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August 19, 2019

VIA E-MAIL

Mr. & Mrs. Gary and Linda Therrien  
2060 New London Turnpike  
Glastonbury, CT 06033-3822

***RE: Preliminary Recommendations with regard to Management of Eastern Red Cedar (Juniperus virginiana) on the Eversource Right-of-Way in Glastonbury, south of New London Turnpike, on the Therrien Property***

*REMA Job No.: 19-2193-GLA30*

Dear Mr. & Mrs. Therrien:

Per your request, REMA Ecological Services, LLC (REMA), summarizes herein our *preliminary* findings and recommendations regarding ecological, safety, and aesthetic considerations with regard to Eastern Red Cedar, a keystone species found along Right-of-way (ROW) habitats.

It should be noted that REMA is in the process of conducting an ecological survey of the Eversource ROW within your property, as well as nearby. Final recommendations on ecologically-friendly vegetation management of the ROW will be available by November 1<sup>st</sup>, 2019.

This species is a medium-sized, slow-growing, exceptionally hardy and trouble-free dioecious or rarely monoecious tree, tolerating extremes of cold and heat, and drought. However, because this evergreen tree is highly shade-intolerant, it cannot grow within adjacent, contiguous forested habitats. By contrast, most of the other tree species, routinely culled from ROWs, tolerate shade, and are abundant in forests. The sharp decline in



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successional farmland habitat in Connecticut, over the past fifty years, means that now a much higher relative proportion of red cedars occur on ROWs and along highway corridors.

## **1.0 FOOD**

Red cedar is a highly significant food source, with very abundant fruit, that is consumed by a large number of mammals as well as birds. The blue persistent fruits are eaten through the winter months, as well as by bird species migrating during the spring and fall seasons. Wildlife species that consume red cedar fruits include the following: Eastern cottontails, red and gray squirrels, red and gray foxes, striped skunks, and opossums, robins, cedar waxwings, mockingbirds, goldfinches, grosbeaks, flickers, wild turkey, brown thrashers, towhees, Eastern bluebirds, and ruffed grouse, among others. Of these the last four are in decline, and the brown thrasher, which is listed in Connecticut as a “species of special concern” was observed within the ROW on your property during our ongoing ecological investigations. White tailed deer browse the foliage, but only lightly, such that the cedars survive.

## **2.0 COVER**

The dense foliage of red cedars, is present near the ground, and provides highly effective, dense cover for birds. It is important for nesting, and is used for this purpose by chipping sparrow, song sparrow, brown thrasher, robin, and mockingbird, among others. Shreds of cedar bark are also an important nest-building material. Red cedars provide secure cover during the day, year-round, a phenomenon observed at this site, during our ongoing bird surveys. Smaller birds can remain hidden, safe from hawks, between feeding forays in nearby exposed locations.

Saw-whet owls roost in securely hidden, red cedars during the day, which helps prevent harassing by crows and jays. This important nocturnal carnivore, which is also a Connecticut-listed species, feeds primarily on deer-footed mice (vector of Lyme Disease). Throughout the United States this owl is found in red cedar stands on open land.

Red cedars have great value as winter cover for birds. This value is heightened by the scarcity of other small to medium-size evergreens in Connecticut’s flora. Mammals can also shelter under them from snow and inclement weather.



### 3.0 OTHER ECOLOGICAL VALUES

For many millennia, red cedars have been a dominant small tree species in Connecticut's open ridge crest & rock outcrop ecological communities, closely associated with shade-intolerant native wildflowers and grasses, and presumably associated with the same suite of beneficial mycorrhizae as the cedars. Perennial herbs are better able to persist on the north and eastern sides of these evergreens, where winter shade slows snow melt and reduces the intensity and frequency of frost-heave cycling. They also provide protection from winter winds. For example, REMA recently observed wood betony (*Pedicularis canadensis*), at the base of a red cedar, on an Eversource ROW in the Town of Cheshire; this wildflower is also found among cedars on the traprock summits of the Hanging Hills in Meriden<sup>1</sup>.

*Juniperus virginiana* is also the larval host plant of a lovely rare, olive-green butterfly, the Juniper hairstreak, *Callophrys gryneus*, which is a species of conservation concern nationwide.

We would be remiss not to mention that eastern red cedars have dense and widely spreading root systems, which results in very effective soil stabilization, something which is much needed in the rocky and shallow soils that often characterize many ROWs, including the one associated with your property.

### 4.0 MANAGEMENT CONSIDERATIONS

Red cedar grows slowly, especially in dry or rocky environments, but it can reach heights that could interfere with electric transmission lines. REMA recommends a policy of topping the trees, rather than removal, on ROW properties where property owners or responsible non-profit organizations are willing to do the work, and are also willing to sign a Red Cedar Control form every four years, accompanied by digital photos, stating that no red cedars exceed fifteen feet, on their ROW section. We suggest topping at fifteen feet, a height which is manageable with a pole saw. Moreover, we recommend that the highest top branches be trimmed back to a length of two to three feet to prevent them from becoming leaders. As cedars do have low branches, and ample foliage below fifteen feet, they should remain healthy under a topping management approach, and still able to provide ample food and high quality cover.

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<sup>1</sup> REMA is in the process of conducting a comprehensive botanical inventory, and vegetative cover type mapping within the ROW on the Therrien property, as well as on the adjacent Lanata property.



## 5.0 CONCLUSION

Based on the scientific literature, our combined experience spanning more than 65 years, and the preliminary findings of the ongoing ecological studies on your property, as well as nearby, it is our professional opinion that the removal of all eastern red cedars from Eversource ROWs, including within your property, is not an ecological-friendly vegetation management practice. In fact, it will significantly reduce both the diversity and abundance of wildlife within the ROW, especially of breeding and migrating avifauna. Moreover, as mentioned above, red cedars promote microhabitat diversity, which contributes to increased plant biodiversity within ROWs. Therefore, their removal constitutes a significant impact to biodiversity. Finally, red cedars clearly promote exceptional soil stabilization within ROWs, and protect against erosion and sedimentation events.

Please feel free to contact our office with any questions on the above.

Respectfully submitted,

### REMA ECOLOGICAL SERVICES, LLC



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