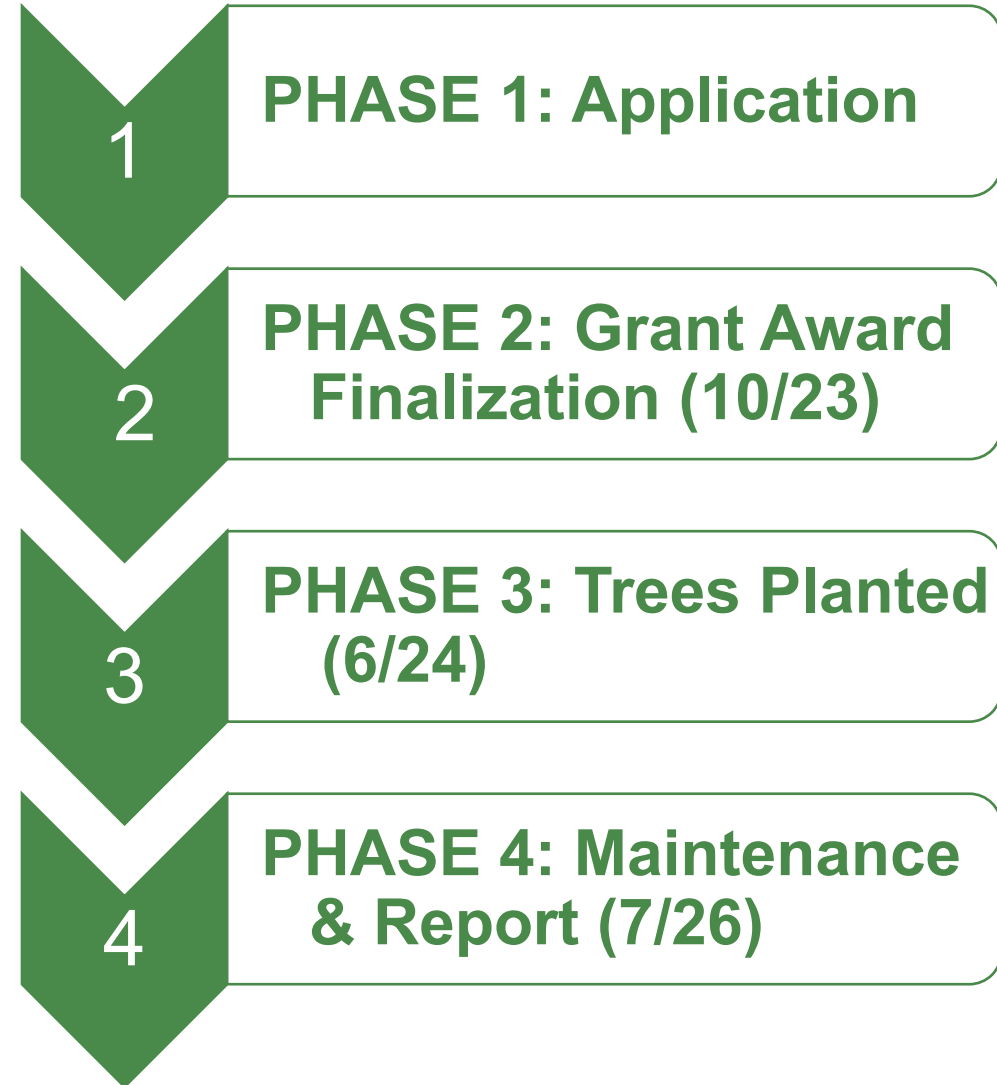8. Final Budgets

Agenda - Part II

– Break! –

1. Breakout groups:
   Workshop your planting plan
2. Reconvene: common questions
3. Plan revisions & approval
4. Budget Mods
5. Reporting

T4S Process

- PHASE 1
  - Grantees selected & award ***totals*** approved

- PHASE 2
  - Submit:
    - Signed grant agreement
    - W-9
    - [Resolution/Grant authorization]
  - TCNJ countersigns grant agreement
    - Issues Purchase Order
  - Grantee sends invoice for 10% of budget
  - 1st progress payment issued

1	**PHASE 1: Application**
2	**PHASE 2: Grant Award Finalization (10/23)**
3	**PHASE 3: Trees Planted (6/24)**
4	**PHASE 4: Maintenance & Report (7/26)**

Timeline: payments eligible

- Grant agreement signed (10% of budget)

- Detailed planting plans & budgets approved (40%)

- Post-planting report submitted (30%)

- Final report & conservation restriction approved (20%)

Phase 2 Grant Award Finalization

1
- Submit Detailed Planting Plan, Maintenance Plan & Budget (**November 22**)

2
- Revise Plans/Budget (see emailed feedback) until staff give OK

3
- Plans/Budget signed by school/college authorities & - if trees on municipal property - by **municipal** rep. (Transmittal Form)

4
- Plans approved. Spending authorized. 2nd Payment (up to 40%)

5
- Grantees issue RFPs, order trees, etc. (**December**)

Key documents

Download from T4S webpage (SJS website)
*Upload to grants portal:

- Detailed Plan Guidelines

- Detailed Plan Template (outline)*

- Planting Summary Sheet*

- Maintenance Plan Guidelines

- Maintenance Plan Template*

- Maintenance Activity Sheet*

- Detailed Budget Template*

- Budget Justification (no form)*

- Transmittal Form*

- FAQ (Google doc - *access OK?*):
Species/consultant lists; guides

Why hire a consultant?

