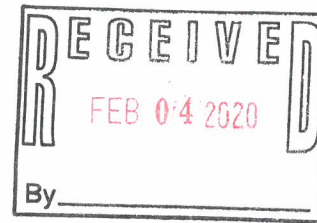


**Amendment to Approved Project**

**City of Rochester, New Hampshire**



Case # 107-54 & 108-53-21-20 Property Address Carole Court

Type of project: Site Plan ☐; Subdivision ☒; Lot Line Adjustment ☐; Other ☐

Project name Subdivision for Thomas Aubert, Carole Court, off Portland Street

Date of original Planning Board approval \_\_\_\_\_

Description of amendment Revise the rain garden designs on site to be congruent with current design methods

and implement suggesting from the planning department into the revision.

Would this affect a wetland or wetland buffer or require a conditional use? Yes ☐ No ☒

Name of applicant or agent filling out this form Christopher R. Berry of Berry Surveying & Engineering

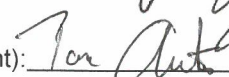
Mailing Address: 335 Second Crown Point Road, Barrington, NH 03825

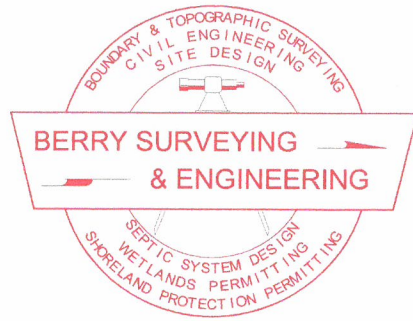
Phone Number: 603-332-2863 Email Address: crberry@metrocast.net

Please check box: Applicant ☐ Agent ☒

**Please note:** There is a \$125.00 fee for amendments. They are reviewed by the Planning Board and a public hearing is held. Abutters must be renotified by the applicant. The applicant must submit any supplementary materials necessary to explain and support the amendment, such as a narrative and plans. This form, the abutter's list, the fee when applicable, and other necessary materials must be submitted at least 17 days prior to the Planning Board meeting at which the amendment will be presented (by the Friday, 2-1/2 weeks prior to the meeting to allow for public notice).

Signature of person completing form:  Date: 2-4-2020

Signature of property owner (if different):  Date: 2-4-2020



## **BERRY SURVEYING & ENGINEERING**

335 Second Crown Point Road  
Barrington, NH 03825  
Phone: (603) 332-2863  
Fax: (603) 335-4623  
www.BerrySurveying.Com

February 4, 2020

City of Rochester Planning Board  
Attention: Seth Creighton Chief Planner  
33 Wakefield Street  
Rochester, NH 03867

Re: Rain Garden Revisions  
Carole Court & Portland Street

Seth,

Since the approval of the project known as Carole Court off from Portland Street there has been a change in the way UNH Storm Water Center (UNH SC), Alteration of Terrain (AoT) and the City of Rochester is prescribing the use of plantings within the Best Management Practice commonly known as a Rain Garden.

In discussing rain garden design with James Houle of UNH SC he notes that planting the bottoms of rain gardens with grass is the common standard. This is due to long term maintenance concerns and the fact that there is little evidence supporting the idea that the plants aid in the removal efficiency within the device itself. AoT is also prescribing grass lining opposed to planted gardens.

The City of Rochester has recently been requesting Bio-Swales on projects if they are to be within the municipal Right of Way, or one that is intended to become municipally owned in the future. Stuart Acres is the latest example of this request. The bio-media proposed has a finer gradation and is planted with a grass so that it can be maintained as a roadway swale, which is within the operational ability of the Department of Public Works, (DPW) yet still provides the benefit of the practice's removal efficiency.

We discussed these items with the applicant during construction and would like to formalize the construction revisions. After meeting and discussing these revisions with you and the Department of Public Works we understand that this decision is best made by the Planning Board after final review by the TRG. Based on our previous meeting, below please find the revisions we are proposing by plan, which include the suggestions made by you and the DPW.

