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Place-Making in the Regional Landscape, Site Planning for Fieldstone Farm | Princeton, MA

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Place-Making in the Regional Landscape
Site Planning for Fieldstone Farm | Princeton, MA

University of Massachusetts Amherst | Department of Landscape Architecture and Regional Planning
Graduate Housing Studio, Spring 2013
Acknowledgments

This workbook presents schematic design ideas for future housing developments on the Smith Family’s Fieldstone Farm in Princeton, Massachusetts. This body of work was created by a group of Landscape Architecture students from the University of Massachusetts, Amherst.

We appreciate the time and effort of the Massachusetts Audubon Wachusett Meadow staff, who graciously presented an overview of wildlife habitat in the area of Fieldstone Farm during our site visit, and who also loaned us their snowshoes.

We also appreciate the efforts of Matthew Brown (Landscape Designer, Stephen Stimson Associates), who helped direct our design graphics toward professional quality representations.

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The rural town of Princeton, Massachusetts sits at the base of Mt. Wachusett, and remains a mosaic of hayfields, successional meadows, wetlands, streams, and native woodland. The mountain, with its tradition of summer hiking and winter skiing, remains an iconic presence that has shaped the cultural landscape of the town since its early settlement. A once active summer resort known for blueberry picking and Thoreau walkabouts, the town was always a destination for urbanites looking for respite from the dense and crowded cities of the 19th century.

Located sixty miles west of Boston, Princeton has since evolved into a quiet, rural community for many retirees and a growing population of young families. The town has a known shortage of affordable housing for young families and a documented decline in recent years in the enrollment at the elementary school. The Princeton village green is unique in its preservation of historic architecture and landscape, a sign of the town’s resilient ethic regarding land preservation and historic sense of place. Princeton does maintain a strong sense of environmental policy, often raising town-wide taxes in order to purchase farmland away from potential developers and to place it in conservation easement for shared open space. In recent years, Princeton erected two large windmills on the west side of the Mountain to supplement town-wide energy demands. This progressive attitude about environmental issues, maintaining rural character, and farmland preservation is a driving force behind any future development projects in the town.
Fieldstone Farm, is located on Route 62, Hubbardston Road, just a few miles beyond the historic west village of Princeton, MA. The historic dairy farm is a landmark in town, with its grand white colonial home, massive, yet sadly abandoned, red cow barn, and stone-edged irrigation pond flanking the main road. When Ruth Smith passed away in 2012, concern spread over the future of the extensive farmland. The extended Smith family is currently in discussions with developers, and the site is being tested for development potential. Over 100 acres of meadows, successional fields, woodland, and wetland are up for review and capacity. Currently, several tenants who maintain the homestead occupy the house, and an adjacent three-acre field is being actively farmed for vegetable and flower production by a local tenant farmer. The Princeton Land Trust is at the forefront of studying the land use potential on behalf of the Town.

This studio focused on siting appropriate uses on abandoned farmland, balancing the need for housing, agriculture, and unique cultural opportunities with the preservation of sensitive open space for passive recreational use and wildlife habitat.

Housing:
- 20-30 housing units with 40-60 corresponding parking spaces
- Implementation of abundant wetland and riparian buffers

Wildlife Preservation:
- Thought and consideration regarding site adjacency to Audubon Sanctuary
- Consideration of impact of animal crossings through site

Existing Farm Complex:
- Maintenance of existing character and appearance
- Idea exploration regarding future use of farm complex buildings, those both in use and derelict

Active Agriculture:
- Consideration of farmer currently renting part of site for plant nursery
- Explorations into how to preserve farmland character
Our Clients

The Princeton Land Trust is a privately operated non-profit land trust guided by thirteen trustees who are all residents and land owners in Princeton. The Land Trust is dedicated to preserving, free from development, parcels of land (forest, farmland, scenic lands, special wildlife habitats) and water bodies, which contribute to the beauty and rural atmosphere of Princeton. In addition to the Land Trust, the Massachusetts Audubon is also an active leader in the Town’s conservation of open space movement. Both the Princeton Land Trust and Massachusetts Audubon were considered clients. The Massachusetts Audubon site at Wachusett Meadows borders the Fieldstone Farm site to the north, and therefore has both a physical connection and vested interest in the future planning for the Farm.

