ARLINGTON STONEHAM WINCHESTER

SUSTAINABLE LANDSCAPE WORKSHOP SERIES

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INTRODUCTIONS

- Town of Stoneham
  - Erin Wortman, Director of Planning and Community Development
  - Ken Pruitt, Sustainability Director, Town of Winchester
  - David Morgan, Environmental Planner + Conservation Agent, Town of Arlington
- Bohler
  - Leslie Fanger, Senior Landscape Architect & Project Manager
  - Lindsey Corse, Senior Landscape Designer

SUSTAINABLE LANDSCAPE WORKSHOP SERIES

- Grant received from MAPC
- 3 Workshops: Stoneham (Design), Winchester (Construction), Arlington (Maintenance)
- Sustainable Landscape Guidebook and training videos to follow
- Goal: Educate and encourage residents, Town Agencies and Businesses to implement sustainable landscape practices

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WORKSHOP SERIES

Workshop 1:
DESIGN

Tues, April 11,
5:00-7:00PM

STONEHAM
Town Hall

Workshop 2:
CONSTRUCTION

Sat, May 20,
1:00-3:00PM

WINCHESTER
Library

Workshop 3:
MAINTENANCE

Thurs, June 8,
11:00AM-1:00PM

ARLINGTON
Community Center

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DESIGN PROCESS

1. Who will do the work?
2. Draw a scaled map of the property
3. Analyze the property. Constraints? Concerns? Opportunities?
4. What are your needs? What features will you include?
5. Brainstorm layout options
6. Create your design

STEP 1 – WHO WILL DO THE WORK?

Design:		Installation (& Maintenance):
+ **You** create design	→	You install in phases
+ **You** create design	→	Contractor installs
+ **Professional** designer	→	You install with help from contractor(s)
+ **Professional** designer	→	Contractor installs

REFER TO HANDOUT

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STEP 2 – SCALED MAP

Mapping Resource to Try At Home:
MASSMAPPER
https://maps.massgis.digital.mass.gov/MassMapper/MassMapper.html

What to include on your map:

+ Property lines
+ North arrow
+ Scale bar
+ Dimensions
+ Footprint of structures on the property
+ Existing trees, shrubs and location of plant beds
+ Location of utilities (septic system, light poles, underground lines and overhead wires)
+ Environmental constraints (wetlands, streams, etc.)

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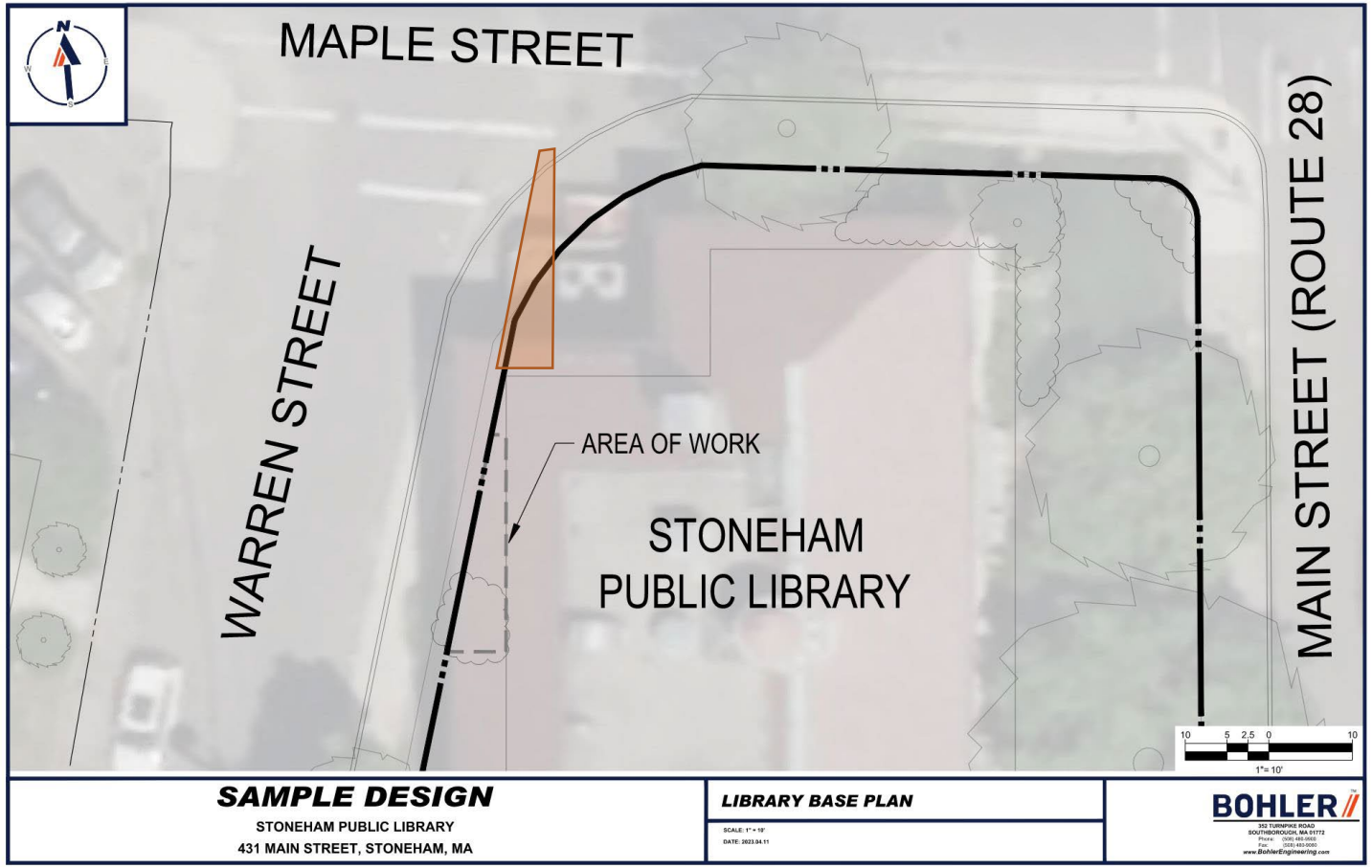
STEP 2: SCALED MAP

+ With this scaled map, we can accurately plan our space.
+ We can determine our work area and see it in relation to its surroundings.
+ Try MASSmapper at home.



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STEP 3 – ANALYZE THE SITE

Look at your scaled map:

+ **Identify the opportunities and constraints.**
  These factors will influence your design choices.

+ Invasive plants and pests
+ Drainage/Flooding/erosion
+ Sun or shade?
+ Wet or dry?
+ Steep or flat?
+ Circulation patterns
+ Soil condition
+ Visibility

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STEP 4 – WHAT ARE YOUR NEEDS?

