

Tuesday February 4, 2020
Medway Planning and Economic Development Board
155 Village Street
Medway, MA 02053

Members	Andy Rodenhiser	Bob Tucker	Tom Gay	Matt Hayes	Rich Di Iulio
Attendance	X	X	Participated Remotely	X	X

The meeting is being broadcast and recorded by Medway Cable Access.

ALSO PRESENT:

Susy Affleck-Childs, Planning and Economic Development Coordinator

The Chairman opened the meeting at 7:00 pm

There were no Citizen Comments.

WORKSHOP DISCUSSION on REVISIONS TO ENVIRONMENTAL STANDARDS section of the Zoning Bylaw

The Board is in receipt of the following: **(See Attached)**

- Memorandum dated January 17, 2020 from Caroline Wells of Weston and Sampson
- Existing 7.3 Environmental Standards as amended November 18, 2019
- DRAFT Proposed 7.3 Environmental Standards dated January 31, 2020
- DRAFT Proposed 7.3 Environmental Standards dated February 4, 2020
- Currant Noise Standards
- Email dated February 3, 2020 from CED Director Barbara Saint Andre
- Email from Fire Chief Jeff Lynch dated February 3, 2020
- Weston and Sampson Slide Presentation dated February 4, 2020
- Weston and Sampson Technical Proposal for Consulting Services dated December 11, 2019

Caroline Wells, Senior Project Manger from Weston and Sampson, was asked to provide zoning consulting services to the Planning and Economic Development Board to review and revise Section 7.3 Environmental Standards. There was a kick off meeting on January 8, 2020 with Barbara Saint Andre and Susy Affleck Childs. This meeting looked at the contents of Section 7.3 of the Zoning Bylaw and the difficulty interpreting and applying those standards, particularly with new uses such as marijuana cultivation. A meeting was then held on January 16, 2020 with Medway Department Heads that deal with environmental hazards and nuisances. Those department heads who attended were Fire Chief Jeff Lynch, Fire Chief Mike Fasolino, Health Director Beth Hallal and Building Inspector Jack Mee who enforces zoning complaints. The group reviewed enforcement and common hazard and nuisance issues. A number of the hazards listed in the bylaw are regulated at the state level although enforcement often occurs at the local

level. Ms. Wells began the presentation by explaining that the environmental standards in Medway's Zoning Bylaw have not been reviewed or updated for 30 years. Some of the measuring systems do not make sense or are out of date. Over the years, there have been new types of hazards and nuisances which have arisen, one of which is marijuana. There are also many standards which are now set by the Commonwealth and enforced by state agencies, or the local Police or the Board of Health. The PEDB needs to decide if they want those to be included in the Zoning Bylaw. There was a report provided which reviewed national, state, and local standards to provide insight to guide possible changes.

The next part of her presentation looked specifically at Section 7.3. This section has many limits and definitions which already exist in federal, state and local law. There needs to be a definition provided for "disturbing and offensive". A question was asked how do we define, measure and enforce things that are "disturbing and offensive". Ms. Wells explained that there can be a set performance measures (a standard) or we can use the "reasonable person" standard. Whatever is used, it needs to be legally defensible for it to be held up in court. A definition of "offensive or disturbing" was reviewed. Member Tucker has an issue with the term "reasonable person" since he wants to make sure there will be consistency year after year without having variations. What is reasonably acceptable to someone today will not necessarily be acceptable to them or another party tomorrow. There was a suggestion to have things with a consistent standard as specified by the ASTM (American Society for Testing and Materials). It was explained by Ms. Wells that the reasonableness test would place the burden of proof on staff or a consultant to go on site and determine this. This can be a challenge with new installations for things like sound and when a new more efficient piece of equipment is used. There was a comment that there are apps which are used to measure sound and staff could be trained to do this. A question was asked if this is really the job of staff to determine this measurement or would it be beneficial to hire an on-call consultant who has experience in this area. These devices can be fairly pricey. The "reasonable person" who is deciding this needs to be able to translate this into an enforceable action. This is difficult to do.