The Client listed the following as general requirements:

- Maintaining the rural character of the property from the visible public corridors is critical.
- Housing and program recommendations must be based in reality and respond to community needs, existing zoning, environmental conditions, and financial feasibility of land clearing.
- Housing types and density must be architecturally compatible with the neighborhood.
- Location of housing (buildable lots) within the farm property must be carefully sited in order to maintain and preserve as much existing woodland and open space as possible.
- Housing and program must be carefully sited so as not to impact the historically significant viewsheds from the Wachusett Meadow visitor’s center, located on Audubon land to the north.
Princeton is located in a primarily rural region of central Massachusetts, centered between the cities of Fitchburg and Worcester to the north and south.
Like its neighboring towns, Princeton is largely rural. Small commercial and institutional buildings are located in and near the town center, with agricultural or forested land dominating the surrounding areas. Low density residential plots dot the landscape, primarily along roadways. Princeton also is home to large tracts of conservation land, some of which is denoted near our site, outlined in green.
Using existing town zoning laws as reference, it was determined that approximately thirty 2-acre lots with direct road frontage could be built on this site. Overlaying wetland restrictions on building, we discovered that much of the site is considered “not buildable”, due to the nature of the soils and proximity to wetlands. The existing farm center, however, was built in what would nowadays be considered not buildable.
Hubbardston Road (Rt. 62), a main thoroughway in Princeton, cuts through our site, east to west. Calamint Hill Road, a primarily residential dirt road, runs along the southwestern edge of the property. Goodnow Road runs to the north of the site, providing access to Wachusett Meadows nature preserve and the corresponding trail system that winds through the area to the north of Fieldstone Farm. This trail system connects to the mid state trail, across Hubbardston Road.
Soil Suitability for Septic

Septic suitability on site was determined by utilizing USGS soil survey data. Areas unsuitable for septic generally correspond with wet or steep locations on the site.
On average, Fieldstone Farm gracefully falls from a northern ridge to the south with slopes varying between 5 and 10 percent. The site slopes towards a swampy basin to the far south of the site. Areas of steeper slopes occur near relative highpoints in the vicinity of the farm: specifically, Calamint Hill (HP 1095’) dips into our site, creating a rocky outcrop with slopes varying between 15 and 30 percent. On the northern side of Hubbardston Road, the smaller parcel to the west of the farm complex slopes down from east to west at slopes between 10 and 20 percent.
Hydrology

There are a number of perennial and intermittent streams that move through and around the site. A major wetland system moves through the middle of the site, draining into a natural swampy basin to the far south of the site. Another natural drainage basin exists to the northwest of the site, Wachusett Meadows Beaver Pond.
The majority of the Fieldstone Farm property is forested. Species such as Oak, Pine, Hemlock, Red Maple, Beech, Birch, and Shagbark Hickory were identified in the forested areas and in the riparian corridors on site. There is also a considerable amount of scrub, wet scrub, and wetland on site: species such as Aspen, Oriental Bittersweet, Honeysuckle, and Multiflora Rose were noted in these areas. The agricultural fields are mostly planted with a hay crop, with the exception of a small perennial flower farm. The areas with the highest quality forests are to the far north of the property, abutting Wachusett Meadow conservation lands, and to the souther parts of the property, around the south wetland area.
Vegetation

- Hay Fields
- Crop Fields
- Scrub
- Forest
- Open Wetlands/Swamp
- Farm Complex
- Man-Made Water Bodies

Diagram showing:
- Wetland Corridor
- Cultivated Crops
- Riparian Corridor
- Wet Meadow and Scrub (Overgrown Pasture)
- Thin Forest
- Wet Scrub Clearing
- Forest
Wildlife Habitat