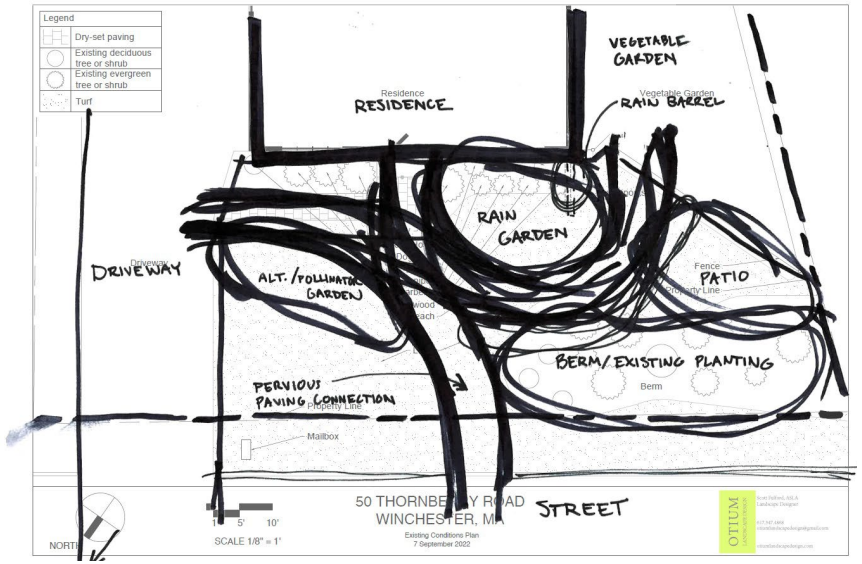
Questions to ask yourself:

+ What goals am I trying to accomplish?
+ Who's going to use this space, and for what? (Kids, pets, etc.)
+ What's my list of 'must-haves'?
+ What are my negotiable 'wants'?
+ Do I have a style in mind? What examples do I like/dislike?

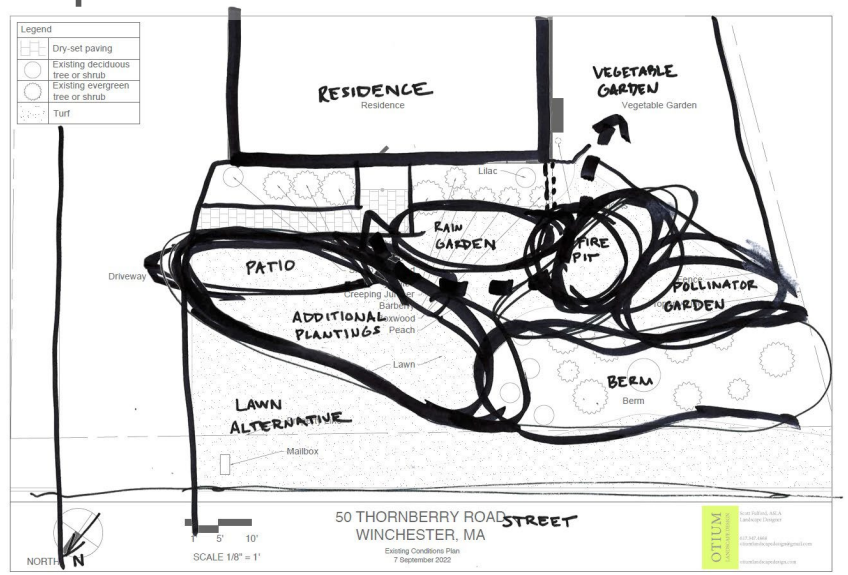
STEP 5 – BRAINSTORM LAYOUT OPTIONS

1. Pollinator Planting
2. Rain Garden
3. Rain Barrel
4. Pervious Paving
5. Outdoor Patio
6. Lawn Alternative

Option 1



Option 2



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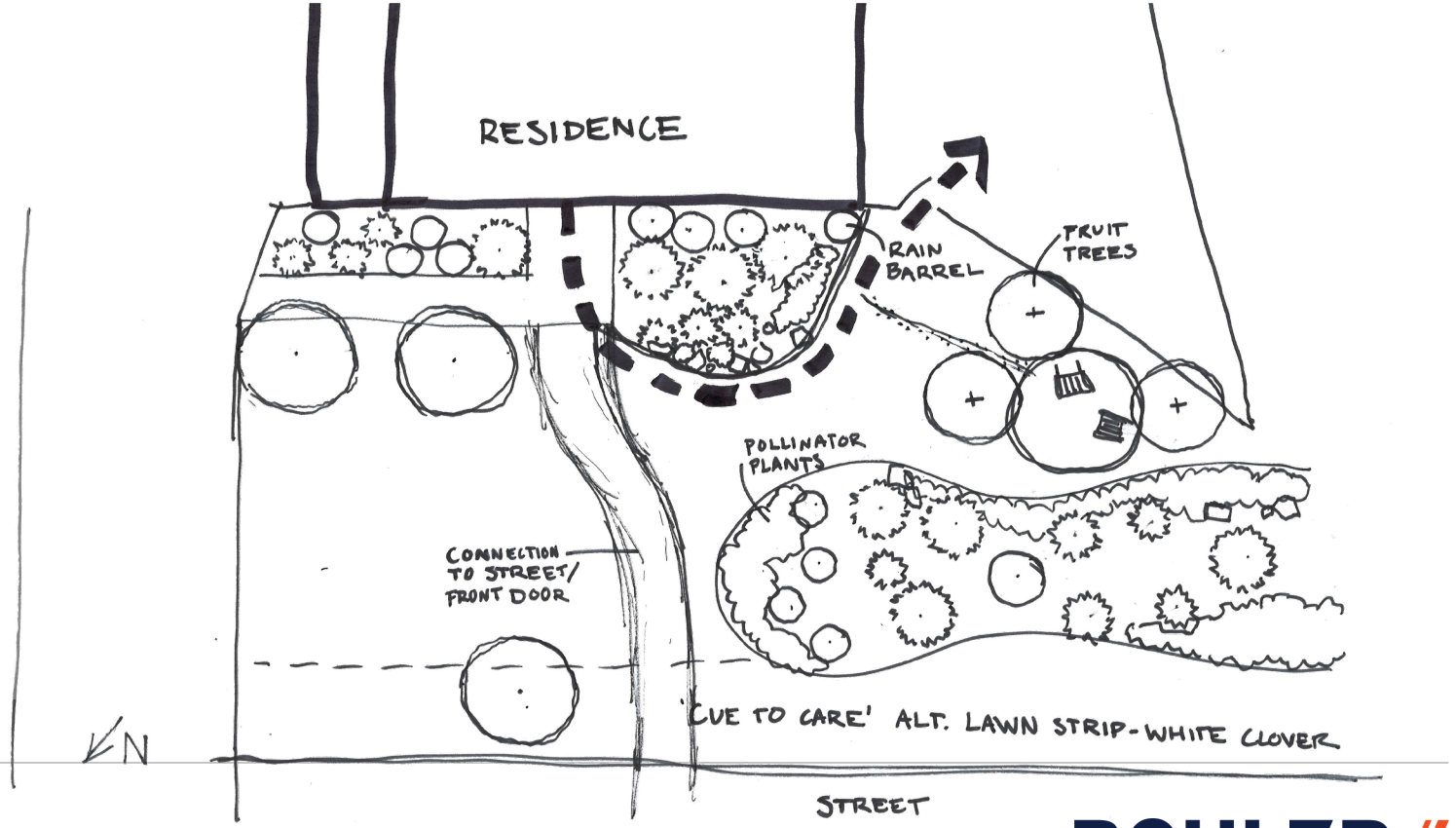
STEP 6 – CREATE DESIGN

+ Combine the best aspects of each option to create the best design.

1. Pollinator Planting
2. Rain Garden
3. Rain Barrel
4. Pervious Paving
5. Outdoor Patio
6. Lawn Alternative



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DESIGN EXAMPLE

STONEHAM PUBLIC LIBRARY

EXAMPLE: STONEHAM LIBRARY

- **Note: This is just for fun! We are not really modifying the library or anyone's property.**
- The purpose is to get you thinking about how to design at home.

