



Duke Farms

Landscape Design
& Carbon Sequestration



Duke Farms



RUTGERS

Edward J. Bloustein School
of Planning and Public Policy



Studio Classmates

Lisa Avichal

Avonnet Bell

Cecille de Laurentis

John Donadio

Eve Gabel-Frank

Robert Gates

Alison Kopsco

Michael Kwan

Emily Maciejak

Carrie Martin

Deanna Miller

Anna Quan

Eric Schkrutz





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Rutgers University Faculty & Staff

Marjorie Kaplan

Jeanne Herb

Juan Ayala

Uta Krogmann

AJ Both

Daniel Gimenez

Rick Lathrop

Anthony Broccoli

Jean-Marie Hartman

Duke Farms

Michael Catania

Jon Wager

Thom Almendinger

Nora DiChiara



“The purpose of this studio course is to:

1. Introduce students to concepts associated with terrestrial carbon sequestration that can be applied in planning practice;
1. Inform development of a student created framework to integrate consideration of carbon sequestration into city and regional planning practice; and
1. Apply the framework as part of planning efforts related to 13 projects at Duke Farms.”



Carbon Sequestration

- Plants capture CO₂ from the atmosphere via photosynthesis
- Trees “sequester carbon” aka capture atmospheric CO₂ and “store carbon in their wood and in the soil”
- Carbon emissions can be reduced through renewable energy, carbon markets, etc. but also through reforestation and afforestation
- Regional Greenhouse Gas Initiative (RGGI) recognizes afforestation as carbon offset



Planning Framework

1. **Assess** Current Conditions/SWOT Analysis
2. **Establish** Goals for the Future
3. **Identify** Possible Strategies and Best Practices
4. **Consider** Other Issues
5. **Develop** Components of the Plan/Consider Alternatives
6. **Determine** How to Implement, Monitor and Ensure Sustainability of the Plan
7. **Finalize** and Present Plan



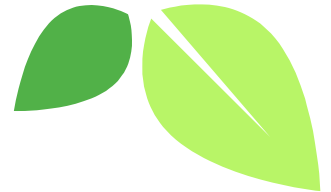


Duke Farms Land Stewardship Plan (2017)

- Develop plant propagation and reintroduction plan
- Integrate stewardship and related programmatic goals
- Foster monitoring and research
- Engage in climate change mitigation
- Implement sustainable agricultural practices

Our Goals As Planners

- Mitigate climate change
- Promote sustainability
- Promote human health





Hillsborough Township

- Plan for a healthy, vibrant community with a sustainable balance of growth & development
- Engage & educate the public in the planning process

Somerset County

- Reduce the county's carbon footprint
- Preserve a safe, health, & visually pleasing environment by encouraging the wise use of natural resources
- Protect and enhance significant historic sites & structures

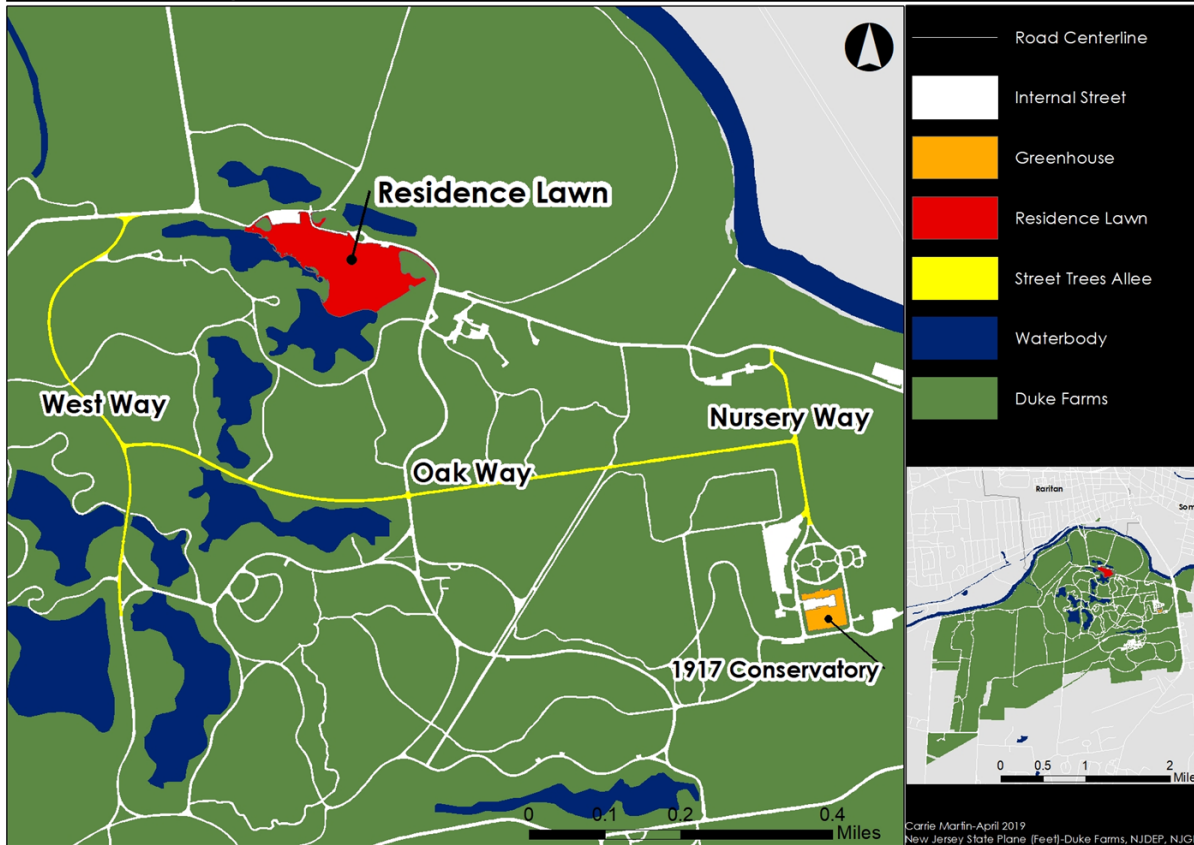




Doris Duke's Vision

- “I have a special interest in the **preservation of wildlife, both flora and fauna**, in the United States and elsewhere...”
- “I direct the...Foundation...to use the parks area to provide an enclosure to **protect endangered species of all kinds, both flora and fauna, from becoming extinct.**”
- “I direct that this [agricultural part of the] property be **used solely for agricultural and horticultural purposes, including research**, and that this property be used for the **exclusive purpose of maintaining and protecting the wildlife located on the property.**”

Duke Farms Project Locations





References

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