Kates Construction Associates LLC
Narrative of Proposed Plan for
299 Rockland Street, Hingham MA

Introduction
The planned remodel project is located at 299 Rockland Street in Hingham and will expand the bedrooms at the existing house for the growing family of seven. The house is situated across a state owned road (Rockland Street) that borders a MA DEP Wetlands designated area. Included in the narrative are maps that show the location of the property being 176.2 ft from the designated area. To the salt marsh, the distance is 96'. In front of the house exists a roadway that is 56.9ft in width according to Hingham GIS data.

The property is also situated within an Area of Critical Environmental Concern and AE Flood Zone. The property already contains a disturbed area that includes an existing lawn and driveway. The remodel includes plans for improving drainage and runoff of impervious surfaces to allow water to seep back into the land.

Impermeable surfaces
Currently the property contains a house and a separate garage. Existing impermeable surfaces include the existing roof, driveway, decking and front walkway patio at the base of the stairs.

Existing:

Areas:	Sq ft:
Main house	2387
Garage	982
Driveway	240
Deck	234
Total	3843

Planned:

| Areas:	Sq ft:
Main house	2560
Garage	0
Driveway	468
Deck**	234
Total	3262

The net difference on impermeable surfaces on the property located at 299 Rockland Street Hingham MA is a <u>positive impact</u> lowering the impervious area by 581 square feet.

Below is a map of the existing location of the main house to MA DEP Wetlands as per Hingham GIS information System

Note the measurement to the designated area is 176.2ft at the bottom of the above map. To the salt marsh, it is 96'.

The intent of the Conservation Commission is to move all structures and activities as far away as possible from any Resource Area. Due to the location of the existing house and that the backside of the property is ledge, the owner is limited as to where they can place the existing house. Notable detail of the foundation plan is to pin the foundation to the ledge so as to provide accurate support structure on a portion of the house.

In addition to lowering the overall amount of impervious areas, largely due to the removal of the detached garage that has a large overhanging roof, we are planning on adding a dry well located on each side of the house to help mitigate the runoff from the impermeable surfaces.   See layout of property with planned drywell placements.   The net impact of impervious surfaces is improved and thus we planned on adding two drywells on either corner of the property. To absorb the estimated full runoff of the roof system, a third flowell dry well could be added if the conservation commission wanted this. The idea would be to attach the third drywell together in the center of the property. See diagrams at end of narrative and calculation of drywells.
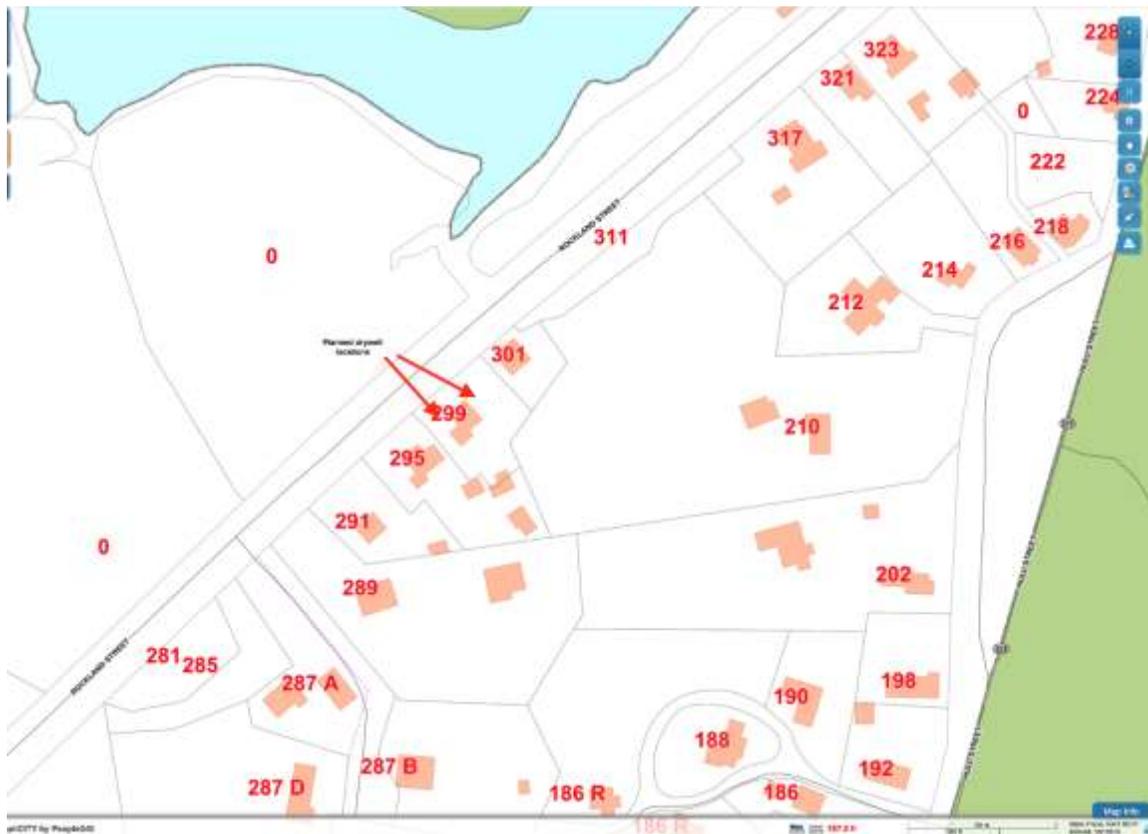
Landscape Improvement Plan