EXAMPLE: STONEHAM LIBRARY

+ Let's look at how the design steps play out for this scenario.
+ **Step 1. Who will do the work?**
+ In this scenario, Town will hire a landscape design build contractor

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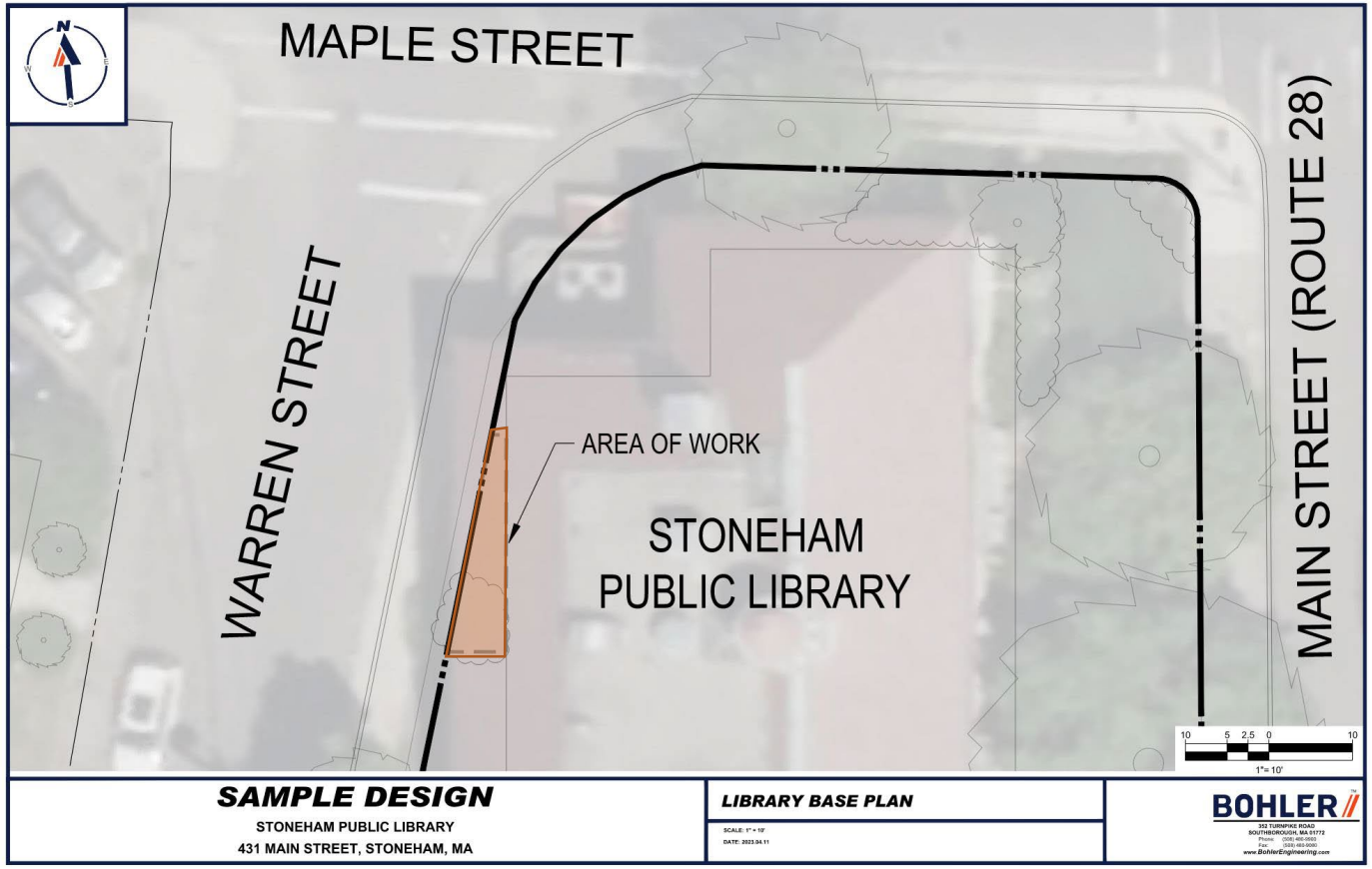
STEP 2: SCALED MAP

+ With this scaled map, we can accurately plan our space.
+ We can determine our work area and see it in relation to its surroundings.
+ Try MASSmapper at home.



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STEP 3: ANALYZE

+ Let’s analyze the existing conditions in the back of the library.

+ Where are the areas of concern/constraint/opportunity?

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DOWNSPOUT
OUR DESIGN AREA
+ How can we make this better?
+ Where are our areas of concern and opportunity?

STEP 4: WHAT ARE YOUR NEEDS?

Needs/Goals:

+ Better drainage
+ Mitigate erosion issues
+ Capture storm water in rain barrel(s) from downspouts
+ Use water in rain barrel for irrigation
+ Add visual appeal
+ Add rain garden with native pollinator plants

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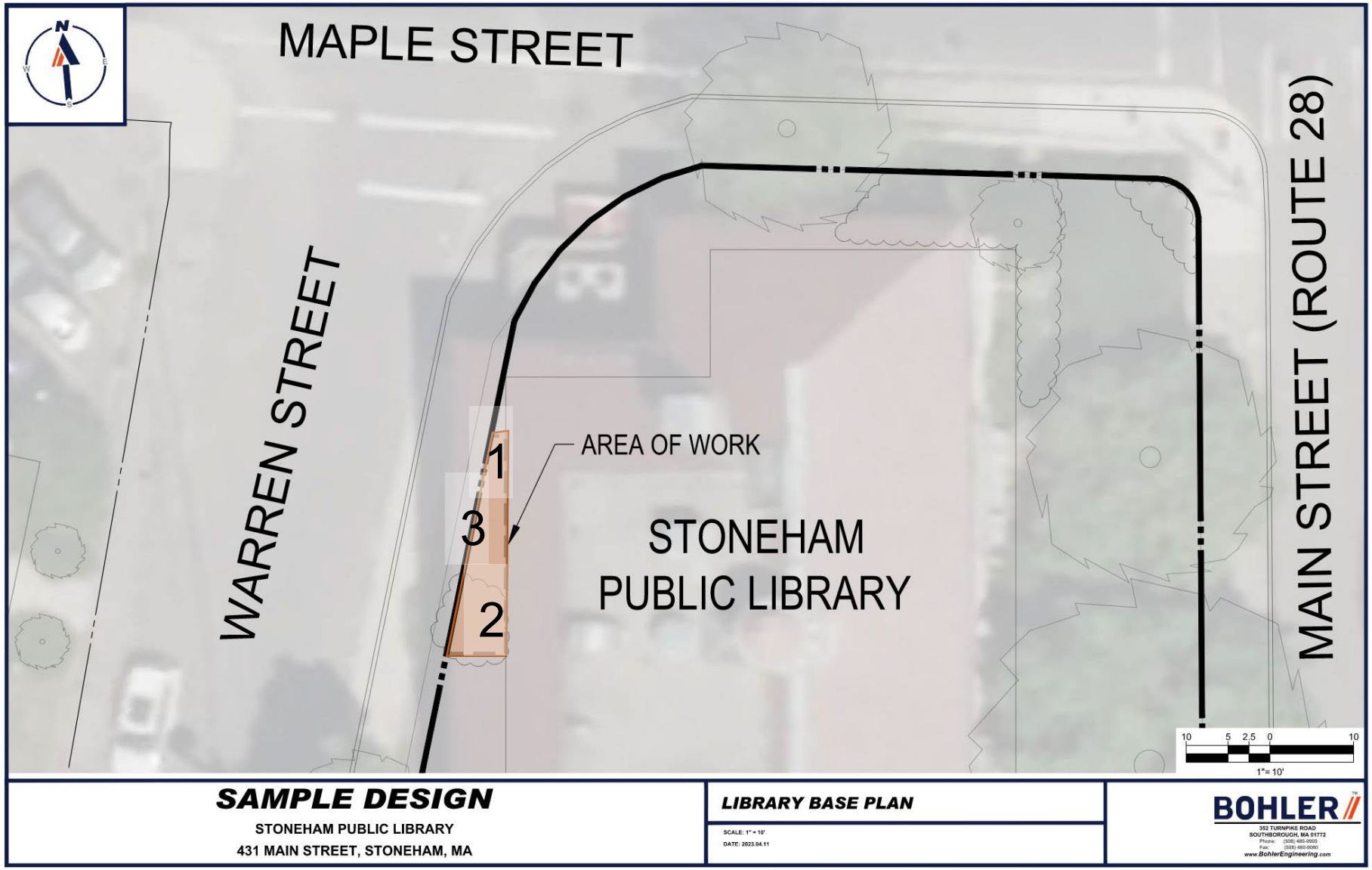
STEP 5: LAYOUT