<table>
<thead>
<tr>
<th>HABITAT TYPE</th>
<th>SPECIES PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abandoned Farm Field</td>
<td>Bobolink, Eastern Meadowlark, Eastern Towhee, American Woodcock, Ruffed Grouse, Smooth Green Snake</td>
</tr>
<tr>
<td>Wet Meadow</td>
<td>Field Sparrow, Prairie Warbler, Nashville Warbler, Brown Thrasher, White Throated Sparrow, Northern Bobwhite Quail</td>
</tr>
<tr>
<td>Scrub Shrub Wetland</td>
<td>Fisher, Bobcat, White Tailed Deer, Moose, Porcupine, Pileated Woodpecker</td>
</tr>
<tr>
<td>Shrubland/Successional</td>
<td>Forested Wetland</td>
</tr>
</tbody>
</table>
LIVING WITH WILDLIFE AT FIELDSTONE FARM:
EMBEDDED HOUSING WITH WILDLIFE HABITAT

There is an abundance of wildlife and wildlife habitat surrounding Fieldstone Farm. Using this as inspiration, this housing design blends housing units into three main wildlife habitat types: forested, shrubland, and field. The housing is embedded into these three main habitat areas to show that the project could be built in a sensitive way where the wildlife and people can coexist in harmony. In addition, this design looks to preserve and enhance the usable habitat that currently exists at Fieldstone Farm.

The design also includes a new trail system that connects the housing units to the Wachusett Meadows Wildlife Sanctuary and to the Fieldstone Farm Barn complex on Hubbardston Road.

The proposal aims to revitalize the Fieldstone Farm barn complex to be used as a Mass Audubon Education Center, that includes active farming and farm animals, similar to the Drumlin Farm Mass Audubon Wildlife Sanctuary in Lincoln, MA.
View of Forested Housing Pathway
View From Shrubland Into Forested Housing
This design concentrates development in the existing farm complex, implementing a dense but sensitive approach to housing in a historically highly altered area of the site. This approach helps to preserve the vernacular character of the whole farm upon approach from Hubbardston Road as well as the farming function of the landscape, allowing Fieldstone Farm to continue to be a part of this regions’ network of farms. Through the introduction of a farm store and cafe, Fieldstone Farm will provide an outlet for expanded vegetable production on the farm as well as an outlet for other local farmers to sell their goods to their neighbors.

Condensing new housing in the historic farm complex will reduce the impact of development on the existing farming fields while also preserving existing wildlife corridors and habitat. Already located within a wetland buffer zone, renovating the existing farm complex will provide an opportunity to introduce wetland rehabilitation and management strategies. A trail and wetland boardwalk system through the greater property connects to public natural areas around the site, providing more opportunities for visitors to interact with this iconic landscape.

For residents living on the property, this proposed Fieldstone Farm community aims to provide amenities that would likely be available on a working farm - things such as workshop space, large personal gardens, farm fresh food, and grand open vistas - but without the responsibility of personally maintaining such a large and complex property.
VEHICULAR
PUBLIC PEDESTRIAN
RESIDENT AND VISITOR PEDESTRIAN

CIRCULATION

4 BEDROOM
3 BEDROOM
2 BEDROOM
1 BEDROOM/ACCESSIBLE
2 UNITS, 1 PER FLOOR
EXISTING BUILDINGS

BUILDINGS

COMMUNITY WORKSHOP
STORAGE
FARM STORE AND CAFE
MULTI-PURPOSE
GREENHOUSE
FARM BARN

SAMANTHA ANDERSON
FIELDSTONE FARM: REINTERPRETING AN ICONIC LANDSCAPE FOR A CHANGING RURAL REGION

BIオINFILTRATION SWALE

COMMUNITY GARDEN PLOTS

SCREENING VEGETATION

INTERIOR TREES

FOREST EDGE

ENGINEERED WATER PATHS

EXISTING WATERWAYS (WETLANDS)

