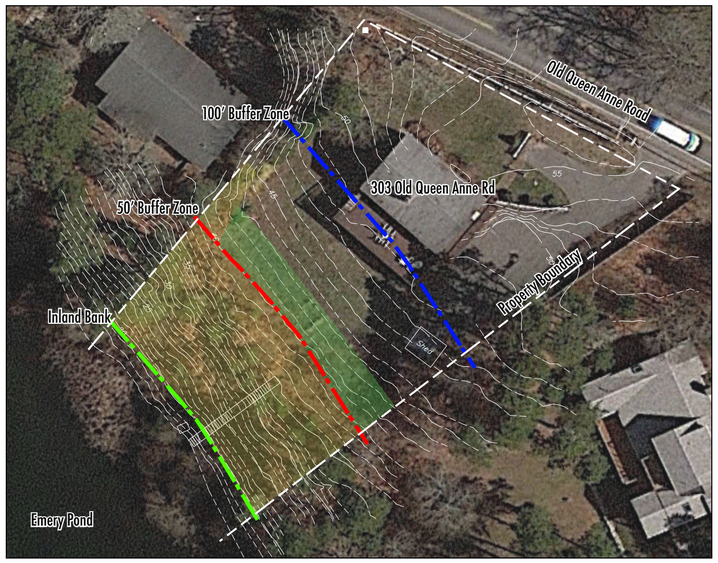

Google Earth image of 303 Old Queen Anne Road, in Chatham, Massachusetts. The property line is shown with a dashed white line. The proposed restoration area is shaded in yellow and areas of additional native plantings are shaded in green.

Plan Notes

- Site Plan provided by Eldredge Surveying and Engineering LLC, dated August 30, 2017 .
- Total proposed restoration area is approximately 6,578 square feet
- One hydrangea (*Hydrangea paniculata*) and one summersweet (*Clethera alnifolia*), currently obscuring the path leading to the top of the wooden stairs, will be transplanted to maintain a width of four feet for easy access.
- A total of 27 trees are proposed to be removed. After careful evaluation these trees were found to either be dead, in poor health, or poorly placed (in such close proximity to other trees such that the health of both trees will be diminished). Many of these trees are girdled by guy-lines that were left in place for several years after planting, have been pruned improperly, or are rotting, all of which indicate very low probably of survival. Removal would also allow sunlight to penetrate the canopy to establish a healthy native groundcover. BlueFlax Design LLC will work with the Chatham Conservation Commission to verfiy necessity of tree removal.
- On the northwest side of the stairs approximately 1,069 square feet (circled in red) of native tree saplings as well as arrowwood viburnum, red chokeberry, bayberry, and serviceberry (originally planted too close together) have grown tall and thin, with virtually no foliage below. In this area, saplings (≤3" diameter at breast height) will be thinned to a distance of 10 feet apart to allow for sub-canopy and groundcover regeneration, and allow trees to reach a healthy, mature size.
- A thick cluster of willows (*Salix spp.*) (circled in blue) growing at the base of the stairs will be thinned to decrease stagnation of water on the edge of the bank and improve access to put a kayak into the water.
- Three cherry trees (Prunus serotina) will be left in place, but managed to improve their health by selective regenerative pruning, flush cutting, or reassessment after adjacent trees are removed.
- A total of 19 native shrubs including black chokeberry (*Aronia melanocarpa*), aromatic sumac (*Rhus aromatica*) and arrowwood viburnum (*Viburnum dentatum*), are proposed for replanting in the voids created by tree and invasive species removal. These will be allowed to naturalize and reach mature fruiting height, requiring minimal management and disturbance once intensive invasive species management is complete.
- Non-native and invasive species present on site include Asiatic bittersweet (*Celastrus orbiculatus*), Japanese knotweed (*Fallopia japonica*), english ivy (*Hedera helix*), autumn olive (*Elaeagnus umbellata*) and porcelain berry (*Amepolpsis brevipedunculata*). Species present that are not State-listed as invasive, but noted as aggressive, include native poison ivy (*Toxicodendron radicans*) and native greenbriar (*Smilax rotundifolia*).
- A mix of selective herbicide treatment, mechanical, and hand removal will be used to manage invasive vegetation.
- All vegetation debris will be removed from the site and brought to an off site disposal area.
- Existing healthy native vegetation identified on site including pitch pine (*Pinus rigida*), black cherry (*Prunus serotina*), red maple (*Acer rubrum*), arrowwood viburnum (*Viburnum dentatum*), serviceberry (*Amelanchier canadensis*), black chokeberry (*Aronia melanocarpa*), and oak (*Quercus spp.)* will be protected during the invasive species and tree removal process. Some regenerative pruning will be required to improve the health of plants that have grown too tall and thin.
- After the first phase of tree removal and invasive species management is complete, the restoration area will immediately be seeded with a native mix of cool and warm season grasses and wildflowers and covered with chopped straw (See "Shady Steep Slope Seed Mix" for details). Replanting of woody vegetation will begin in Fall 2018.
- A two-foot retaining wall will be built at the base of the lawn (outside of the 50' buffer zone) to allow for re-grading of the existing lawm amd mulched beds from a 20% slope to a 9% slope. A set of six, in-ground steps will be installed to maintain access to the path below. Typical landscaping/native perennials will be planted in place of the mulched beds below the retaining wall.
- Temporary irrigation will be required for the first two to three growing seasons while plants establish. Once plants are established irrigation will be removed.
- Follow up invasive species management will be ongoing over the next three growing seasons.
- Please see the accompanying Land Management Plan for a detailed management protocol and time-line for invasive species management.

EXISTING VEGETATION LEGEND

Code	Scientific Name	Common Name
	TREES	
A	*Acer spp.*	maple
Eu	*Elaeagnus umbellata*	autumn olive
Ns	*Nyssa sylvatica*	tupelo
Pist	*Pinus strobus*	white pine
Pr	*Pinus rigida*	pitch pine
Ps	*Prunus serotina*	black cherry
Q	*Quercus spp.*	oak

Code	Scientific Name	Common Name
	SHRUBS	
Ca	*Clethera alnifolia*	summersweet
Hp	*Hydrangea paniculata*	hydrangea
Iv	*Illex verticillata*	winterberry

- Existing tree will remain
- Existing tree will be removed
- Existing stump or dead tree will be removed
- Existing shrub

PLANT SCHEDULE

SHRUBS	BOTANICAL NAME / COMMON NAME	CONT	QTY
	Aronia melanocarpa / Chokeberry	3 gal	9
	Rhus aromatica / Fragrant Sumac	1 gal	4
	Viburnum dentatum / Viburnum	7 gal	6

SHADY STEEP SLOPE SEED MIX	
Agrostis perennans / Autumn Bentgrass	15% - seed
Deschampsia flexuosa / Wavy Hair Grass	30% - seed
Dryopteris marginalis / Marginal Shield Fern	4" pots 18" oc
Festuca rubra rubra / Creeping Red Fescue	35% - seed
Rudbeckia hirta / Black-eyed Susan	5% - seed
Schizachyrium scoparium / Little Bluestem Grass	10% - seed
Solidago odora / Sweet Goldenrod	5% - seed

Typical Landscaping / Native Perennials

U.S. Foot: 0 20 40 60

RESTORATION/PLANTING PLAN | OCTOBER 23 , 2017

SINGER RESIDENCE | 303 OLD QUEEN ANNE ROAD, CHATHAM MA

BLUEFLAX DESIGN LLC | HARWICH, MA | 774-408-7718 | WWW.BLUEFLAXDESIGN.COM