1. Rain Garden
2. Rain Barrel
3. Bench



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STEP 6:FINAL DESIGN

1. Pollinator Planting
2. Rain Garden
3. Rain Barrel/Drip Irrigation
4. Bench

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SUSTAINABLE LANDSCAPE PRACTICES

- Incorporate native plants!
- Eradicate invasive species
- Conserve water and energy
- Reduce the use of fossil fuels (Yard equipment!)
- Decrease erosion and stormwater runoff
- Use pervious hardscape materials for infiltration
- Support pollinators
- Limit herbicide and pesticide use

WHAT ARE NATIVE PLANTS?

Why is this distinction important?

+ Native plants are ***naturally occurring in the region.***

+ Because of this, they thrive in the area they're native to! They are well-adapted.

+ Native plants provide ecosystem services that non-natives and invasives do not.

+ Pollinators depend on native species to survive (Specifically, **'Keystone'** species).

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KEYSTONE PLANTS

+ '14% of native plants support 90% of butterfly and moth species.' (Dr. Doug Tallamy) National Wildlife Federation

+ If you're looking to add to your garden, start with these species.

Plant Type	Plant Genus	Sample of Common Species (not all encompassing)	# Caterpillar Species that Use this as a Host Plant	# of Pollen Specialist Bee species that Rely on this Plant
Trees	*Quercus*	White oak *(Quercus alba)*, Black oak *(Quercus velutina)*	436	
	Prunus	American plum *(Prunus americana)*, Black cherry *(Prunus serotina)*, Chokecherry *(Prunus virginiana)*	340	
	Betula	River birch *(Betula nigra)*, Sweet birch *(Betula lenta)*	284	
	Populus	Eastern cottonwood *(Populus deltoides)*	249	
	Acer	Box elder *(Acer negundo)*, Silver maple *(Acer saccharinum)*, Sugar maple *(Acer saccharum)*	238	
	Malus	Southern crabapple *(Malus angustifolia)*, Sweet crabapple *(Malus coronaria)*	237	
	Carya	Bitternut hickory *(Carya cordiformis)*, Pignut hickory *(Carya glabra)*, Mockernut hickory *(Carya tomentosa)*	213	
	Pinus	Pitch pine *(Pinus rigida)*, Eastern white pine *(Pinus strobus)*, Virginia pine *(Pinus virginiana)*	200	
Shrubs	*Vaccinium*	Northern highbush blueberry *(Vaccinium corymbosum)*, Black highbush blueberry *(Vaccinium fuscatum)*, Hillside blueberry *(Vaccinium pallidum)*	217	14
	Salix	Prairie willow *(Salix humilis)*, Black willow *(Salix nigra)*	289	14
Flowering Perennials	*Solidago*	Stiff leaf goldenrod *(Solidago rigida)*, Atlantic goldenrod *(Solidago arguta)*	104	42
	Symphyotrichum	Blue wood aster *(Symphyotrichum cordifolium)*, Smooth aster *(Symphyotrichum laeve)*	100	33
	Helianthus	Woodland sunflower *(Helianthus divaricatus)*, Small woodland sunflower *(Helianthus microcephalus)*	66	50

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SUSTAINABLE LANDSCAPE PRACTICES

RAIN BARRELS

+ Condition: Roof gutters downspout

+ Opportunity: Add rain barrels to downspouts

+ Collect stormwater runoff
+ Use collected water to water your plants
+ Conserve water
+ Prevent erosion

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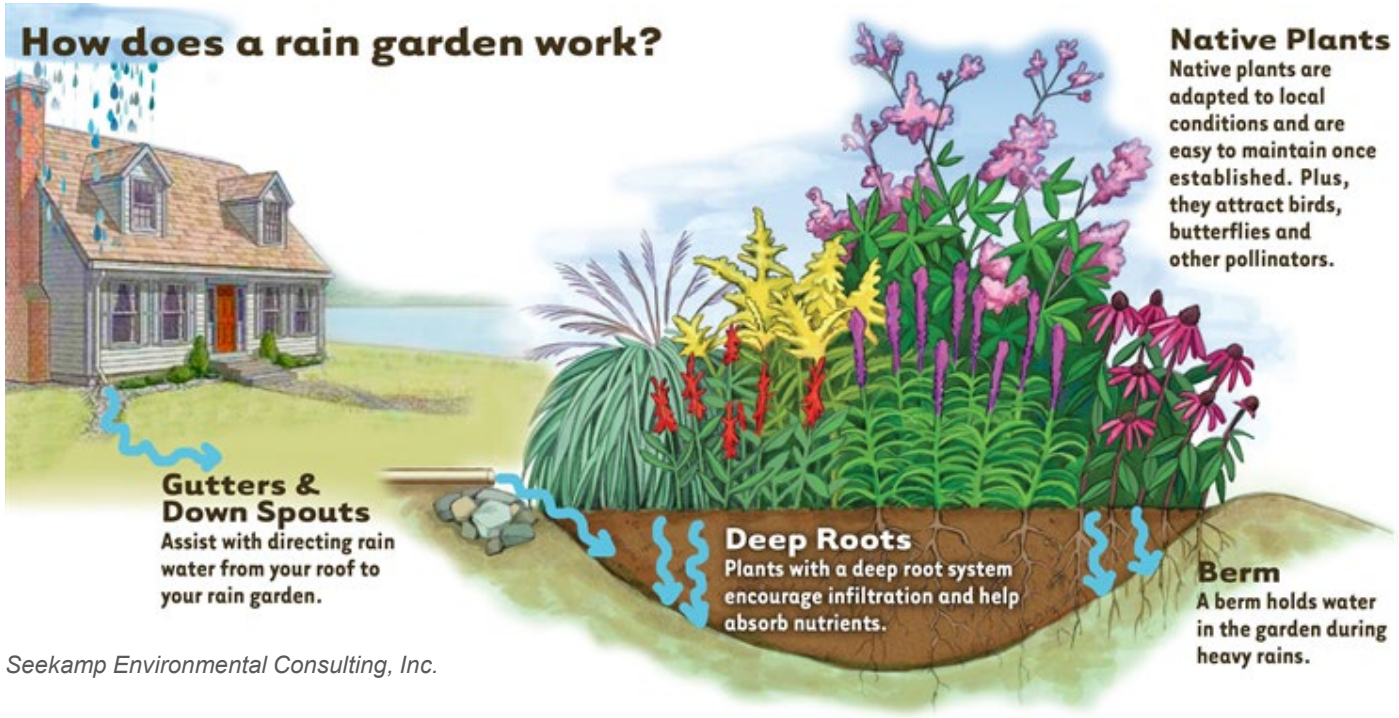
SUSTAINABLE LANDSCAPE PRACTICES

RAIN GARDENS



Seekamp Environmental Consulting, Inc.