### **Rain Garden #1:**

Rain Garden #1 is now proposed to be a grassed lined ponding area for the lower section of Carole Court and has recently been revised to remove the silt and additional loam placed during construction. The revision request is to plant the bio-



Rain Garden Revisions, Aubert  
Carole Court, Rochester NH

Page 2 of 2

media with grass as prescribed on the revised plan and has been done on site during the fall of 2019. The plants have largely been removed however we have left 7 of the original shrubs. The idea is to keep a break between what is municipal road / rain garden and private lawn and was preferred by you and DPW during our last meeting. The shrubs were discussed with the current home / lot owner and that is the preferred choice. As suggested, we have added a plaque sign, similar to a buffer sign, to the plans to make people aware that it is a bio-retention system. This will be installed during the spring of 2020.

**Rain Garden #2:**

Rain Garden #2 is a swale between Carole Court and the sidewalk. This swale was an effort to provide first flush treatment to the MS4 and the discharge point to the MS4. This swale was re-constructed during the fall of 2019 to provide the ponding area it was formerly lacking. The area has been re-loamed and seeded, and has been planted per the seeding specifications on the plans. The shrubs formerly provided on the original design have been removed as suggested in our last meeting to decrease maintenance in the future and reduce crowding in this area. As suggested, we have added a plaque sign to the plans. This will be installed during the spring of 2020.

**Rain Garden #4:**

Rain Garden #4 is built per the design plan with the exception of the top dressing and plantings prescribed. The revision request for this system is as follows per our last meeting:

- Top dress the existing mulch with 4" loam and seed per the enclosed design plans. This includes removal of larger shredded materials over 1.5" in size.
- Install 10 bush style plants along the southern slope to clearly define the transition between private lawn area and rain garden area, as a physical deterrent.
- Install a larger, two posted, sign, with an education statement about the rain garden per your request.

Please let us know if you have any further questions or concerns.