- Up to 10% of total project cost allowed for assistance from a qualified professional
- Types of consultants
- How to find one (see FAQ)
- Roles & tasks of consultants:
    - planting design:
        - species selection, site maps
    - project implementation supervision

Tree Species and Location

Right Tree, Right Place, Right Way

- Following Best Management Practices and Right Tree, Right Place:
  – Envision the Mature Tree
  – What constraints do you have?
    - Soil
    - Buildings
    - Water

  – https://www.arborday.org/trees/righttr

These examples represent typical mature heights in city conditions. Check the Arborday.org Tree Guide for expected mature height and crown spread of trees you are considering.

Avg. Mature Height* (feet)
- 100
- 80
- 60
- 40
- 20

Shrubs

Dogwood
Flowering Plums, Hawthorn, Sumac, Hornbeam, Redbud

Sassafras
Post Oak, Quaking Aspen, Eastern Redcedar, Flowering Pear

Pin Oak
Arborvitae, Green Ash, Hemlock, Blue Spruce

White Oak
Linden, Red Oak, Tuliptree, Walnut, Many Pines

Ponderosa Pine
Redwood, Planetree

*Individual specimens may grow larger in natural settings.

Image taken from Arbor Day Foundation Right Tree Right Place

Tree Species and Location
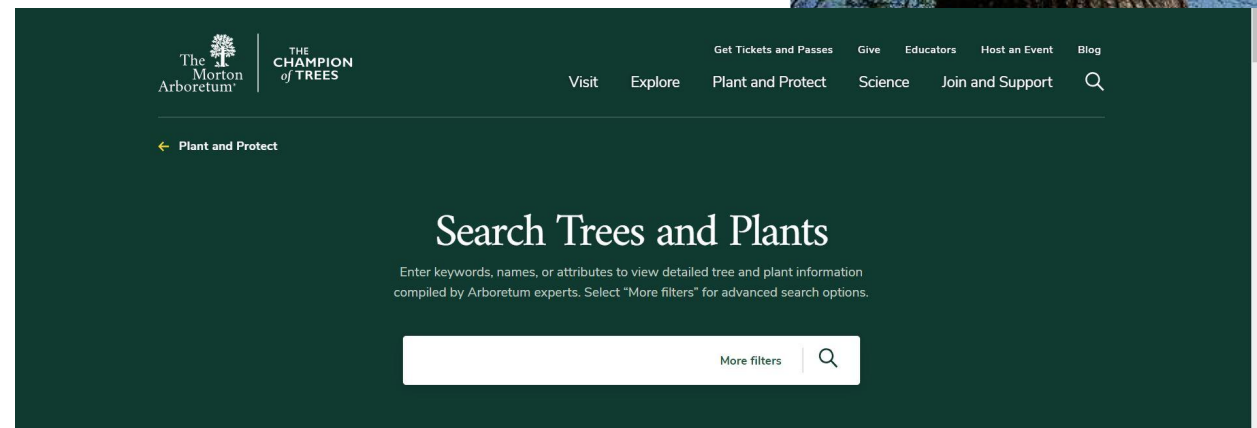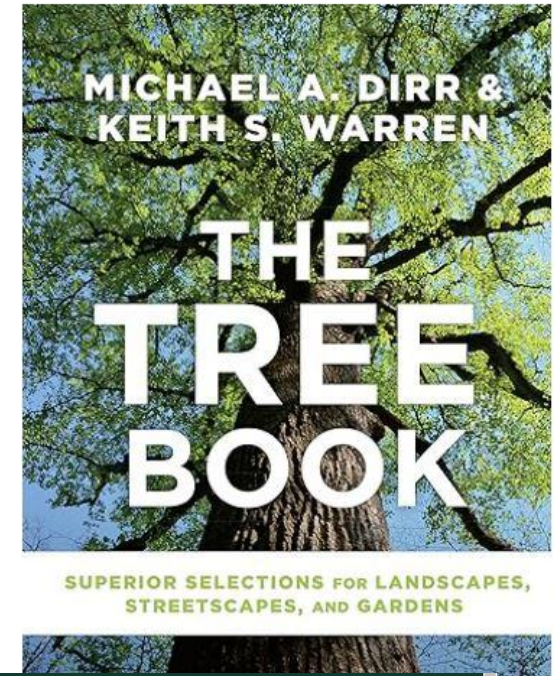Right Tree, Right Place, Right Way

- Matching a Tree to the Site: What to think about
  - Columnar or Upright species
  - Heat Resistant Species
  - Looking at Cultivars resistant to pests/diseases
  - How wide is the canopy going to be?
  - How tall is the tree going to be?
  - Soil Requirements