+ Prevents stormwater runoff and erosion
+ Plants absorb water and filter pollutants
+ Provide food and shelter for wildlife
+ **'Keystone'** plants provide the most benefit for wildlife

+ Opportunity: Redirect water into a rain garden

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SUSTAINABLE LANDSCAPE PRACTICES
LAWN ALTERNATIVES

+ Reducing lawn area can help you save water, money, and effort.
  These alternatives are low-maintenance, sustainable, and attractive.

+ Consider converting lawn areas to groundcovers like moss, thyme, native sedges, or white clover.

+ Add garden beds for planting areas
+ Where lawn is burnt or dying, consider functional alternatives.

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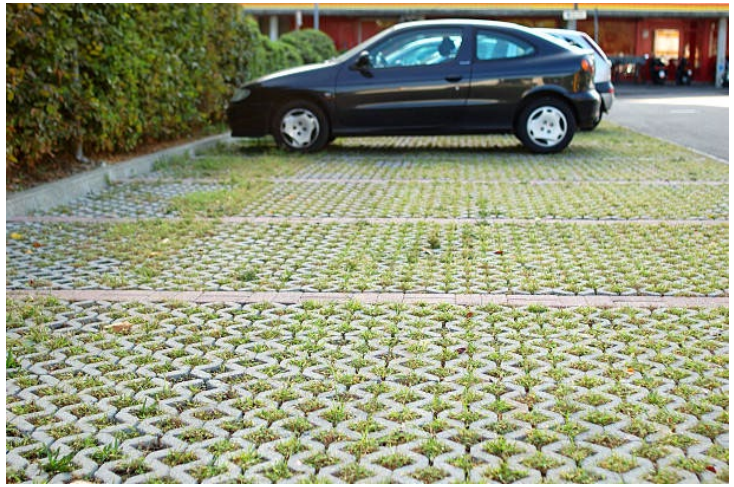
SUSTAINABLE LANDSCAPE PRACTICES

PERVIOUS HARDSCAPE MATERIALS

+ Pervious solutions reduce stormwater runoff by allowing water to pass through them and infiltrate into the ground.

+ Pervious concrete



+ Grid pavers

+ Pervious pavers

+ Pervious asphalt

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SUSTAINABLE LANDSCAPE PRACTICES

ELECTRIC YARD EQUIPMENT

+ Switch to electric yard equipment to reduce use of fossil fuels, and carbon emissions

+ Battery-powered leaf blower
+ Electric lawnmower
+ Electric trimmers, weedwhackers, etc.

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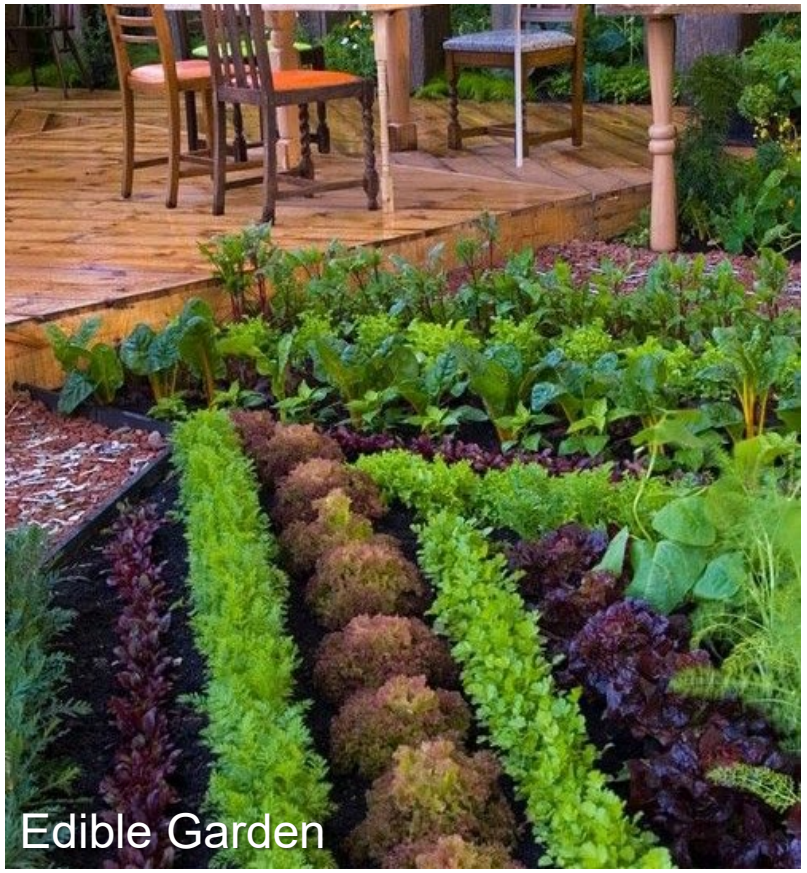
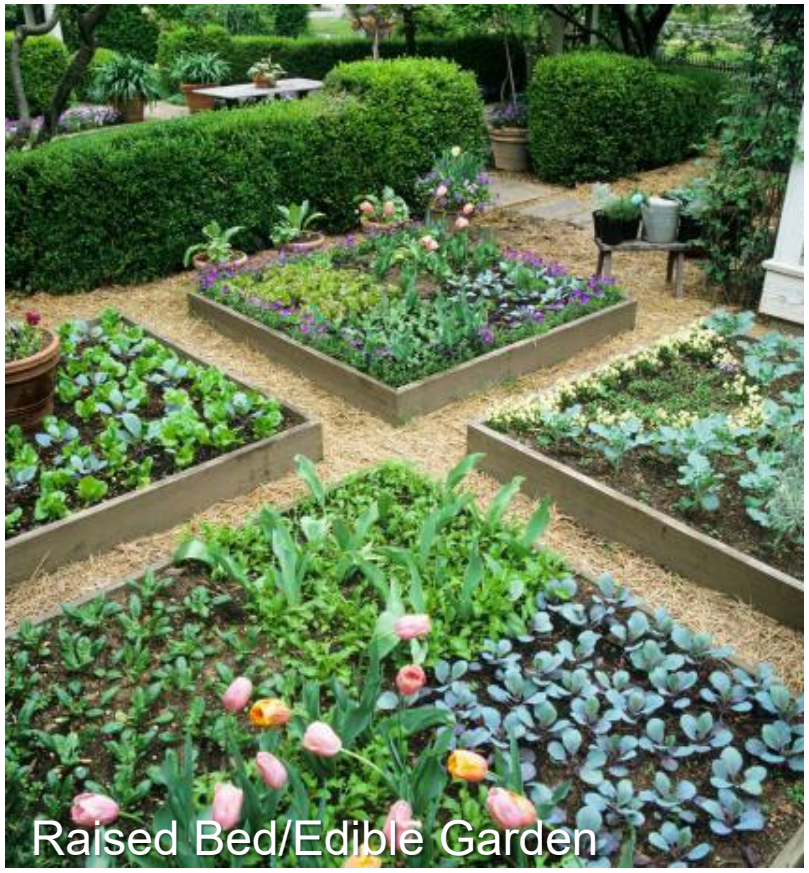
DESIGN ACTIVITY!


Container Garden


Rock Garden


Edible Garden


Raised Bed/Edible Garden


New England Wildflower/ Pollinator Garden

GARDEN STYLES

‘CUES TO CARE’

+ You can utilize your lawn as a **‘Cue to care.’** A clean edge: Lawn or stone edges frame planting areas as more attractive.