Respectfully Submitted,  
BERRY SURVEYING & ENGINEERING

  
Christopher R. Berry  
Principal-President

  
Kenneth A. Berry PE, LLS  
Vice President Technical Operations



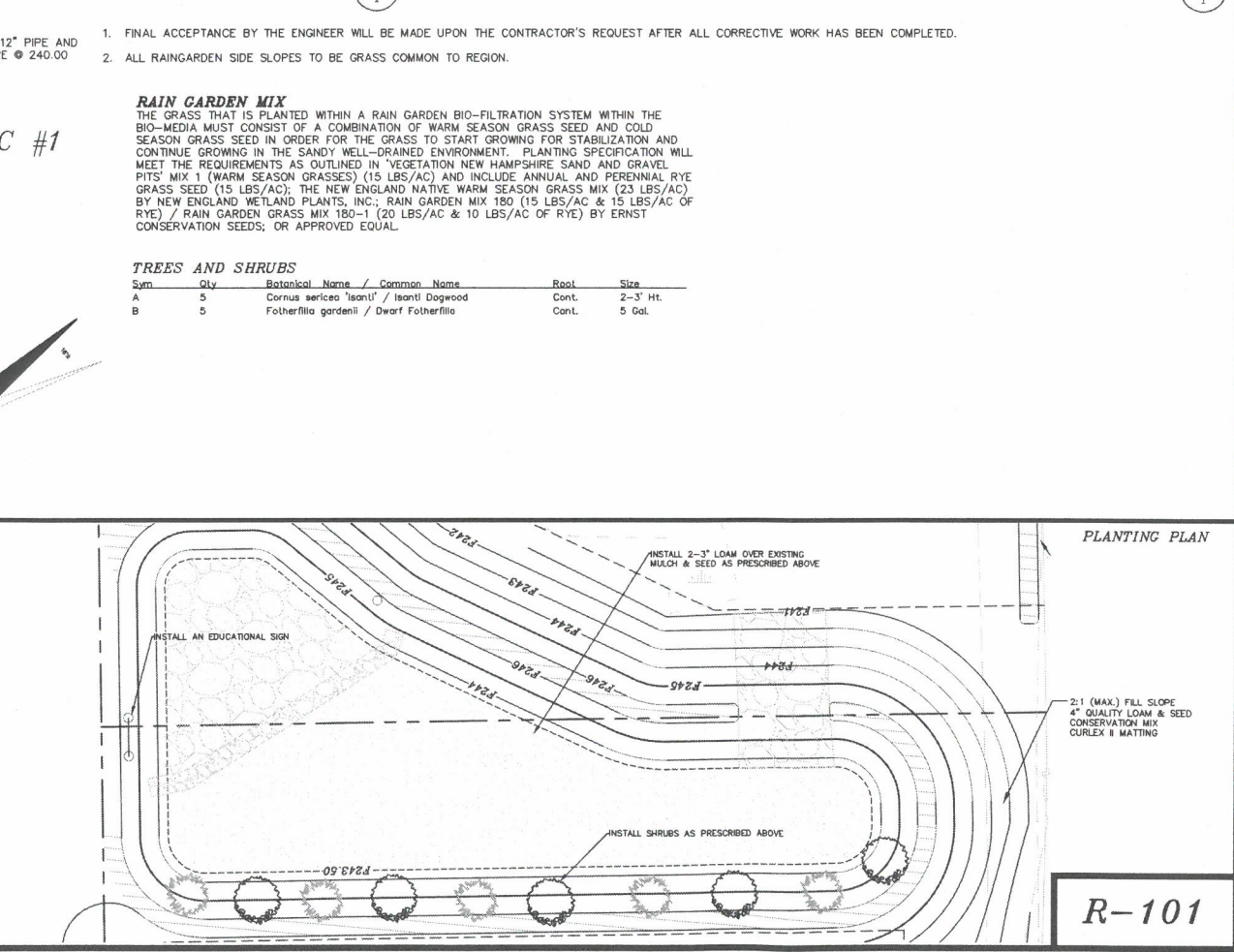
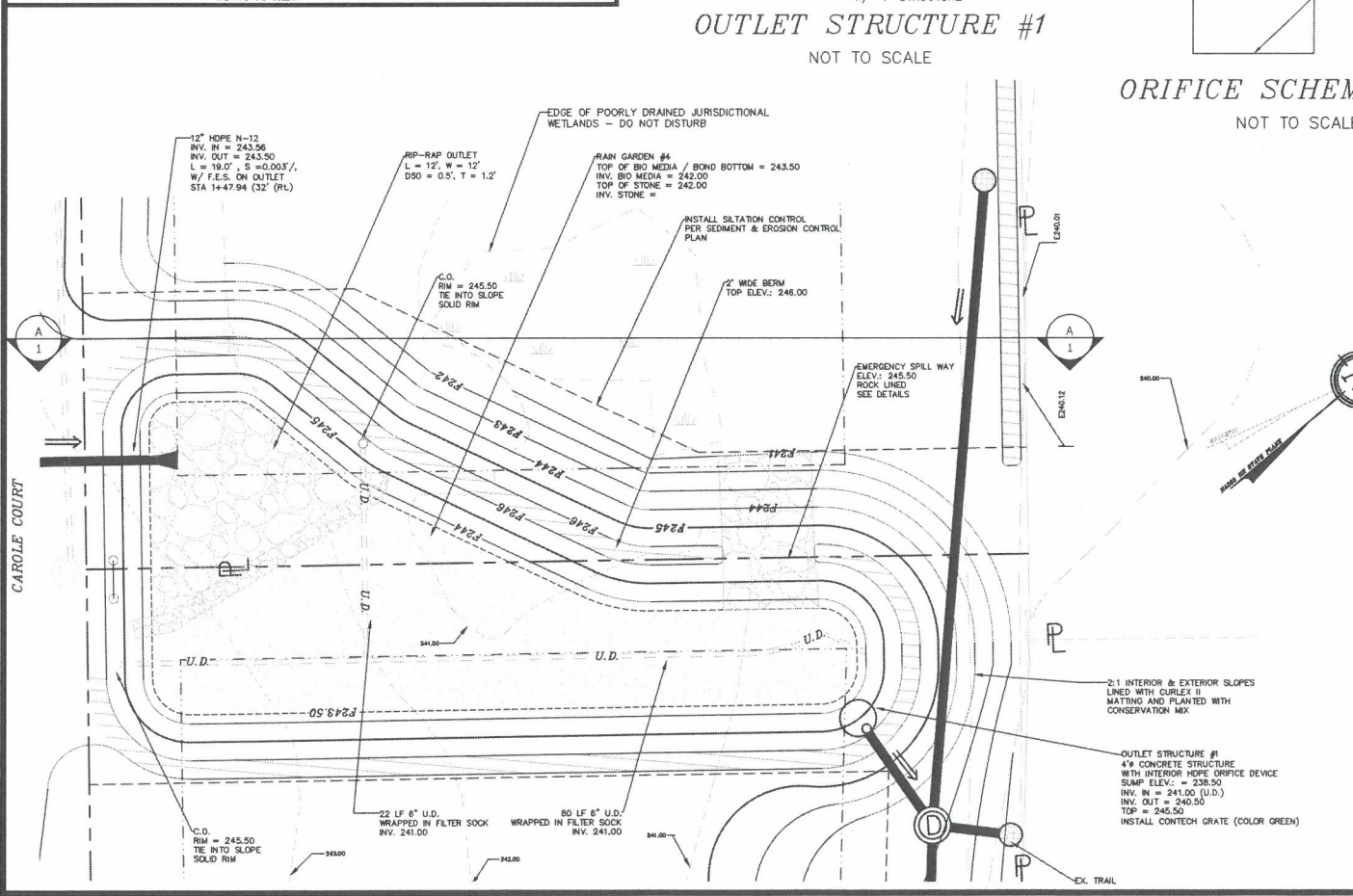
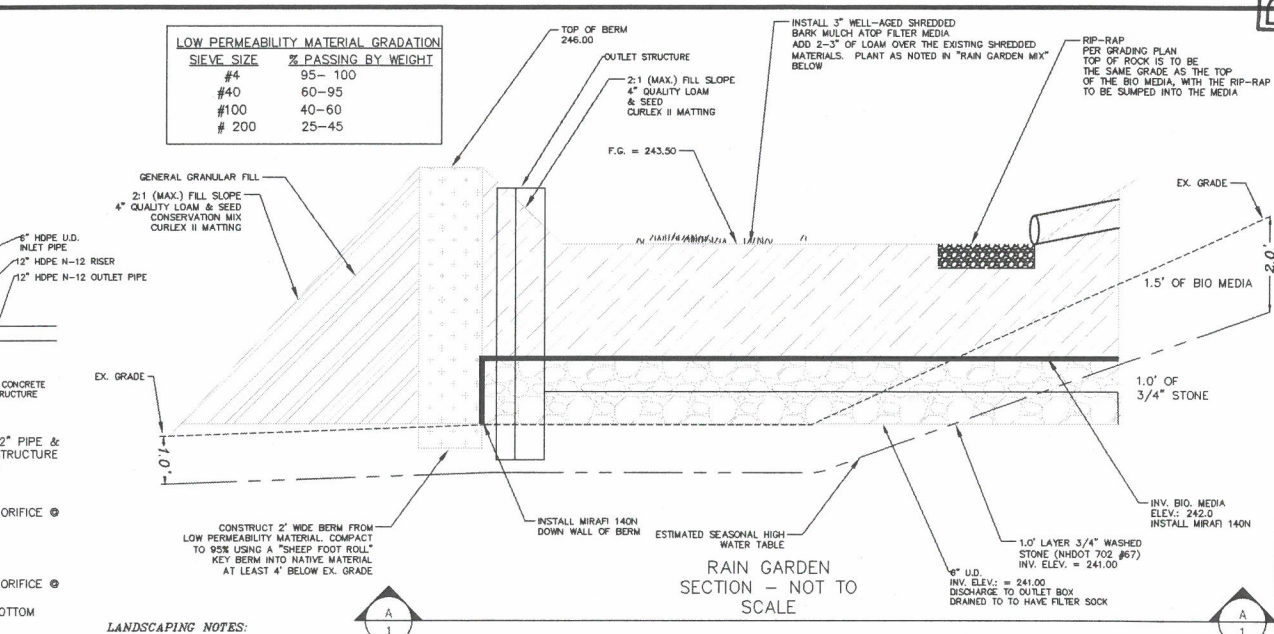
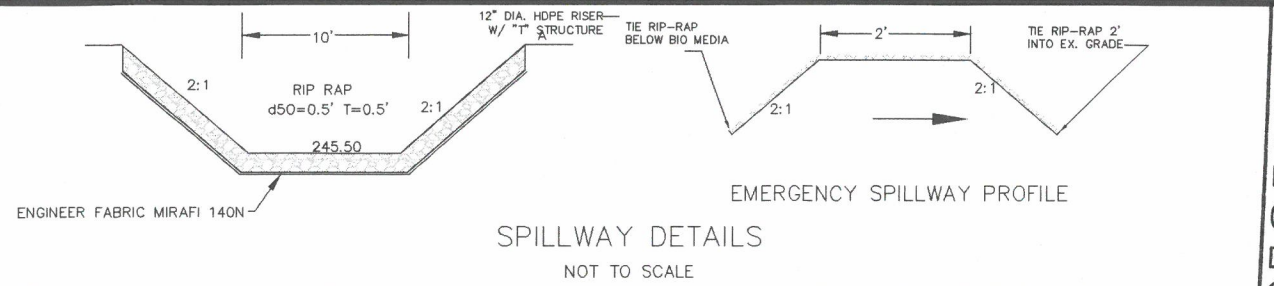
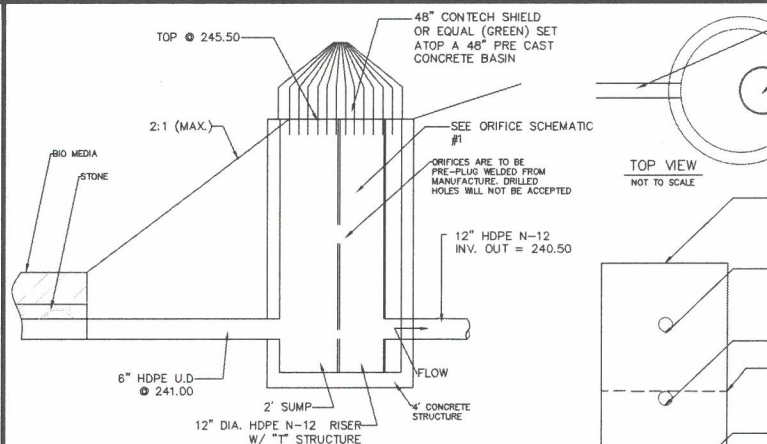
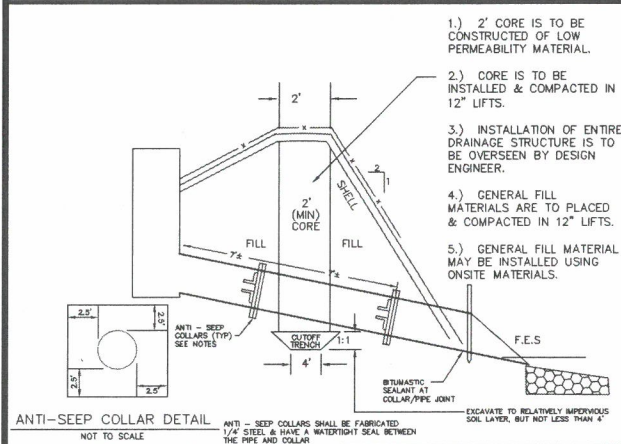
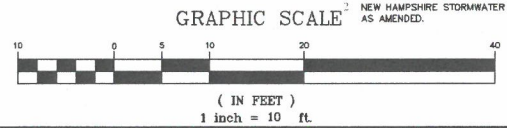
FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C-33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5