VEGETABLE FARM

FLOWER FARM

COMMUNITY GARDEN PLOTS

HAY

BIオINFILTRATION TRENCHES

RAIN GARDEN

WATER

VEGETATION

HAY
FIELDSTONE FARM: REINTERPRETING AN ICONIC LANDSCAPE FOR A CHANGING RURAL REGION

- Renovated Barn Housing and Green Space
- New Barn Housing and Linear Garden Beds
- New Accessible Housing
- Boardwalk and Bioinfiltration Swale
- Path and Parking
New farm store and parking, viewed from road
Multipurpose green space with new farm center and hay fields beyond
Linear garden beds and new dairy barn inspired residential building
This design takes cues from the system of the historic stone walls to create and shape new spaces. The idea of creating spaces with stone walls is seen throughout the three clusters of housing and the spaces created for their residents. Housing clusters are proposed at the edge of the property and far enough from the road to maintain the identifiable landscape of Fieldstone Farm. To help screen the development, an apple orchard is proposed to take the place of an existing hay field, effectively switching agriculture for agriculture. Within the parcels defined by existing stone wall patterns, are another series of spaces such as apple orchard, mowed lawn, wildflower meadow, and preserved woodland. These are all shaped with built form - housing and stone walls. Each cluster of housing is separated by parking, wall and vegetated swale which gathers the stormwater from the site. Parking takes place in three locations making this development pedestrian in nature and keeps the vehicular component to a single area. This design provides much needed affordable housing for single families and also multi-unit buildings for elderly housing all while preserving the identity of the historic section of rt. 62 and the identity of Princeton that is Fieldstone Farm.
Legend:
1. Wildflower Meadow
2. Preserved Woodland
3. Mowed Lawn Area
4. Vegetated Bio-Swale
5. Apple Orchard
6. Orchard Wildflower Meadow
7. Hay Field
8. Parking
9. Wilderness Trails
10. Sugar Maple Alee
11. Stonewall Backyard Terrace
12. Forest Buffer Row
Fieldstone Homes, Princeton, Massachusetts
Colin O'Donnell LA 006
NEW ENGLAND HOUSING USING THE CONCEPT OF STONE WALLS AND HOW THEY SHAPE SPACE
Legend:
1. Wildflower Meadow
2. Preserved Woodland
3. Mowed Lawn Area
4. Vegetated Bio-Swale
5. Apple Orchard
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View of apple orchard and rooftops from Hubbardston Road
Princeton’s history of outdoor tourism and proximity to Wachusett Mountain, a ski resort, presents opportunities to tap into the outdoor recreation economy, while a need for moderately priced housing presents an opportunity for an innovative residential development. This project addresses both of these opportunities, diversifying the function of Fieldstone Farm to create a more vibrant, flexible, and resilient landscape.
FIELDSTONE FARM and SPA

FIELDSTONE FARM: A CONCEPT FOR LIFESTYLE, WOODLAND + RECREATION

This design concept for Fieldstone Farm preserves its historic integrity as a landmark in Princeton. Fieldstone’s matriarch was an Olympic swimmer who built the original pool that inspired this plan.

The architecture of the main farm house is transformed with a wrap-around porch that pays homage to the historic summer boarding houses of early 20th c. Princeton. In this concept, the house serves as a club house and spa for visitors to the area as well as residents of the Treehouses of Calamint Woods.

The idea is to encourage land management with a trail system that links the farm spa to a proposed development in the trees. Thoreau-inspired wildlife viewing cabins dot the landscape.
This development is approximately seven acres in a forested area along the eastern border of Fieldstone Farm.

The location of the residential property is sensitive to a 200 ft. wetland buffer and the wildlife corridor along the western edge.

The treehouse architecture is propped up along the steepest slopes to take advantage of views to the wetland beyond. There are 24 units in total; one building per cluster has two units.

Covered boardwalks connect the buildings to the garages and provide accessibility. Each cluster incorporates garage parking for three and lot space for five. Permeable gravel walkways connect to the trail system on the property.
INSPIRATION:
nature retreats
seasonal recreation and tourism
town history
Fieldstone Farm and Spa, viewed from western porch entrance
All-season trail in winter, viewed from a nearby observation cabin
Treehouses of Calamint Hill, viewed from the western wetland edge
Using Princeton’s rich history or recreation and resort living as inspiration, this project looks to bring new housing opportunities to the town while providing new amenities for tourists within a renovated Fieldstone Farm complex.

This design looks to take advantage of the old barn complex and man-made water bodies, prioritize conservation of wildlife habitat and wetlands, and to provide new recreational opportunities on the site through, focusing on the water’s edge.