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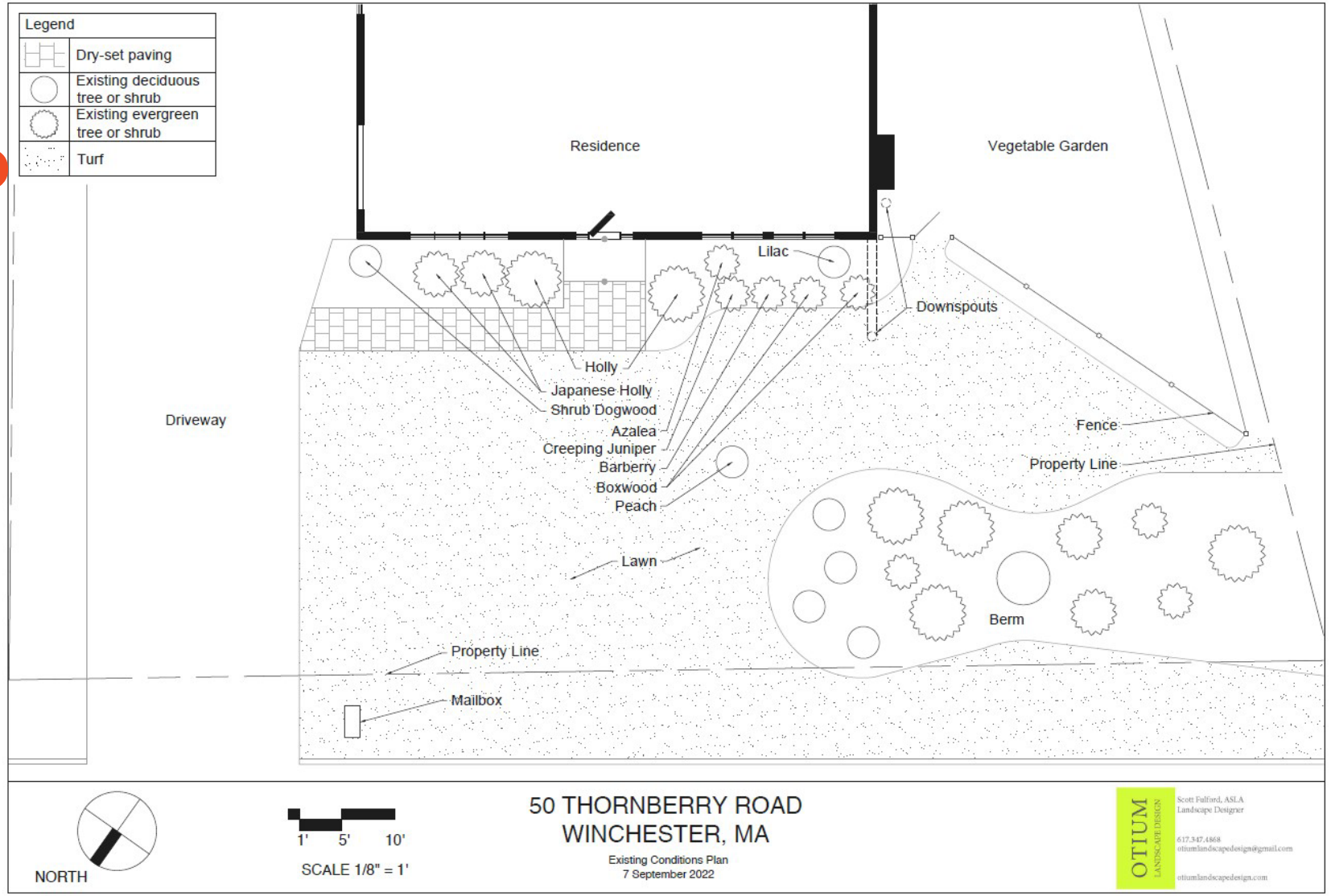
STEP 1: WHO WILL DO THE WORK?

+ In this activity, **you are the designer!**
+ We will use this real-life example as the base for our design.
+ Let’s walk through the design steps before you get started.

STEP 2: SCALED MAP

+ This step is already done for you!
+ These are the existing conditions of the house on the previous slide.



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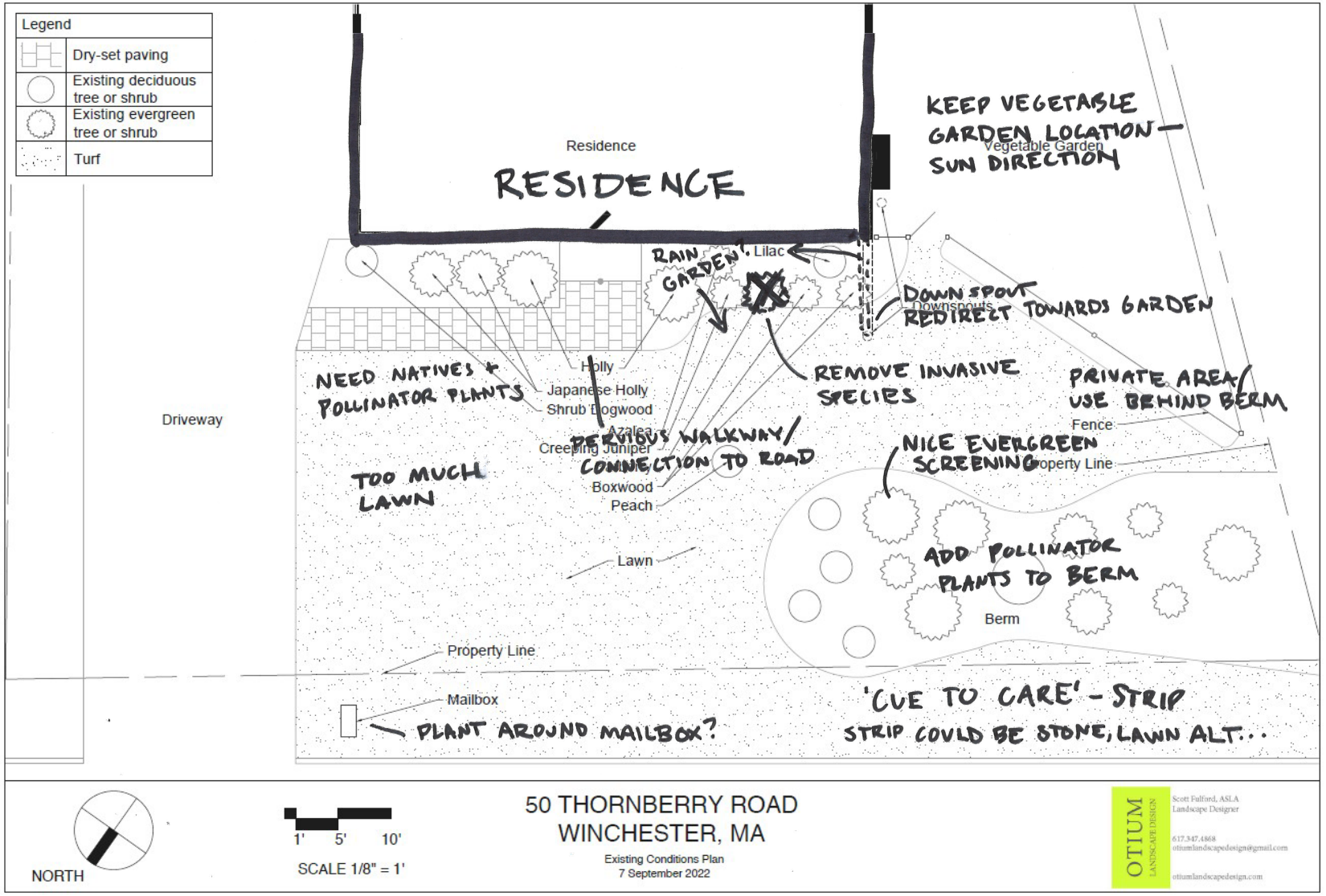
STEP 3: SITE ANALYSIS



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STEP 4: NEEDS/FEATURES

1. Pollinator Planting
2. Rain Garden
3. Rain Barrel
4. Pervious Paving (Driveway/Walkway/Patio)
5. Lawn Alternatives

- Note: Your list does not have to look exactly like this. If you lived here, what practices would you use?