The next part of the presentation included the Board looking at: Fire/Explosion Hazards, Air Pollution, Radioactivity, Electrical Disturbance, Liquid and Solid Waste, Noise and Vibration, Odors, Light and Shadow Flicker.

The Fire/Explosion definition was reviewed. The language added is subject to 527 CMR Section 1.00 MA Comprehensive Fire Code as amended. The question asked whether the Board wants to include this in the Zoning Bylaw. Board members agreed that noting the code and standards used (ex. fire code) assists in explaining to the public what the decision is based on. Some of these would be best addressed as a General Bylaw and not in the Zoning Bylaw.

The next section discussed was Air Pollution (including smoke). This definition specifies that it is subject to CMR Section 7 Air Pollution Control Regulations which is the state standard. There was a question on how the term "disturbing" is being defined as related to Air Pollution. This is something that is enforced by the Board of Health. There does not seem to be a definition of this. Another question is the wording "offensive" which is really subjective to who is interpreting the situation. Consultant Wells will work with the Board of Health Agent on the wording of this section. The PEDB discussed whether this really needs to be regulated from a zoning perspective since the Board of Health is the enforcing entity. Member Gay suggested that the wording of this

be changed so that the last four sentences be switched to the beginning. The Board is in agreement.

The next section discussed was specific standards which included chimney smoke (permitted), outdoor hydronic heaters, open burning, fire pits, chimineas, outdoor fireplaces, community bonfires or ceremonial fires and second hand smoke (marijuana smoke). Consultant Wells informed the Board that she is still getting feedback from staff on this section. The open burning is regulated by the Fire Department/Board of Health. Some of the open burning is allowed seasonably. There was a question about the chimney smoke and why does it need to be permitted if it meets the standards. The intent of the chimney smoke was for interior chimney and houses which use the fireplace and wood burning as the main source of heating. The outside chimneys are regulated through the State DEP. A recommendation was made from Barbara Saint Andre's email which is to eliminate secondhand smoke it should not be regulated via zoning. The Consultant will clarify and provide more information regarding the burning of trash. The Board questions if this needs to be within the Zoning Bylaw.

Radioactivity:

This is already highly regulated by the United States Nuclear Regulatory Commission. There was a suggestion to strike this from the Zoning Bylaw.

Electrical Disturbance:

This section was added per the Fire Chief's concerns. This is regulated by the Federal Communications Commission. It was recommended to strike this section as well.

Liquid and Solid Waste Section:

The Consultant noted that there are currently many laws which govern liquid and solid waste. This is governed under the Board of Health regulations. All agree that this section should be removed. The Chairman would like the Board of Health to review the haulers section of the regulations.

Specific Standards:

- Residential composting, Agricultural composting, Small wind generation system, and Livestock domestic pets

The Board would like something placed in the bylaw about the decommissioning of solar installations. The Consultant will check to see if there are State standards for decommissioning. There was a suggestion to have a bond put in place for the duration of the solar unit on site.

Regarding agricultural composting, there is an agricultural permit required from Mass DEP which governs the disposing of manure. There is a management plan which governs this. The Board agrees that this is not needed in the Zoning Bylaw and to strike this section.

Noise Section:

The Board is in receipt of the current noise standard. The conversion of the Bylaw's noise standards to the more modern sound measurement standard was noted. The Consultant shared that during the staff discussion, they were not sure how this was going to be measured and enforced. The conclusion of the staff discussion was that it is difficult for them to enforce this. The Consultant communicated that new language is included which specifies that noise has to

meet the MA DEP noise policy. Member Di Iulio has a problem with the fact that the staff is not interested in enforcing this. The Consultant communicated that the science behind this is complicated and it is difficult to measure. The Board discussed having a consultant be on call for a fee. If the staff does not have the expertise, then they should not be responsible for enforcing it. However, this should be placed in as a Zoning Bylaw and not a General Bylaw.

Noise specific standards:

Construction, demolition, and repair, home based business, wind turbines, Registered Marijuana Manufacturing Facilities (RMMF), and Registered Marijuana Establishments (RME).