New residences are perched on hillside off of Calamint Hill Road, taking advantage of the views towards the wetland. Single family as well as multifamily housing units are proposed. Each cluster of housing boasts different features and amenities, such as woodland locations, boardwalks, meadows, southern exposure, and universal accessibility.
Visitor center
Cultural gallery
Farmhouse
Fish pond
Farmland
Swimming pool
Wetland corridor
Stone bridge
Historic stonewall
Wetland boardwalk
Hill housing
History trail
Wetland trail
1 boardwalk under the tree canopy

2 boardwalk across the stream with open view

3 deck enjoy the pond view

4 active space near the swimming pool

5 boardwalk go into the wetland
Multi-residence units with private decks

A

B
Multi-unit housing cluster, parking, and boardwalks
Inspired by the beautiful New England farm landscape in Princeton, MA, this project aims to rehabilitate Fieldstone Farm by respecting local and regional architectural vernaculars, enhance wildlife habitat, revere site history, and expand existing agriculture. The concept design is to create a small farmstead village that is within close proximity to Town Center.

The small village is located in the existing Fieldstone farm yard, with the goal of staying within highly disturbed areas and being sensitive to the surrounding environment. The main goal of this project is to attract and invite a diverse group of people to Fieldstone Farm Village with a variety of different housing types, outdoor recreational spaces, existing natural features, and agriculture aesthetics. The farmstead entrance aims to mimic the existing Fieldstone Farm by reconstructing the barn into a multifamily housing for elderly. Introducing a sandwich shop, bed and breakfast, and small CSA farm stand, the project aims to enliven the small village and attract visitors for economic vitality.

Through invasive plants mitigation, the project aims to preserve New England landscape by bringing back native vegetation such as Tupelo, Maples, Shagbark Hickory, Winterberry, and Highbush Blueberry. The main vehicular road is lined with Sugar Maples for all season interest as well as harvesting maple syrup. The green open space is framed by the architecture and located in the heart of the village in order to provide and encourage community engagement and activity. Since the site is surrounded with wetlands and streams, stormwater is treated in vegetated bioswales before releasing into water bodies. All built structures respects wetland buffer zones and mitigation in areas with proposed boardwalk crossing. Overall, the design focuses on the concept of a small farm village surrounded by iconic New England picturesque and peaceful farm landscape.
1. Hayfield
2. Gathering Space - Lawn
3. Pond
4. CSA Farm Field
5. Sandwich Shop
6. Bed & Breakfast
7. Single Cottage Home
8. Detox Unit
9. Reconstructed Barn - MultiFamily/Elderly Housing
10. Farm Stand
11. Trail
12. Existing Intermittent Stream
13. Successional Forest
14. Mature Forest
Existing hayfield
Successional Forest
Native plant community
Man made pond
Viewing deck
3' trail
New single family units
Driveway
18' road
Vegetated swale and screen planting
Community Green | View East

Encouraging family outdoor activities and community gathering
Pedestrian paths provide easy access to rural historic landscape and agricultural views.
Agriculture is an integral part of the landscape and culture of Princeton, Massachusetts, and this design looks to celebrate, reintroduce, and reinterpret this heritage on Fieldstone Farm. Currently majority hay fields, this design scheme brings many different facets of agriculture to Fieldstone Farm to support a year round farmer’s market. Housing units are integrated in the farm to provide a unique residential experience.
REVITALIZING FIELDSTONE FARM

By: Ivette Banoub
Spring 2013
New year round farmers market and parking, viewed from road
View of the Orchard Housing
Innovation for this design was drawn from the terrain of the region: the rolling hills, the scattered boulders, and the way that plants manage to find a way of growing on the surface of stone. The far western section of Fieldstone Farm is an elegant landform littered with boulders and picturesque rock outcroppings. It offers 180 degree views of the surrounding landscape including wetlands and hillcrests.

The design of the homes mimics that of the various boulder outcroppings that seem to emerge from the sides of the hill, where the woodland nature of the site provides additional enclosure. Because of the direct adjacency with Massachusetts Audubon, a trail system within the neighborhood has the potential to link into Audubon’s existing trails. As the site is isolated on the far west, the decision to place housing here allows for the majority of the site to be left untouched and given over to wildlife habitat.

The Fieldstone Farmhouse can be donated to the Princeton Historic Society as their home office, where the farm yard and buildings can become a farm museum.