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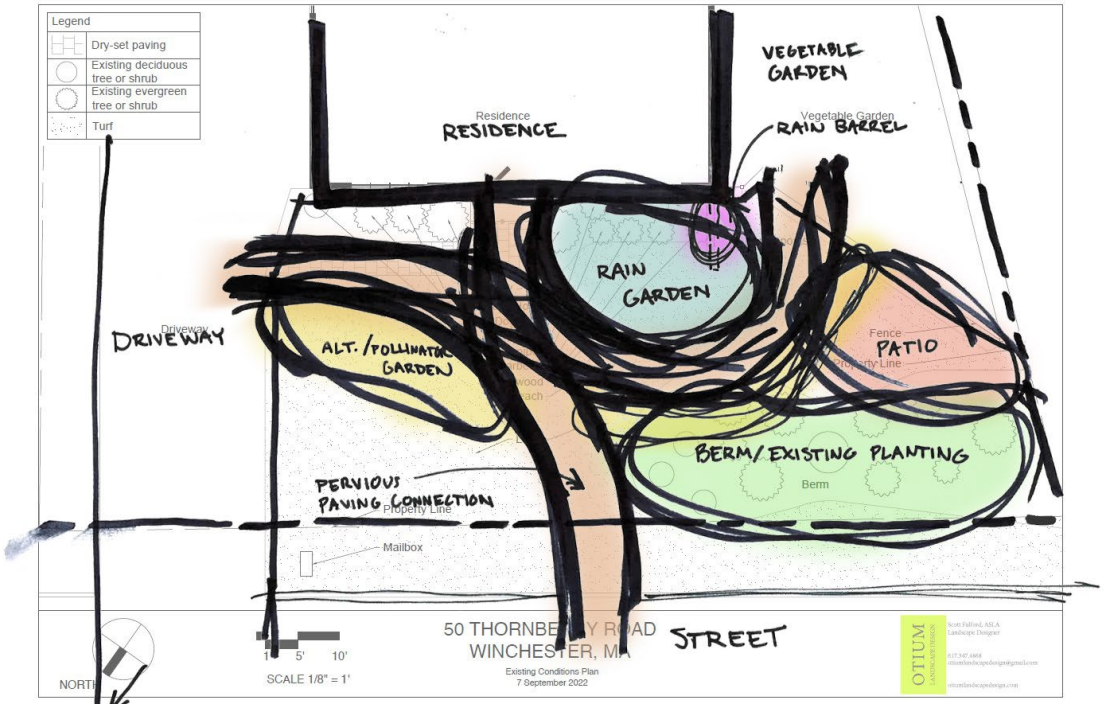
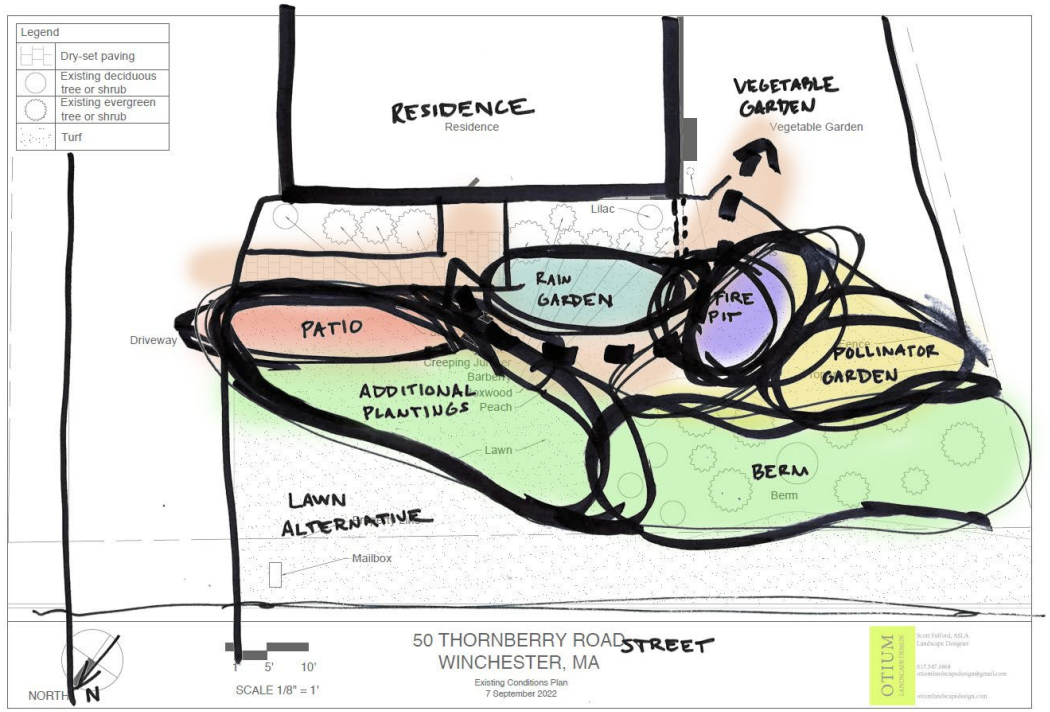
STEP 5: LAYOUT OPTIONS

+ Draw loose bubbles outlining use areas.