CRUSHED STONE BEDDING *	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 - 100
3/8"	20 - 55
# 4	0 - 10
# 8	0 - 5

\* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

- NOTES**
- WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
  - SOIL FILTER MEDIA SHALL BE AS SHOWN ABOVE.
  - GENERAL CONSTRUCTION NOTES ON THIS PLAN ALSO APPLY TO RAIN GARDEN #2
- MAINTENANCE REQUIREMENTS**
- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION.
  - PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
  - AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAINDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
  - VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING PRUNING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

- DESIGN REFERENCES**
- UNH STORMWATER CENTER
  - NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.



RECEIVED

FEB 04 2020

DESCRIPTION

REVISION	DATE

RAIN GARDEN #4 CONSTRUCTION REVISION

FOR

TOM AUBERT

788 AND 794 PORTLAND STREET

ROCHESTER, NH

TAX MAP 107, LOT 54 AND TAX MAP 108, LOT 53-1

**BERRY SURVEYING & ENGINEERING**

335 SECOND CROWN POINT ROAD

BARRINGTON, NH 03825 (603)332-2803

SCALE : 1 IN. EQUALS 10 FT.

DATE : FEBRUARY 4, 2020

FILE NO. : DB 2015 - 040

**STATE OF NEW HAMPSHIRE**

KENNETH A. BERRY

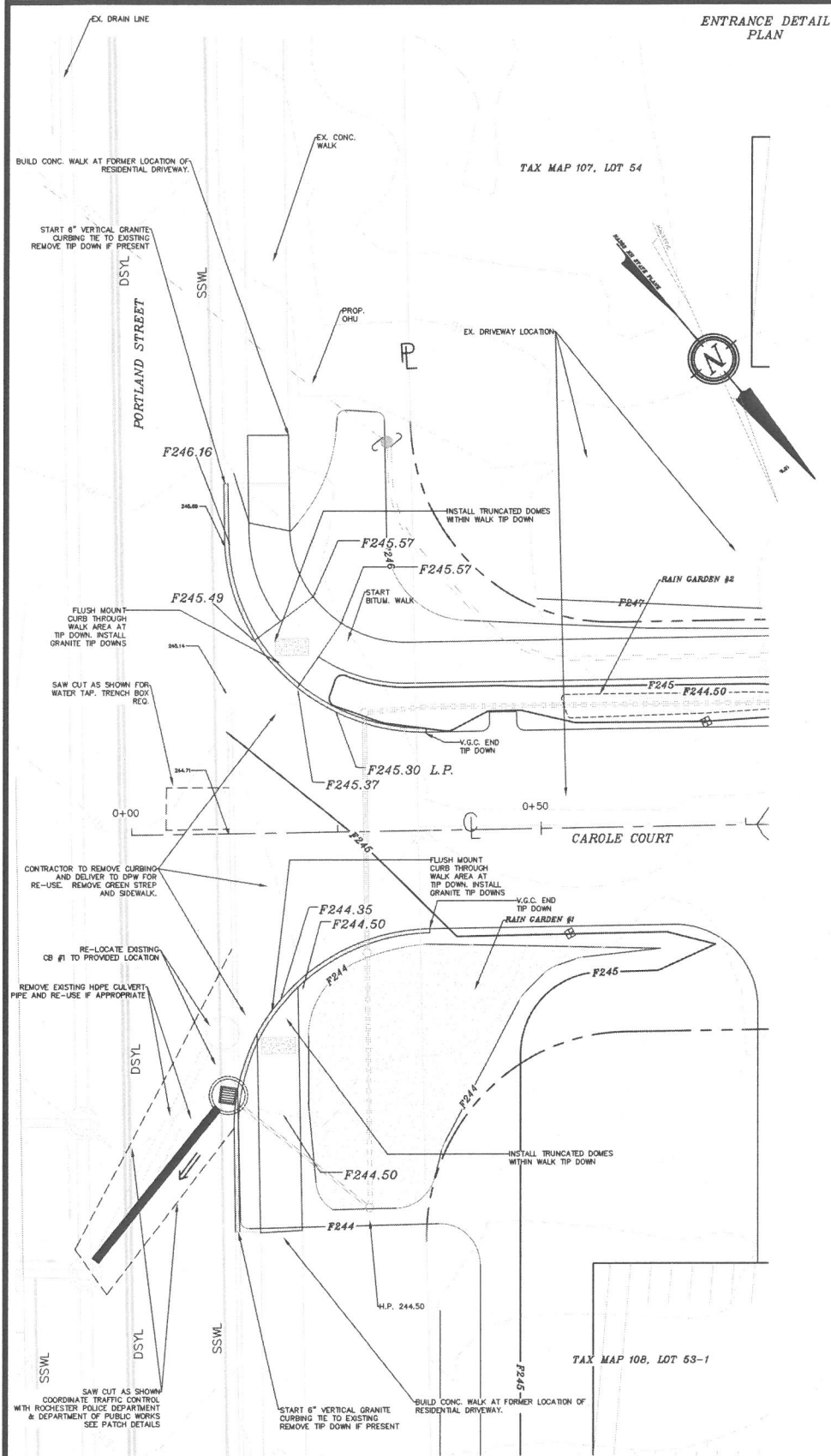
No. 14243

REGISTERED PROFESSIONAL ENGINEER

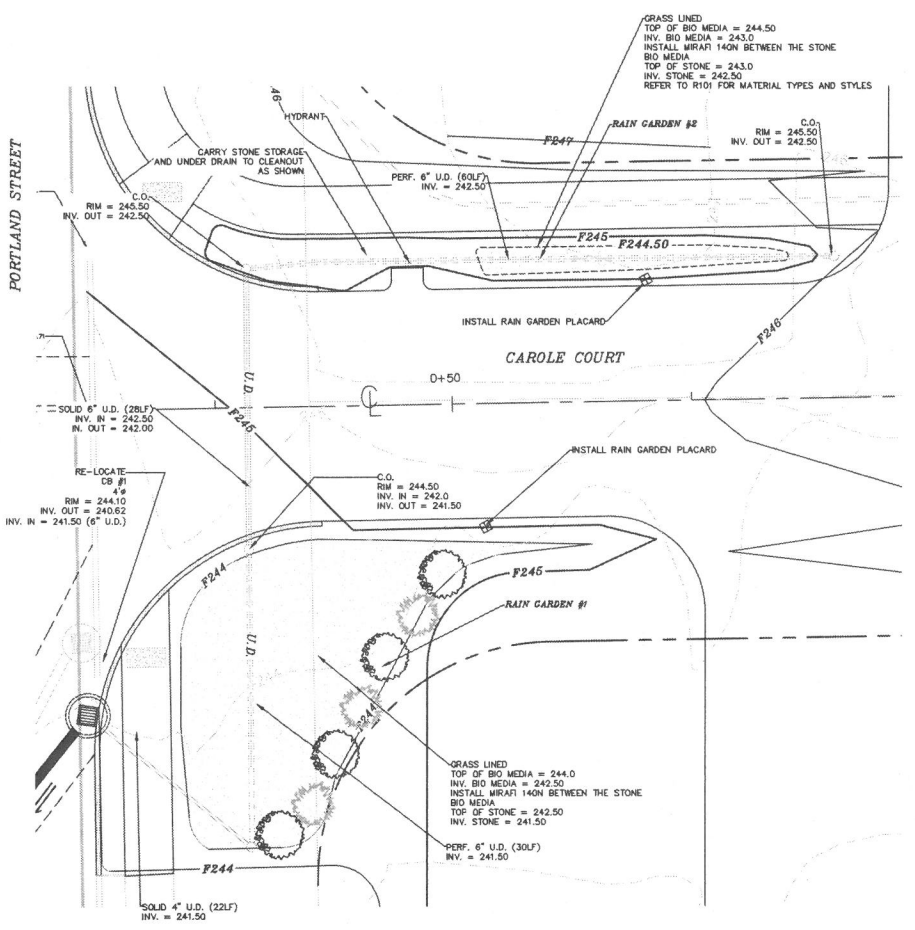
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SHEET 1 OF 2