Image taken from Arbor Day Foundation Right Tree Right Place
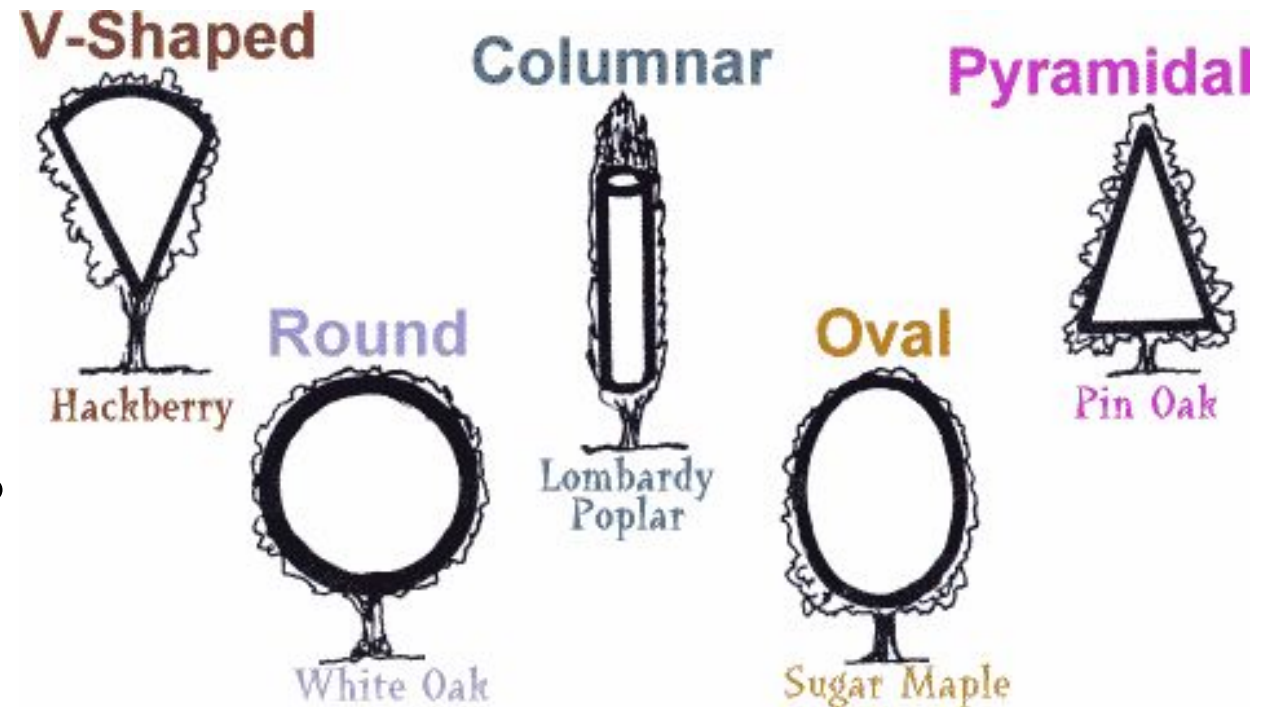
Tree Species and Location

Right Tree, Right Place, Right Way

- Do your own research
  - Nurseries have limited stock and may try to substitute, be sure they match your needs
  - Michael Dirr's The Tree Book or Manual of Woody Landscape Plants
  - Online Resources (see FAQ):
    - » Morton Arboretum
    - » Arbor Day Foundation
    - » Nursery Online Catalogs

MICHAEL A. DIRR & KEITH S. WARREN

THE TREE BOOK

SUPERIOR SELECTIONS FOR LANDSCAPES, STREETSCAPES, AND GARDENS

The Morton Arboretum | THE CHAMPION of TREES

Get Tickets and Passes   Give   Educators   Host an Event   Blog

Visit   Explore   Plant and Protect   Science   Join and Support   🔍

← Plant and Protect

Search Trees and Plants

Enter keywords, names, or attributes to view detailed tree and plant information compiled by Arboretum experts. Select "More filters" for advanced search options.

More filters | 🔍

Tree Species and Location

Right Tree, Right Place, Right Way

- Native vs. Non-native vs. Invasive
  - We do not plant invasive plants such as Bradford pear: these species damage the natural ecosystems
  - Urban forestry is a balance of native and non-natives species depending on site need
  - Native is better for local wildlife but cannot always be used due to limiting factors of urban settings


Image taken from Casey Trees of Invasives: DO NOT PLANT

Image taken from Fastgrowingtrees.com

Tree Species and Location

Right Tree, Right Place, Right Way

- Location Map
  - shows location of all project **sites** in context
- Site Plans
  - show location & species of trees to be planted at each site
  - Consider hiring a professional landscape architect, engineer or urban foresters to select species & prepare site plans.