+ Layout Option 1



+ Layout Option 2



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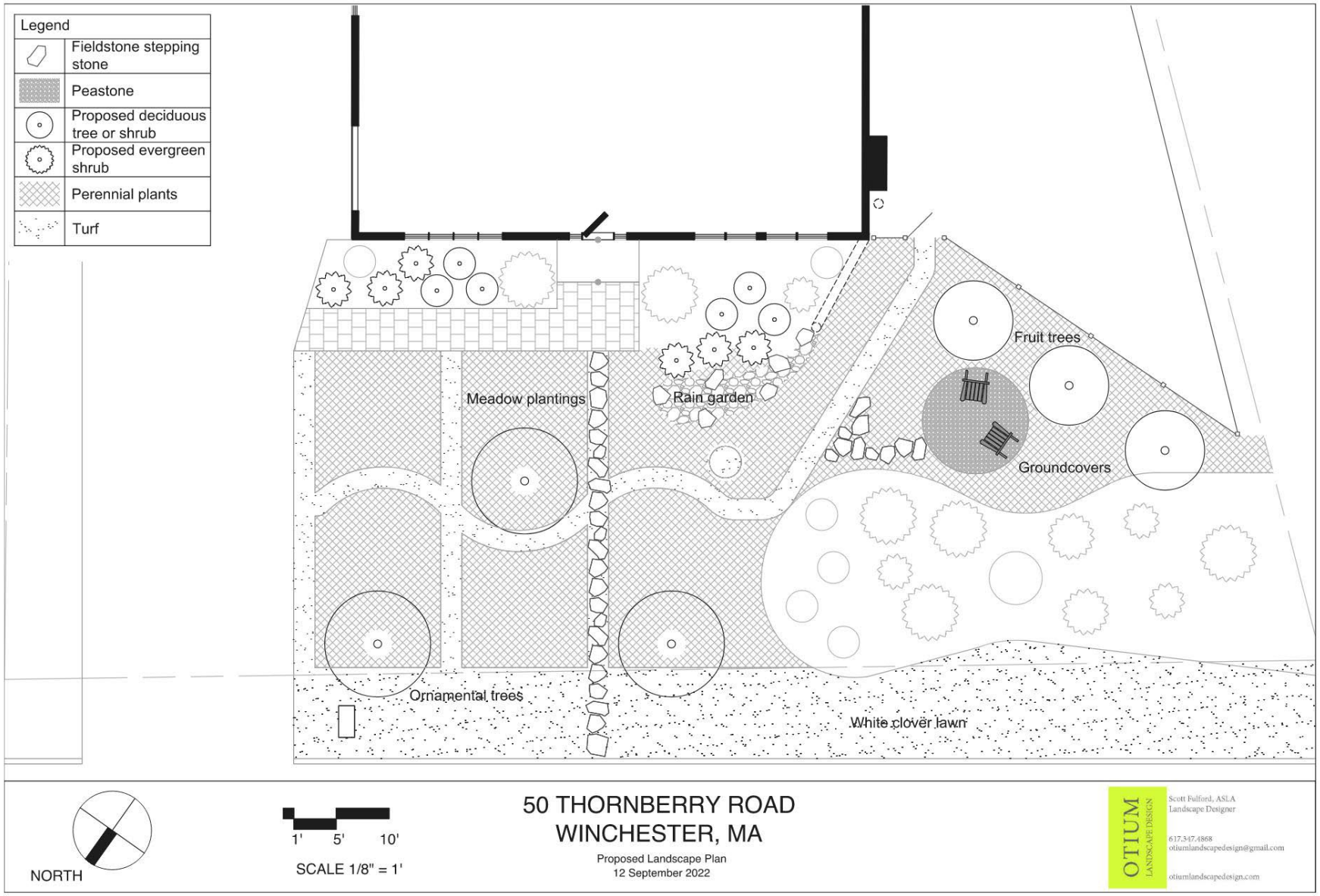
ACTIVITY: SOLUTION

+ Example of **Step 6:** Final Design.
+ This is a possible solution for the concerns and opportunities identified.



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THINGS YOU CAN START TODAY

- **Stormwater Capture**
  - Rain gardens
  - Rain barrels
- **Healthy Lawn Care**
  - Water less frequently. Improves drought tolerance
  - Leave grass clippings. Reduces need for fertilizing
  - Use Organic Fertilizers. Avoid pesticides
  - ‘Spot-treat’ rather than the whole lawn
- **Soil Improvement**
- **Use Pervious Paving for Walkways and Patios**
- **Implement Lawn Alternatives**
- **Integrated Pest Management**
- **Create a Native Pollinator Garden**
  - ‘Keystone’ plants provide the most benefit
- **Remove Invasive Plant Species**
  - Many mobile apps can identify plants by taking a photo
- **Switch to Electric Leaf Blowers and Lawn Mowers**
- **Avoid Raking Leaves**
  - This is called ‘Leaf litter’
  - Leaves provide your lawn with nutrients
  - If you must rake, pile the leaves in your yard. Don’t remove
- **Grow Your Own Food**
  - Plant fruits, vegetables, or herbs you normally eat
- **Make Compost**

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ACTIVITY: WINCHESTER HOUSE

+ Imagine this is your house. What would your wants and needs be? How would you address constraints?
+ Grab materials (trace paper, base map, pens/markers/pencils) and start brainstorming!
+ Refer to **Design Process** for guidance.
+ Each group/individual will share their designs when finished. Have fun!

ACTIVITY: INSPIRATION

+ Rain barrel

+ Rain garden

+ Native meadow plantings

+ Groundcovers

+ White clover lawn (lawn alternative)

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RECAP - BITE-SIZED PROJECTS

+ Start small. You don’t need a large space to make an impact.
+ See what you can easily accomplish at home!
+ Use resources for guidance.
+ Don’t be intimidated.
+ Ask your design professionals or contractors questions. Ask them about implementing sustainable practices.
+ Be patient! Gardens take time to fill in and mature.

THANK YOU!

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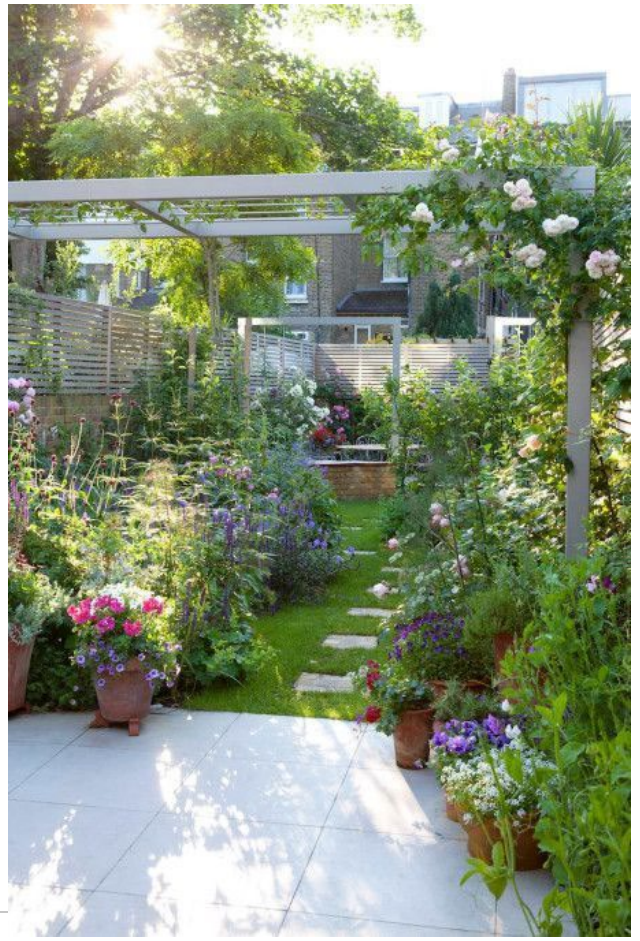
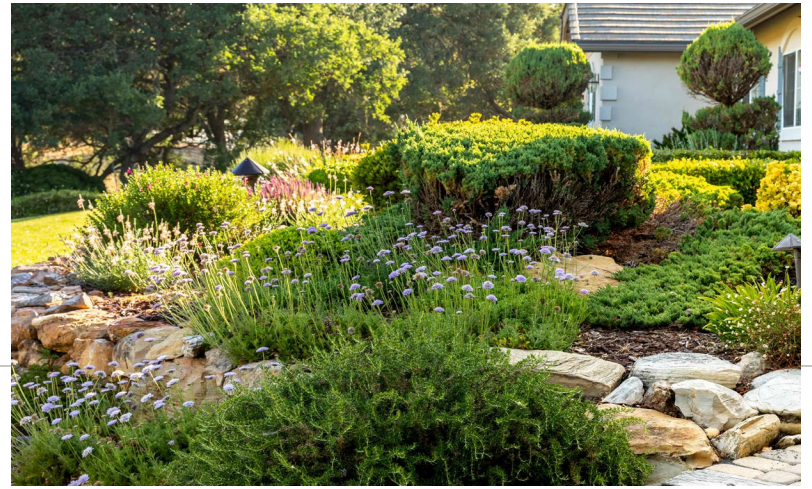
WHAT DOES A SUSTAINABLE DESIGN LOOK LIKE?





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