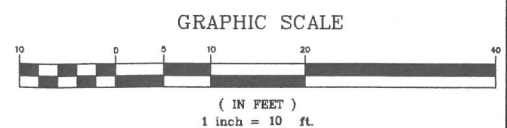


**RAIN GARDEN MIX**  
 THE GRASS THAT IS PLANTED WITHIN A RAIN GARDEN BIO-FILTRATION SYSTEM WITHIN THE BIO-MEDIA MUST CONSIST OF A COMBINATION OF WARM SEASON GRASS SEED AND COLD SEASON GRASS SEED IN ORDER FOR THE GRASS TO START GROWING FOR STABILIZATION AND CONTINUE GROWING IN THE SANDY WELL-DRAINED ENVIRONMENT. PLANTING SPECIFICATION WILL MEET THE REQUIREMENTS AS OUTLINED IN 'VEGETATION NEW HAMPSHIRE SAND AND GRAVEL PITS' MIX 1 (WARM SEASON GRASSES) (15 LBS/AC) AND INCLUDE ANNUAL AND PERENNIAL RYE GRASS SEED (15 LBS/AC); THE NEW ENGLAND NATIVE WARM SEASON GRASS MIX (23 LBS/AC) BY NEW ENGLAND WETLAND PLANTS, INC.; RAIN GARDEN MIX 180 (15 LBS/AC & 15 LBS/AC OF RYE) / RAIN GARDEN GRASS MIX 180-1 (20 LBS/AC & 10 LBS/AC OF RYE) BY ERNST CONSERVATION SEEDS; OR APPROVED EQUAL.



**TREES AND SHRUBS**

Qty	Botanical Name / Common Name	Root	Size
3	Cornus sericea 'Iscariot' / Isanti Dogwood	Cont.	2-3' Ht.
4	Fothergilla gardenii / Dwarf Fothergilla	Cont.	5 Gal.



REVISION	DATE	DESCRIPTION

RAIN GARDEN #1 & #2 CONSTRUCTION REVISION  
 FOR  
 TOM AUBERT  
 788 AND 794 PORTLAND STREET  
 ROCHESTER, NH  
**TAX MAP 107, LOT 54 AND TAX MAP 108, LOT 53-1**

**BERRY SURVEYING & ENGINEERING**  
 335 SECOND CROWN POINT ROAD  
 BARRINGTON, NH 03825 (603)352-2863  
 SCALE : 1 IN. EQUALS 10 FT.  
 DATE : FEBRUARY 4, 2020  
 FILE NO. : DB 2015 - 040

SHEET 2 OF 2