Image taken from SF Planning
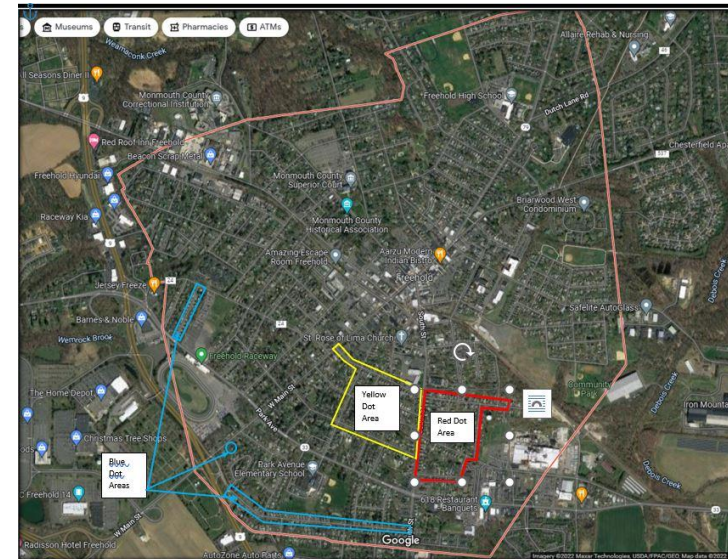
Tree Species and Location

Right Tree, Right Place, Right Way

- Site Plans: (professional) scale drawing
  - Detailed layouts of the planting sites
  - Considers underground and above ground utilities
  - Will show the planting area and mature size of tree
  - Identify specific species at the site and show how these overlay with the property and the utilities mentioned above


PARK PLAN

BROOME ST.

SUFFOLK ST.

CLINTON ST.