The Board would like to establish a minimum fee for penalty and add language to hold the violator liable for on-call consultant bill if the violation is valid. The staff also will need to know who to call to address these situations.

Mr. Lally communicated that he did call the police regarding the noise at 2 Marc Road and they did not know who the point of contact was. Mr. Lally also would like to see the background noise times changed from 10:00 pm to 5:00 am. The Board agreed.

Member Tucker recommended striking the construction noise standard since it is already regulated.

The Board discussed that during temporary construction, work needs to be able to be done within the set hours.

Vibration:

For the section on vibration, there was an issue with term “discernible” to the human sense of feeling for 3 minutes. This is difficult to measure.

Odor:

The language proposed for the Odor section is for continuous, frequent, or repetitive odors. An odor detected for less than 15 minutes per day is exempt. The threshold is to the point at which an odor may just be detected by the enforcement officer outside the property line from which it was created. The Board is concerned about who on staff will be tasked with measuring odor. Odor is subjective to who is smelling it.

Odors resulting from agricultural activities are exempt. The odor from restaurants are expected from time to time. The email from Barbara Saint Andre questioned if restaurants odors are going to be subject to the 15 minute per day proposed regulation. This will be difficult to enforce since restaurants do give out odor.

Mr. Lally discussed the marijuana facilities and that the odor from the facility is continuous. How strong the odor is depends on the weather and periods of time depending sometimes on which way the wind is going.

The Consultant responded that it is extremely difficult to establish regulations around weather conditions. An example she shared was a bakery which has smell but it may be at different times and amount depending on the demand that day. This is difficult to regulate. The Consultant will look at this section and will provide more clarity. Member Gay recommends that the Board not

react to specific situations and determining that one odor is more offensive than another but instead look at this from a broader prospective.

Lighting and Shadow Flicker:

This section covers the following: Strobe lights, and shadow/light flicker. The Board discussed that this is regulated in the Zoning Bylaw in section 7.2, Signs, 3.D. which prohibits blinking, flashing or fluttering lights. Strobe lights are not prohibited. The Medway Zoning Bylaw 8.8, Small Wind Generation, D.2. states that the Zoning Board of Appeals may grant a special permit. The applicant has the burden of proof that the shadow flicker will not have any adverse impact on neighbors. This needs to be moved to the Special Permit process.

Ms. Wells that she will incorporate the comments from the noise consultant along with the noted from Barbara Saint Andre. The document will then be updated and revised with the Consultant Wells.

FUTURE MEETING:

- Tuesday, February 11, 2020

ADJOURN:

On a motion made by Matt Hayes and seconded by Rich Di Iulio, the Board voted by roll call vote to unanimously to adjourn the meeting.

Roll Call Vote:

Matt Hayes	aye
Rich Di Iulio	aye
Tom Gay	aye
Bob Tucker	aye
Andy Rodenhiser	aye

The meeting was adjourned at 9:05 pm.

Prepared by,

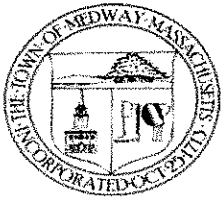


Amy Sutherland
Recording Secretary

Reviewed and edited by,



Susan E. Affleck-Childs
Planning and Economic Development Coordinator



Town of Medway

Remote Participation Request

I, THOMAS A. GAY (print name), hereby request to participate remotely at the meeting of the M.P. & ED (Board/Committee/Commission) to be held on FEB. 4, 2020 (date). I certify to the Chair that my absence is the result of one or more of the following factors which make my physical presence unreasonably difficult:

- ☐ (1) Personal Illness or Disability ☐ (2) A Family or Other Emergency
☐ (3) Military Service ☒ (4) Geographic Distance (Employment / Board Business)

Explanation: I WILL BE AWAY; PERSONAL TRAVEL

During the meeting, I will be at the following location:

Address 8464 SW 109TH FL
Ocala, FL

508.341.5174
Phone Number

Signature of Member

Date

Please sign and return to Chair

Request received by

Andy Rodenhiser
Chair (please print)

1-28-2020
Date

Method of Participation

Phone

(e.g. speakerphone)

Request Approved

yes

Request Denied* _____

Signature of Chair

Date

Signed form to be appended to the meeting minutes.