Lastly, the owner plans on improving the landscaping by adding the following herbaceous plants to the property: (daylilies) (Hemerocallis spp.), red columbine (Aquilegia canadensisis), seaside goldenrod (Solidago sempervirens), switchgrass (Panicum virgatum), and pink tickseed (Coreopsis rosea). These plants will be in each corner of the front yard surrounding an arrowwood viburnum shrub by the roadway to assist in slowing of the existing water runoff. The estimated area of each bed is approximately 20 sq ft.

The following map shows the width of the road in front of the house at 56.9ft.

This map shows that the property is in the middle of the Area of Critical Environmental Concern.

The light green area is the ACEC.

According to the Hingham Wetland Regulations (24.6, page 75), reconstruction of existing structures must allow for the free passage of flood waters.   In the construction plans for 299 Rockland Street, Section A-2 and A-3 designates four flood vents, which is currently a standalone structure, to an attached garage.

Property located within Flood Zone AE:

Property located within 50' of salt marsh:

View of property to salt marsh within 50/100 ft:

NDS Flo-Well Calculator

Step 1:

Enter the Square Feet of Drainage Area 1: (Ex. Roof)

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1500
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Enter the Square Feet of Drainage Area 2: (Ex. Grass)

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0
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Step 2:

Choose the Coefficient of Runoff for Area 1:

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0.35 (Grass)      ∨
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Choose the Coefficient of Runoff for Area 2:

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0.35 (Grass       ∨
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Step 3:

Choose the 25 Year Rainfall: (see rainfall map). 1.5 ∨ in/hr

Step 4:

Enter the depth of the gravel backfill beneath the Flo-Well:

(Dimension A) 2   ft

Step 5:

Enter the thickness of the gravel backfill around the Flo-Well:

(Dimension B) 1   ft

Step 7: View results:

Runoff	8.19 GPM 0.02 CFS
Volume of water to be stored	245.70 Gallons 32.85 Cubic feet

# of Flo-Wells Needed   2

Amount of Gravel Needed	2.61 Cubic yards 70.47 Cubic feet

Download Installation Details

Stacked Flo-Well(TM) Installation Detail
Side-by-Side Flo-Well(TM) Installation Detail

Planned layout of drywell as per manufacture:

FWSD69 4" SCH. 40 SURFACE DRAIN INLET WITH GRATE

4" PVC INLET W/ 1% MIN. SLOPE

FWAS24C 24" DIA. FLOW WELL COVER

FINISHED GRADE

8" MIN.

VARIES

B

FLO - WELL

MADE IN U.S.A.

½" TO 1½" CLEAN GRAVEL BACKFILL RECOMMENDED.

FWSPS3 (3) FLOW WELL SIDE PANELS.