December 27, 2017

Mayor Diane Furst
and
Town Council Members
Corte Madera, CA

Mayor Furst:

RE: http://www.marinij.com/article/NO/20171221/NEWS/171229966

I see that Corte Madera is addressing the leaf blower issue. Soliciting comments from your constituents about leaf blowers is a good beginning, but don't forget to include a discussion with local professional users. In order to arrive at the correct decision, you will also need technical information about the blower and credible facts regarding noise, dust and exhaust emission. I would like to help you with that. My employer (company info below) has retained me after my retirement to inform cities about the improvements made to leaf blowers and make suggestions on how to regulate their use.

I am a former Vice President of Engineering for Echo Inc., a leading manufacturer of powered lawn care products. I have helped more than 160 communities enact reasonable and effective leaf blower regulations. More information on my qualifications can be found at:
http://leafblowernoise.com/about%20the%20author.pdf
http://leafblowernoise.com/List%20of%20cities.htm

In response to noise complaints, I invented the first "Quiet" leaf blower for ECHO Inc. 20 years ago. Since then, several manufacturers have invested millions of dollars in tooling, testing and new assembly lines in order to provide this very important and valuable alternative. It's important because this design can be the solution to the leaf blower noise problem.

Much of what you will hear about leaf blowers is incorrect. I know this because I am familiar with the mindset of those publishing the information quoted by the people advocating for a blower ban. My comments are based on fact, with links to reports and studies that back up what I say. I know leaf blowers and the people that use them very well, for I have been in the industry for a very long time. Many of the people that are negative toward the gasoline-powered leaf blower have never used one. They don't know how important they are to those that need them in their lawn care businesses.

If you solicit information from professional contractors, you will find that they do not understand all the issues, but they can tell you how a ban will impact their income and how their customers will react. They most likely won't know very much about the negative impact a blower ban will have on your city and your enforcement agency. You probably have heard that there is a court case in Maplewood, NJ contesting a recent blower ban. This issue is deeper than just addressing personal preference. You are dealing with the livelihood of your local lawn care industry.

As was done in other cities, the solution to the leaf blower issue is to ban only the noisy blowers. This may sound strange; however, it is possible if you ban only those blowers louder than 65 dB(A). The industry attaches a label to the blower that indicates sound level, which is measured according to a highly detailed ANSI Standard. This makes it easy to determine magnitude at the point of purchase and in the field by the enforcement officer. http://leafblowernoise.com/Sound%20label%20mounted.jpg. Sixty-five dB(A) represents a 75% reduction in sound. If you have not actually heard the difference between blowers at 77 dB(A) and those at 65 dB(A), you owe it to yourself and your constituents to seek out a comparative demonstration. There are already many quiet gasoline powered leaf blowers in Corte Madera, but the problem is, if there is only one noisy leaf blower in the neighborhood, all leaf blowers are reviled.

You will hear that there is a health issue with leaf blowers. This comment is not supported by fact. Although leaf blowers typically do have the ability to generate air flows above 150 miles per hour, this air flow is measured at the end of a hose with a two-inch diameter nozzle. Keep in mind that ten feet away, air flow measures about 20 to 25 miles per hour and at 20 feet, it is nearly impossible to measure. You can visualize from this that fugitive material disturbed by a leaf blower will be blown away from the operator, but will remain within a few feet of the nozzle.

Some people ask, “What about that fine dust that can be lifted into the air?” According to the EPA, the particulate matter that is potentially harmful to someone’s health is known as PM-10 and PM-2.5. These numbers represent the particle size, which is 10 microns and 2.5 microns respectively. A micron is a meter divided by one million (1/1,000,000 meter). PM-10 has a diameter of 0.00001 meter (0.0004 inches or one-seventh the width of a human hair). They are smaller in size than the suspended dust you see in a ray of sunlight, right within your own living room. For the most part, PM-10 is otherwise invisible. Leaf blowers deal with a much larger sized particle, one that falls back to the earth within a few feet of the nozzle.

PM-10 particles originate from the combustion exhaust of a variety of mobile and stationary sources (diesel trucks, woodstoves, power plants, etc.). Their chemical and physical compositions vary widely. Particulate matter can be directly emitted or can be formed in the atmosphere when gaseous pollutants such as SO_2 and NOx react to form fine particles. Gasoline powered leaf blower engines do not produce these two chemicals.

As for leaf blowers raising this particle into the air, PM-10 is already in the air. Because it is so small and lightweight, the wind keeps these particles suspended. The brown haze you see over a city is comprised of these particles. Once it falls to the ground due to rain, high humidity or the formation of dew, it attaches itself to larger particles and can no longer be resuspended in the air. You can learn more about PM-10 at the following sites:
http://www.epa.gov/air/airtrends/aqtrnd95/pm10.html
http://www.epa.gov/air/particlepollution/health.html

There are reputable organizations that have done research to determine if there are health hazards attached to leaf blowers. They have reported that there is no justification for that belief. The Greenwich Department of Health indicated in a report that there is no health hazard attributable to leaf blowers. http://leafblowernoise.com/#Greenwich_Department_of_Health_Statement
Dr Nancy Steele, of the California Air Resources Board (CARB), came to the same conclusion in a report to the California State Legislature.
http://leafblowernoise.com/#Dr._Nancy_Steele,_of_the_California_Air_Resources_Board_