*All Denied Requests are Final and Not Appealable.

MEMORANDUM

TO: Barbara J. Saint Andre, Director of Community and Economic Development
Susan E. Affleck-Childs, Planning and Economic Development Coordinator

FROM: Caroline Wells, AICP

DATE: January 17, 2020

SUBJECT: Medway Zoning Bylaw - Environmental Standards Update

Summary of Meetings to Date

The project kicked off on **January 8, 2020**, at the Medway Town Hall. In attendance were Barbara Saint Andre and Susy Affleck-Childs of the Town of Medway and Caroline Wells and Ashley Sweet of Weston & Sampson. Barbara indicated that Susy will be the point person on behalf of the Town of Medway for this project. We discussed the content of Section 7.3 of the Zoning Bylaws, and the difficulty interpreting and applying them, particularly with new uses such as marijuana cultivation. We also considered future applications, such as renewable energy impacts. Susy described recent complaints and community concerns, such as restaurants and marijuana facilities, where new uses abut existing residential areas. We talked about meeting with Medway department heads charged with addressing hazards and nuisances, and Susy said she would send an email out to initiate that effort. In addition, we determined that February 4th will work as a potential date for the Planning and Economic Development Board. Caroline stated that she would send out a technical memorandum and a matrix of best practices for environmental zoning in the next week, although it should be considered a work in progress.

On **January 16, 2020**, Caroline met with the Medway department heads that deal with environmental hazards and nuisances. In attendance were Susy Affleck-Childs, Fire Chief Jeff Lynch, Deputy Fire Chief Mike Fasolino, Health Director Beth Hallal, and Building Commissioner Jack Mee who enforces zoning complaints. This meeting helped focus attention on actual experiences by staff. Using the existing bylaw as a guide, the group reviewed enforcement and common hazard and nuisance issues. A number of the hazards listed in the bylaw are regulated at the state level, although enforcement often occurs at the local level. The group also contemplated possible hazards that are not covered in the regulations or are covered elsewhere.

Progress to Date

As the attached matrix indicates, we have been researching best practices in the Commonwealth and nationwide regarding environmental standards for zoning. Because so many of the hazards and nuisances are regulated at the state level, the Town may decide to refer to those standards in the bylaw update. We will continue to develop the matrix over the next week.

Next Steps

Caroline will send a draft of the updated bylaws by the end of next week (January 24th) so that Susy and other staff can review, comment and edit prior to the public presentation scheduled for February 4th and the finalized draft can be included in the Board's packet. We should plan on a meeting with Susy and (if desired) other staff in Medway prior to the Board meeting.

After the Board provides review and comment, we will revise the bylaws again in preparation for the Town Meeting. We will also provide a Memorandum that summarizes any equipment, training, outside services or other needs required to monitor and enforce the updated bylaws (along with costs and sources).

Please let me know if there is anything else that you need.

DRAFT

Medway Environmental Zoning: Comparison Chart

Nuisance/Hazard	Medway Existing Standard	Commonwealth BMP	National BMP	Comments:
Fire	Zoning By-law Section 7.3: All activities and storage of flammable and explosive materials, at any point, shall be provided with adequate fire-fighting and fire-suppression equipment and devices	<ul style="list-style-type: none"> Franklin MA: Requires a license for storage with approval by Fire Chief. MASS Guide for Municipal Officials on Licensing the Storage of Flammables, Combustible and Explosives 	Westport WI: Fire Prevention and Safety Codes (http://www.townofwestport.org/Ordinances/Title%203/Title%203%20Chapter%202.pdf)	Consider a local Fire Prevention Code with permits for open burn https://cityofsatsuma.com/wordpress/wp-content/uploads/2019/01/Ordinance-512-Outdoor-and-Open-Burning-Ordinance.pdf
Explosives	Zoning By-law Section 7.3: All activities and storage of flammable and explosive materials, at any point, shall be provided with adequate fire-fighting and fire-suppression equipment and devices	<ul style="list-style-type: none"> Franklin MA: Requires a license for storage with approval by Fire Chief. MASS Guide for Municipal Officials on Licensing the Storage of Flammables, Combustible and Explosives MASS 527 CMR 13.00 Explosives https://www.sec.state.ma.us/reg_pub/pdf/500/527013.pdf 	Westport WI: Fire Prevention and Safety Codes (http://www.townofwestport.org/Ordinances/Title%203/Title%203%20Chapter%202.pdf)	https://www.atf.gov/explosives/docs/report/publication-federal-explosives-laws-and-regulations-atf-p-54007/download
Radioactivity	Zoning By-law Section 7.3: No activities which emit dangerous radioactivity at any	<ul style="list-style-type: none"> MASS Radiation Control Program 105 CMR 120.00: The Control of Radiation 		MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 122 thru 125A: Regulations relative