PLAY AREA

FUTURE SCHOOL

BUILDING
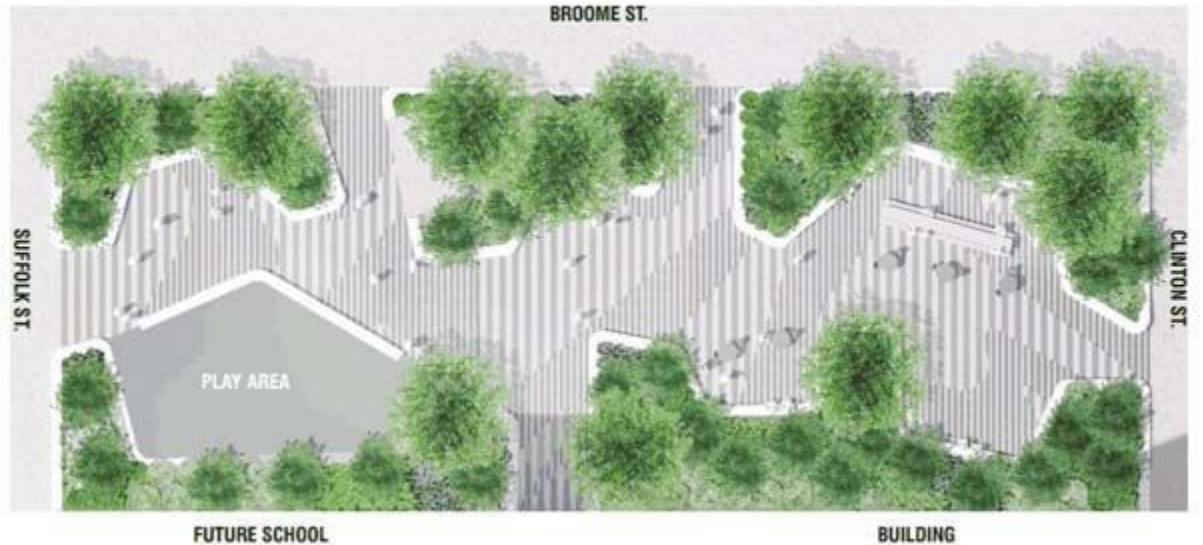
Tree Species and Location

Right Tree, Right Place, Right Way

- Acceptable 'Site Maps'
  - Overlay of a google map that shows where trees are being planted on site
  - Gives a key of species and location associations
  - Represents the location of planting and surround area, without formal layers of utilities
  - Provide as much detail as possible of the site for an evaluation by staff
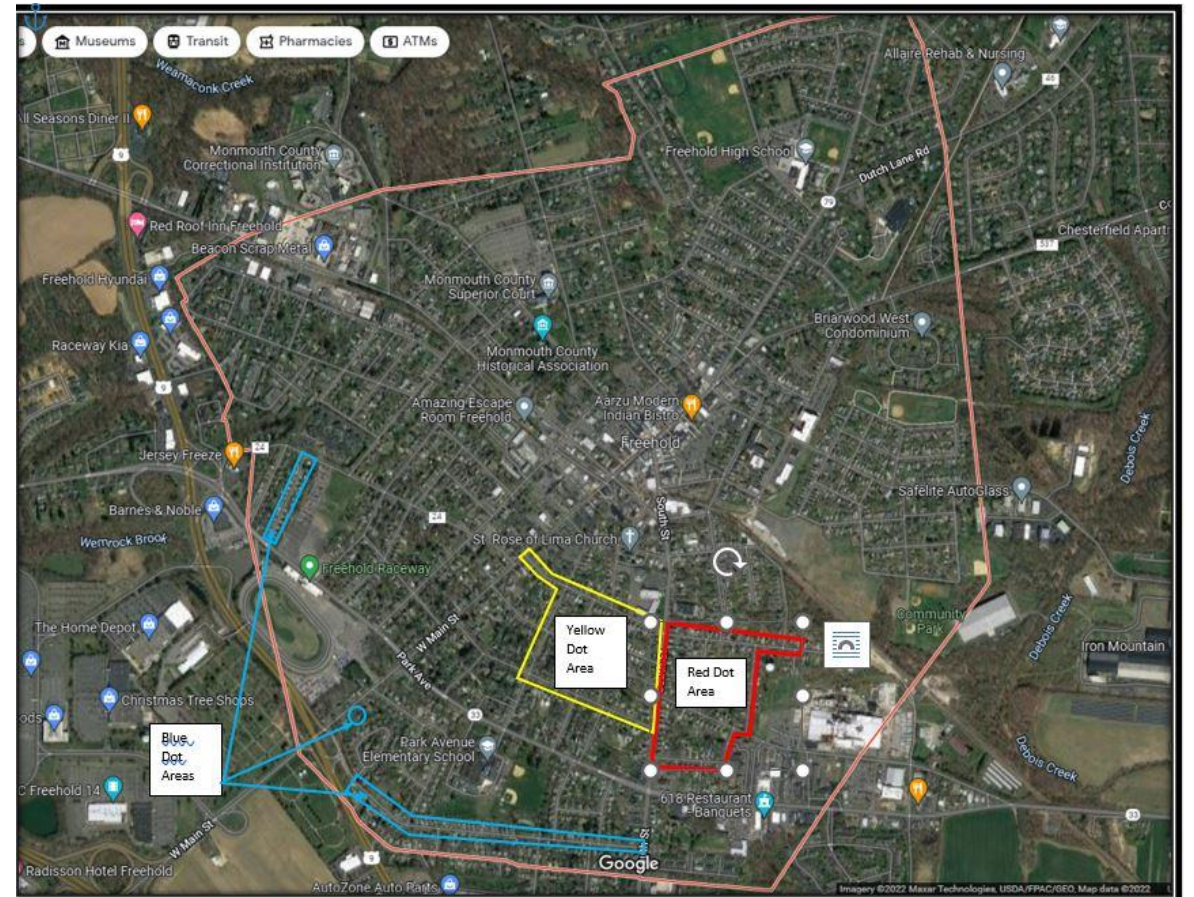
Tree Species and Location

Right Tree, Right Place, Right Way

- Location Maps
  - Overlay of a google map that shows where trees are being planted on site
  - Gives a key of species and location associations
  - Represents the location of planting and surround area, without formal layers of utilities
  - Provide as much detail as possible of the site for an evaluation by staff
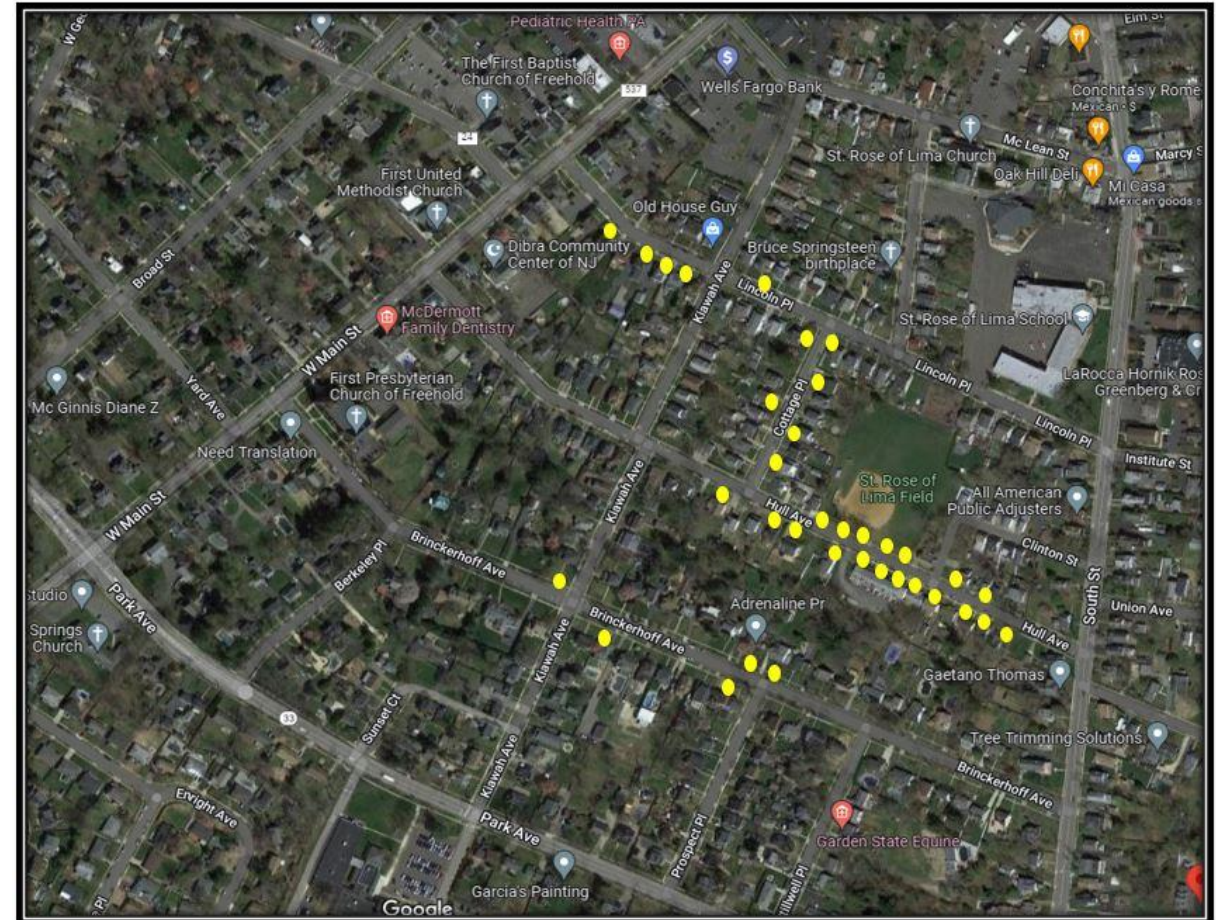
Site Preparation