Bob Bundy, your town planning commissioner, believes that leaf blowers are significant contributors to greenhouse gas is incorrect. Greenhouse gas is generated in direct proportion to the amount of fuel burned. The reason fuel is called a **hydrocarbon** is because it consists of **hydro**gen and **carbon**. When gasoline burns, these two elements combine with oxygen. Every ounce of it turns into an airborne gas. During a complete chemical reaction, hydrogen combines with oxygen to form water (H_2O) and carbon oxidizes to form carbon dioxide (CO_2). CO_2 is the greenhouse gas everyone is talking about.
http://leafblowernoise.com/#Consider_greenhouse_gasses
Automobiles burn a great deal more fuel than that of a 1 to 3 horsepower leaf blower running for a few minutes per week per household. Take a look at the chart showing the sources of greenhouse gasses in Aspen for example:
http://leafblowernoise.com/Emissions%20Inv%202004_ExecSumm.pdf
Hand held engines are not even mentioned.

Battery power is a niche application and will never reach the performance of gasoline powered units for technical reasons. I know because I designed the first professional battery powered leaf blower and know its limitations and applications. Some years ago, I gave a demonstration before the California Air Resources Board of my new professional grade battery-powered leaf blower. I suggested it was a viable alternative to gasoline units from a sound standpoint. It had a sound level of only 56 dB(A). That represents a 91% reduction in sound pressure from the typical gasoline-powered leaf blower having a sound level of 77 dB(A).
http://leafblowernoise.com/DC%20products.ppt

But that is not the level of today's battery powered leaf blower. Manufacturers of battery-powered blowers do not concern themselves with sound. You will not find a sound label on their units based on industry testing standards. Most are as loud as conventional gasoline powered blowers. Sure, the motor is basically quiet, but the fan isn't.
http://leafblowernoise.com/Electric%20blower%20sound.htm (Note the quiet gasoline-powered blower is in yellow on this chart)
The battery blower I designed, although it was quiet, was not without problems. ECHO did not put it into production for lack of performance and because of its prohibitive cost. Mr. Mabe, the Founder, CEO and President of American Green Zone Alliance (AGZA) and proponent of using battery-powered leaf blowers, admits that today's electric equipment technology is "not quite there yet".

Keep in mind that using a battery powered blower is especially costly for the professional. In addition to the cost of the blower, several batteries are required to operate one blower for an eight-hour day. Stihl's backpack battery retails for $850. Then there is the charging equipment cost and the safety issues surrounding lithium ion batteries. Finally, the limited number of sources available for the disposal of spent lithium ion batteries needs to be considered.
http://www.sciencedirect.com/science/article/pii/S2214993714000037

If you check the retail outlets in your area, you will see that stores like The Home Depot offer a large selection of battery powered products. For the home owner, they work very well. Normally they are used to clear off decks, short driveways and sidewalks, but they are not very effective for the large job. Since they are basically of low power, they will take longer to get the job done. This is where the gasoline powered unit excels. It's why the professional will not use cordless electric blowers.

You know, time is money. Corded units are totally out of the question because they cannot be used more than a few feet from the wall outlet.

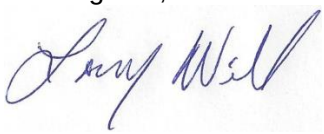
One other thing. I venture that the homeowner is the major source for leaf blower noise complaints. They are the ones that work in their yards on Sundays and holidays. They are the ones that use their blower after work, well into the evening or very early in the morning when many are still sleeping. Most professionals limit their workday to normal business hours. And when they use the blower, they are interested in getting the job done as quickly as possible, usually less than ten minutes per residence. By the way, powerful quiet leaf blowers, large enough for professional use, have been available for quite some time. http://www.echo-usa.com/Products/Blowers/PB-760LN Maybe your ordinance needs to differentiate homeowners from professional users. Maybe battery powered units would be acceptable to the homeowner.

I know some people would like to see all gasoline powered leaf blowers go away, but one must ask, "Is this the right thing to do?" Professional quality leaf blowers are firmly entrenched as indispensable tools. Eventually you will be deciding the fate of the leaf blower in your community and you will be tempted to ban all gasoline powered leaf blowers, but wherever a ban is in place, it typically fails. To understand why, talk to the enforcement agencies in cities that already have this type of ban. http://leafblowernoise.com/WBZ%20Boston%20Radio%20.pdf
http://leafblowernoise.com/Santa%20Monica%20Report.pdf
Your best bet is to find a solution that professionals will support. I agree with Mr. Vince Derham when he says, "I encourage the Town Council to think carefully before coming up with an outright ban."

Your desire to consolidate the leaf blower regulations throughout Marin County can be accomplished with your enforcement department's endorsement. An ordinance requiring quiet blowers over an all-out ban will be easier for them to enforce.

There is a great deal more information available regarding leaf blowers on my website. http://leafblowernoise.com/ Should you or your staff have questions that are not adequately answered at my website, please respond to this email or call with your inquiry.

Best regards,



Larry Will, BSME, Vice President (retired)
Leaf Blower Information Specialist
ECHO Inc.
Telephone: 479-256-0282
Website: http://leafblowernoise.com/
Email: info@leafblowernoise.com
For information about Echo Inc.: http://www.echo-usa.com/About-ECHO/About-Us