	point shall be permitted	<ul style="list-style-type: none"> • MASS Radioactive Materials Program https://www.mass.gov/service-details/radioactive-materials-program • MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 5N. State radiation control agency. 		to nuisances (local board of health)
Electrical Disturbance	Zoning By-law Section 7.3: No electrical disturbances (except domestic household appliances and communication equipment) adversely affecting the operation at any point of any equipment other than that of the creator of such disturbance shall be permitted.			MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 122 thru 125A: Regulations relative to nuisances (local board of health)
Smoke	Zoning By-law Section 7.3: No emission of visible smoke of a shade darker than No. 2 on the Ringleman Smoke Chart shall be permitted	MASS DEP: Air Pollution Control Regulation: Open Burning https://www.epa.gov/sites/production/files/2017-10/documents/ma-310-cmr-7-07.pdf		MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 122 thru 125A: Regulations relative to nuisances (local board of health)

Air Pollution (Fly Ash/Dust/Fume/Vapors/Gases)	Zoning By-law Section 7.3: No emission which can cause damage to health, to animals or vegetation, or other forms of property , or which cause any excessive soiling at any point shall be permitted.			MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 122 thru 125A: Regulations relative to nuisances (local board of health)
Liquid Waste	Zoning By-law Section 7.3: No discharge, at any point, into a private sewage disposal system, stream, or the ground, of any materials in such a way or of such nature or temperature as can contaminate any running streams or water supply, or otherwise cause the emission of dangerous or objectionable elements shall be permitted except in accord with MASS DPH.	MASS DEP. Part 1. Title XVI. Chapter 111. Section 167. Protection of sources of water supply.		
Solid Waste	Zoning By-law Section 7.3: No discharge, at any point, into a	MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section		

	private sewage disposal system, stream, or the ground, of any materials in such a way or of such nature or temperature as can contaminate any running streams or water supply, or otherwise cause the emission of dangerous or objectionable elements shall be permitted except in accord with MASS DPH.	150A thru B. Solid waste disposal facilities		
Vibration	Zoning By-law Section 7.3: No vibration which is discernable to the human sense of feeling for 3 minutes or more in any hour between 7 A.M. and 7 P.M. or of 30 seconds or more in any one hour from 7 P.M. to 7 A.M. shall be permitted. No vibration any time shall produce an acceleration of more than 0.1 g or shall result in any			MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 122 thru 125A: Regulations relative to nuisances (local board of health)