Eligible expenses

- Concrete/pavement removal
- Installation of tree pits, raised tree beds*
- Removal of trees as necessary for growth of new trees
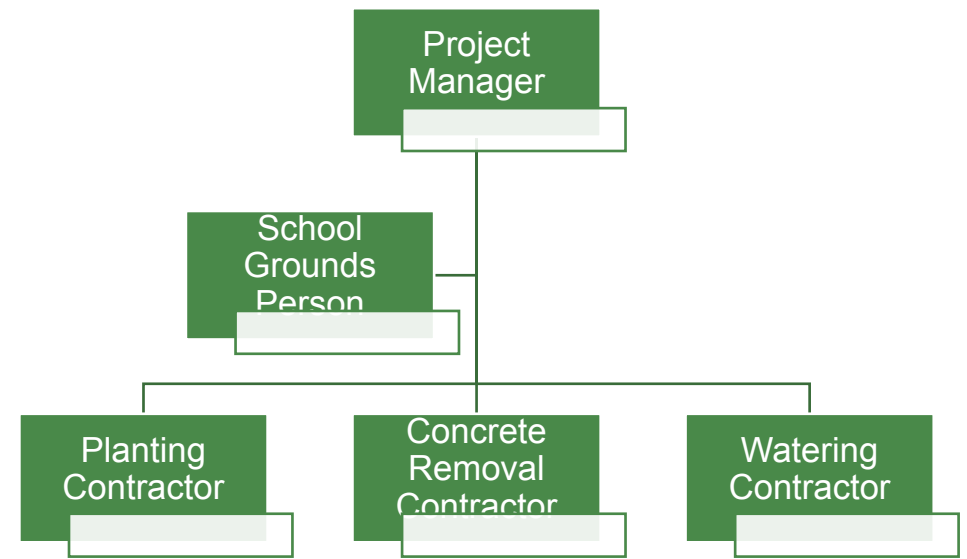
  Justification must be provided & approved.

- Stump-grinding at/near planting sites
- Soil testing & amendments; Mycorrhizae
- Purchase/rent/repair of equipment for project use (e.g., shovels, water tanks)
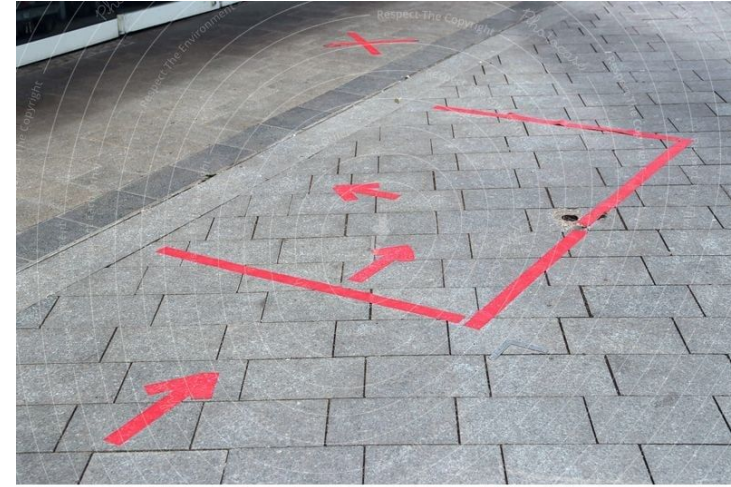
Site Preparation

811 Call Before You Dig

- It takes a village or a school
  - Make sure there is a plan in place to prep the site
  - Designate individuals responsible for mark outs and laying out tree planting locations
  - Find a contractor that is needed for each step of the site preparation (some who plant trees cannot remove concrete)

Project Manager

School Grounds Person

Planting Contractor

Concrete Removal Contractor

Watering Contractor

Site Preparation

811 Call Before You Dig

- It takes a village or a school
  - Think about the required soil volume needed for trees
  - Root ball size and the required digging for this
  - Verify that the mark outs are not near any planting sites
  - Consider supplemental lighting or irrigation lines that may not be in markup

Site Preparation
Eligible expenses

- Irrigation*
- Supplies
  – Gator Bags
  – Deer guards
  – Soil Amendments
  – Mycorrhizae additions