	combination of amplitude and frequencies beyond the "safe" range or Table 7, U.S. Bureau of Mines Bulletin NO. 442			
Noise	Zoning By-law Section 7.3: Maximum permissible sound pressure levels measured at the property line nearest to the noise source between 10 P.M. and 7 A.M shall be as follows: Chart of cycles per second related to Sound Pressure Levels. For sound that is not smooth and continuous, corrections of +5 for daytime and +5 for any noise source operated less than 20 % of any 1-hour period.	<p>Unreasonable or excessive noise shall mean:</p> <ul style="list-style-type: none"> Noise measured in excess of 50 dBa from 11pm to 7am, or in excess of 70 dBa at all other hours <p><i>Source: Boston, MA Noise Ordinance</i></p> <p><i>MASS DEP. Part 1. Title XVI. Chapter 111. Section 143. Trade or employment attended with noisome and injurious odors; assignment of places; prohibition; appeal</i></p> <ul style="list-style-type: none"> No trade or employment which may result in a nuisance or be harmful to the inhabitants, injurious to their estates, dangerous to the public health, or may be attended by noisome or injurious odors shall be established in a city or 	<ul style="list-style-type: none"> Measure of sound intensity or B4volume (Decibels) Impulsive sound shall not equal or exceed 80 dB at all times OR between 7 AM and 10 PM, impulsive sound shall not equal or exceed 80 dBa. Between 10 PM and 7 AM, impulsive sound which occurs less than 4 times in any hour shall not exceed 80 dBa. Impulsive sound which repeats four or more times in any hour shall be measured as impulsive sound and shall mee the requirements. <p><i>Source: Local Noise Enforcement Options and Model Noise Ordinance, NJ</i></p>	<p>MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 144: Revocation of location assignment; removal of nuisance</p> <p>MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 122 thru 125A: Regulations relative to nuisances (local board of health)</p>

		town expect in such location as may be assigned by the board of health thereof after a public hearing has been held...		
Odors	Zoning By-law Section 7.3: In all districts, no emission of odorous gases or odoriferous matter in such quantities as to be discernible outside the property line shall be permitted. Any industrial process which may involve the creation and/or emission of any odors shall be provided with a secondary safeguard system. No objectionable odor greater than that caused by 0.001201 oz. per thousand cubic feet of hydrogen sulfide or any odor threshold as defined in Table III in Chapter 5 of Air Pollution Abatement Manual	<p><i>MASS DEP GL. Part 1. Title XVI. Chapter 111. Section 143. Trade or employment attended with noisome and injurious odors: assignment of places; prohibition; appeal</i></p> <ul style="list-style-type: none"> • No trade or employment which may result in a nuisance or be harmful to the inhabitants, injurious to their estates, dangerous to the public health, or may be attended by noisome or injurious odors shall be established in a city or town expect in such location as may be assigned by the board of health thereof after a public hearing has been held... 	<p>Oregon: https://www.oregon.gov/deq/ag/Pages/Nuisance-Odor.aspx</p> <p>Denver: https://www.denvergov.org/content/dam/denvergov/Portals/771/documents/EQ/Odor/Rules%20Governing%20Nuisance%20Odors%20-%20draft.pdf</p>	<p>MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 144: Revocation of location assignment; removal of nuisance</p> <p>MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 122 thru 125A: Regulations relative to nuisances (local board of health)</p>

Marijuana	Zoning By-law Section 8.9 and 8.10	<p>Worcester, MA: http://www.worcesterma.gov/uploads/27/13/2713f492f23bacf1f30773b1b8c079d8/rec-marijuana-zoning-amendment.pdf</p> <p>Brockton, MA: https://brockton.ma.us/wp-content/uploads/2019/08/marijuana-ordinance.pdf</p>	<p>Folsom CA: https://www.codepublishing.com/CA/Folsom/html/Folsom17/Folsom17114.html#17.114.060</p> <p>Acton, ME: http://www.actonmaine.org/PDF/ACMC%20Final%20Report%20Volume%20I.pdf</p>	MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 122 thru 125A: Regulations relative to nuisances (local board of health)
Illumination/Light or Shadow Flicker	<p>Shadow Flicker: NONE</p> <p>Lighting: Zoning By-law Section 7.1.2</p>	<ul style="list-style-type: none"> Shadow flicker should not occur more than 30 minutes per day and not more than 30 hours per year at the point of concern (e.g., residences) Shadow flicker should be calculated based on the astronomical maximum values (i.e., not considering the effect of cloud cover, etc.) 	<p>30 hours per year and 30 minutes per day is a common worldwide standard. <i>Source: 7th International Conference on Wind Turbine Noise: Rotterdam - May 2017 "International Legislation and Regulation for Wind Turbine Shadow Flicker Impact"</i></p>	MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 122 thru 125A: Regulations relative to nuisances (local board of health)
Mobile Food Operations		https://www.mass.gov/info-details/mobile-food-establishment-questions-and-answers#what-activities-in-a-mobile-operation-require-a-permit-as-a-mfe?	http://www.providenceri.gov/wp-content/uploads/2016/08/Mobile-Food-Establishment-Permitting-COP.pdf https://dbr.ri.gov/divisions/commlicensing/FoodTrucks.php	

			https://planning-org-uploaded-media.s3.amazonaws.com/document/open-EIP36.pdf	
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7.3 ENVIRONMENTAL STANDARDS

- A. No land or building shall be used or occupied in any district in any manner which will produce a hazard or nuisance from fire, explosion, radioactivity, electrical disturbance, smoke, fly ash, dust, fumes, vapors, other forms of air pollution, liquid or solid wastes, vibration, noise, odors, or glare in a manner or amount as to affect the surrounding area. Any use may be undertaken and maintained provided that it conforms to the use regulations in Section 5 and to the performance standards listed below:
- B. The following performance standards shall apply to all districts and shall be determined at the location of use:
1. **Fire and Explosion Hazards:** All activities and all storage of flammable and explosive materials, at any point, shall be provided with adequate fire-fighting and fire-suppression equipment and devices.
 2. **Radioactivity or Electrical Disturbance:** No activities which emit dangerous radioactivity at any point shall be permitted. No electrical disturbances (except from domestic household appliances and from communications equipment subject to control of Federal Communications Commission or appropriate federal agencies) adversely affecting the operation at any point of any equipment other than that of the creator of such disturbance shall be permitted.
 3. **Smoke:** No emission of visible smoke of a shade darker than No. 2 on the *Ringlemann Smoke Chart* published by The U.S. Bureau of Mines shall be permitted.
 4. **Fly Ash, Dust, Fume, Vapors, Gases, Other Forms of Air Pollution:** No emission which can cause damage to health, to animals or vegetation, or other forms of property, or which cause any excessive soiling at any point shall be permitted. In no event shall any emission from any chimney or otherwise of any solid or liquid particles in concentration exceeding 0.3 grain per cubic foot of the conveying gas or air be permitted. For measurement of the amount of particles in gases resulting from combustion, standard corrections shall be applied to a stack temperature of 500 °F and 50% excess air.
 5. **Liquid or Solid Waste:** No discharge, at any point, into a private sewage disposal system, stream, or the ground, of any materials in such a way or of such a nature or temperature as can contaminate any running streams or water supply, or otherwise cause the emission of dangerous or objectionable elements, shall be permitted except in accord with standards approved by the Massachusetts Department of Public Health.
- C. The following performance standards shall apply to all districts and shall be determined at the property line of the use.
1. **Vibration:** No vibration which is discernible to the human sense of feeling for 3 minutes or more in any hour between 7 A.M. and 7 P.M. or of 30 seconds or more in any one hour

from 7 P.M. to 7 A.M. shall be permitted. No vibration at any time shall produce an acceleration of more than 0.1g or shall result in any combination of amplitude and frequencies beyond the "safe" range or Table 7, U.S. Bureau of Mines Bulletin NO. 442.

2. Noise.

- a. Maximum permissible sound pressure levels-measured at the property line nearest to the noise source for noise radiated continuously from the noise source between 10 PM and 7 AM shall be as follows:

<u>Frequency Band</u> (Cycles per Second)	<u>Sound Pressure Level</u> (Decibels re 0.0002 Dyne/CM ²)
2 – 72	69
75 – 150	54
150 – 300	47
300 – 600	41
600 - 1,200	37
1,200 - 2,400	34
2,400 - 4,800	31
4,800 - 10,000	28

- b. For noise levels between 7 A.M. and 10 P.M., and if the noise is not smooth and continuous, the following corrections shall be added to each of the decibel levels given above:

Daytime operation only: +5

Noise source operated less than 20% of any 1-hour period: +5

- D. Odors.** In all districts, no emission of odorous gases or odoriferous matter in such quantities as to be discernible outside the property line shall be permitted. Any industrial process which may involve the creation and/or emission of any odors shall be provided with a secondary safeguard system. No objectionable odor greater than that caused by 0.001201 oz. per thousand cubic feet of hydrogen sulfide or any odor threshold as defined in Table III in Chapter 5 of Air Pollution Abatement Manual (copyright 1951 by Manufacturing Chemists Assoc., Inc., Washington, DC) shall be permitted.