**If you feel there is something you really need please justify it in the plan for staff evaluation

Tree Planting
Shovel Ready but Still Adaptive Managing

- WHO, WHAT, WHERE, WHEN, WHY, HOW
  - Know who is doing what as part of the project
    - Do you have the capacity to plant all the trees?
    - Is it easier to have a contractor to buy and plant the trees?
    - Is the mark out done before planting?
    - Are you planting trees suitable for the time of year? (Summer not recommended)

Tree Planting
Shovel Ready but Still Adaptive Managing

- Contractor or Internal Planting
  - Capacity of the staff to complete the project
  - Do not want to leave trees unplanted on site too long, unless they are being watered
  - Making sure there is some warranty for the trees by the contractor
  - Not just planting contractor but watering as well

Detailed Planting Plan

- Section 1 Grantee Information

- Section 2 Project Sites: Location

  - Upload Location Map

- Section 3 Site Plans & Tree Selection

  - Upload a site plan for each site
  - Upload the planting summary sheet

Detailed Planting Plan

- Section 5 Tree Planting
  - Describe the activity and who will be undertaking it:
    a. how trees will be selected, inspected, and transported
    b. how the site will be prepared prior to planting
    c. how the trees will be maintained after delivery and prior to planting
    d. the planting method
    e. the immediate post-planting care, including watering, mulching, and pruning.

- Section 6 Project timeline: January-June 2024

TREES FOR SCHOOLS DETAILED PLANTING PLAN SUMMARY TEMPLATE

Name of School District/College/University:

Tree Species Selection				Quantity to be Planted	
Scientific Name	Common name (for cultivars incl. variety)	Type of planting material (e.g., B&B, container, bare root)	Size of planting material (e.g., 2 1/2" caliper, #15)	[NAME OF SITE 1]	[NAME OF SITE 2]

Add rows as needed.

ALTERNATE Tree Species Selection			
Scientific Name	Common name (for cultivars incl. variety)	Type of planting material (e.g., B&B, container, bare root)	Size of planting material (e.g., 2 1/2" caliper, #15)

Maintenance

Sustainable Care for Long Term Results

- Establishing Tree Care
  - Identify who is responsible
  - Establish protocols
  - Pruning should only occur to diseased or broken limbs
  - Mulching
  - Watering is KEY
  - Staking if windy, but remove if used

Maintenance
Sustainable Care for Long Term Results

- Long-Term Care Suggestions
  - Who is taking care of the trees long term?
  - Setting up a young tree pruning program over time
  - Monitor the trees for health related issues
  - Watering

Maintenance Staff

- Water
- Mulch
- Prune

Educational Staff

- Monitor
- Assist with Watering during School

Maintenance

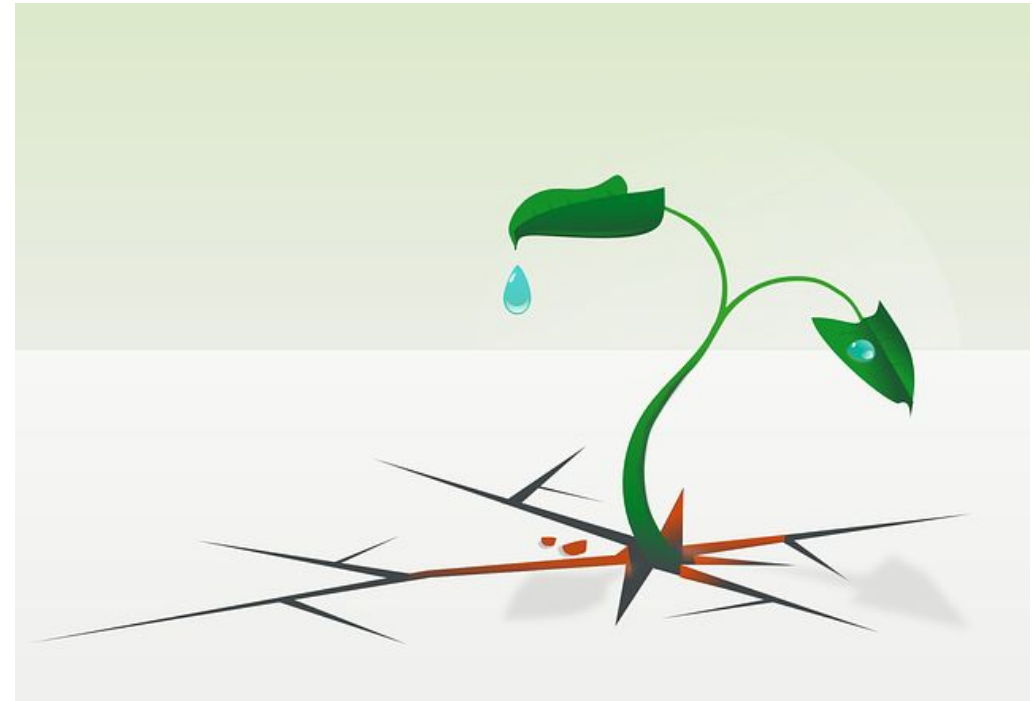Sustainable Care for Long Term Results

- Monitoring your Investment (Trees)
  - During the establishment period (2-3 years) ensure to monitor the trees visually for any health issues
  - Summer needs more monitoring for water
  - If something seems wrong it probably is
  - Call in a professional if needed
  - Use the Warranty if needed

Maintenance

Sustainable Care for Long Term Results

- Tree Establishment Requirement
  - Aim for 100% survival/establishment
  - Establishment criteria (more than survival)
  - 85% is the lowest acceptable passing of survival
  - If you follow your maintenance plan and something dies, document it and use the maintenance records as proof
  - Post-planting Report (inventory) due **July 31, 2024**
  - 2 year Random Inspections (June 2026)

Maintenance
Sustainable Care for Long Term Results

- Assessing Trees for Establishment/Survival

  – The terminal or topmost shoot, the central leader, of the tree is alive

  – Two-thirds (2/3) or more of a tree's canopy is alive and healthy. A branch or shoot is dead when no live cambium is present in the stem.

  – There are no major wounds on the truck or root collar. A major wound occurs when one-third or more of the cambium is injured over the circumference of the bole.

  – There is no major insect, disease or fungal infestation or affliction.

Maintenance Plan

- Section 1 (same)

- Section 2 (same)

- Section 3 Tree inventory

  – Species & number actually planted

  – Submit later, based on Planting Report

- Section 4

  – Upload Maintenance Activities Sheet

Maintenance Plan
Activity sheet

	A	B	C	D	E	F	G	H
1	TREES FOR SCHOOLS MAINTENANCE ACTIVITY TEMPLATE			**CREATE ONE TAB PER SITE (i.e., school, campus, off-campus location). Duplicate this blank table on each tab, then fill it in.**				
2								
3	Name of School District/College/Univ.:							
4	Name (location or #) of Site:							
5								
6	Activity category	Activity/ description	At time of planting	Responsible Party (name, position)	Through Year 2*	Responsible Party (name, position)	After project period (Year 3 onwards)	Responsible Party (name, position)
7	Planting	New sites	(Supervise planting)					
8		Replacement plantings	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		Replace dead trees w/in warranty period			
9	Watering	*Describe method/frequency*	(5-10+ gallons/tree)					
10	Mulching	" "	(2-3" deep, >3" from trunk)					
11	Pruning	Regular schedule	(only broken branches or extra leaders)		(Light structural pruning Year 2* or 3)		(every 3 years)	
12		Storm/emergency						
13		Utility/street						
14	Inspection**		Tree selection & planting quality approved on site		(weekly at first, then once per month)		(1-2x per year)	
15	Other (add rows)							

Break time!

Detailed Budget Template

A . TREES AND TREE-PLANTING

Species/type of trees (group by price)	Type & size of planting stock	Cost: trees (only) *or* planting included?	Estimated Unit Cost	Quantity	Total Estimated Cost
Price point 1 (etc.)	(e.g, B&B (ball & burlap), 2 1/2")		$ -		$ -
				Total Tree/Tree-Planting Cost	$ -

B. SITE PREPARATION

Activity		Units (#, sq.ft., etc.)	Estimated Unit Cost	Quantity	Total Estimated Cost
			$ -		$ -
				Total Site Preparation Cost	$ -

C. ITEMIZED EQUIPMENT

Item			Estimated Unit Cost	Quantity	Total Estimated Cost
			$ -		$ -
				Total Equipment Cost	$ -

D. ITEMIZED SUPPLIES

Item			Estimated Unit Cost	Quantity	Total Estimated Cost
			$ -		$ -
				Total Cost of Supplies	$ -

E. MAINTENANCE COSTS

Subcontractor			Estimated Unit Cost (if relevant)	Quantity	Total Estimated Cost
			$ -		$ -
				Total Subcontractor/Consultant Cost	$ -

F. SALARIES, WAGES, AND FRINGE BENEFITS

Position		Number of Hours or Fractional Time	Hourly Wage or Salary	Fringe	Total Estimated Cost
			$ -	$ -	$ -
				Total Salaries	$ -

G. CONSULTANT COSTS

Consultant			Role in Project	Period	Total Estimated Cost
					$ -
				Total Consultant Cost	$ -
				INDIRECT COSTS % (up to 10% of total project cost)	

Budget modifications

- If, after the Detailed Budget has been approved, changes are needed that exceed **10%** of the line item expense, _**pre**_**-approval** would be required.

- Budget modification form will be available on grants portal

Project reporting

- Post-planting Report due **July 31, 2024**
  - Tree inventory, site map, photos
  - Report of expenditures w/ documentation (e.g., invoices, financial ledger)
  - 3rd progress payment (30% of budget)

- Final Report due **July 31, 2026**
  - Tree inventory, site map, photos
  - Summary of expenditures w/ documentation
  - Conservation restrictions for all sites
  - Final payment (20% of budget)

Get inspired! Inspire!

Urban/Community Forestry is getting due attention & investment.
Be part of a movement!

https://www.greenschoolyards.org
https://www.greenschoolyards.org/schoolyard-forest-system

Share your experiences with educational connections and student, faculty and community involvement in your Trees for Schools Projects!

In closing…

***Send in your
Grant Agreements ASAP!!!***

Happy planting!

Thank You

Michael Martini:
Email: Martinitreeconsulting@gmail.com

Melanie McDermott
Email: mcdermom@tcnj.edu