7.3. ENVIRONMENTAL STANDARDS

~~A. No land or building shall be used or occupied in any district in any manner which will produce a hazard or nuisance from fire, explosion, radioactivity, electrical disturbance, smoke, fly ash, dust, fumes, vapors, other forms of air pollution, liquid or solid wastes, vibration, noise, odors, or glare in a manner or amount as to affect the surrounding area. Any use may be undertaken and maintained provided that it conforms to the use regulations in Section 5 and to the performance standards listed below:~~

A. Purpose. The intent of this section is to provide standards for common uses that may generate impacts that are potentially hazardous, harmful to the environment, disturbing or offensive. Medway Zoning Bylaws, § 5.2, Prohibited Uses, expressly prohibits all uses in any district that pose a present or potential hazard to human health, safety, welfare, or the environment through the emission of smoke, particulate matter, noise or vibration, or through fire or explosive hazard, or light and shadow flicker. Furthermore, Medway Zoning Bylaws, § 5.2, Prohibited Uses, B.14 prohibits any use that produces “disturbing or offensive” noise, vibration, smoke, gas, fumes, odors, dust or other objectionable or hazardous features.

B. Enforcement: Section 3.1, Enforcement, Violations, and Penalties, of this Bylaw authorizes the Building Commissioner to interpret and enforce this Bylaw. In addition, the police department, fire department, or board of health officials are authorized to enforce standards that are based on certain sections of 310 CMR, § 7, Air Pollution Control Regulations.

C. Definitions. The definitions below are to supplement and clarify Section 2, Definitions.

AGRICULTURE: As defined in 128 MGL, § 1A, Agriculture – Farming, Agriculture, Farmer Definitions

AIR POLLUTION: As stated in 310 CMR §7, Air Pollution Regulations – Definitions, air pollution is “the presence in the ambient air space of one or more air contaminants or combinations thereof in such concentrations and of such duration as to: (a) cause a nuisance; (b) be injurious, or be on the basis of current information, potentially injurious to human or animal life, to vegetation, or to property; or (c) unreasonably interfere with the comfortable enjoyment of life and property or the conduct of business.”

CFR: Code of Federal Regulations

CMR: Code of Massachusetts Regulations

DISTURBING OR OFFENSIVE: Any irritating, worrying or upsetting impact which causes distress, annoyance, discomfort or injury to or which interferes with the comfort or repose of any person of reasonable nervous sensibilities in the vicinity thereof. Disturbing or offensive

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impacts are measured by the enforcement officer at the property line of any lot on which a use is conducted.

LIQUID WASTE: Any waste material that passes the definition of liquid (it can pass through a .45 micron filter at a pressure differential of 75 psi).

OUTDOOR HYDRONIC HEATER (OHH): As defined in 310 CMR §7.26 (50), Industry Performance Standards, a heating system for building spaces that burns wood or solid fuels and heats a liquid which is distributed through pipes to an occupied space. An OHH is installed in areas not normally occupied by humans, such as an outdoor shed or garage. OHHs are also known as a wood boilers, pellet boilers, outdoor boilers, and outdoor water stoves

MA DEP: Massachusetts Department of Environmental Protection

MGL: Massachusetts General Law

NOISE: As defined by 310 CMR, § 7, Air Pollution Control Regulations, sound of sufficient intensity and/or duration as to cause or contribute to a condition of air pollution.

ODOR: As defined by 310 CMR, § 7, Air Pollution Control Regulations, the property of gaseous, liquid, or solid materials that elicit a physiologic response by the human sense of smell.

SHADOW (LIGHT) FLICKER: The alternating changes in light intensity that occur at times when the rotating blades of wind turbines cast moving shadows on the ground or on structures.

SOLID WASTE: any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities.

SMOKE: As defined by 310 CMR, § 7, Air Pollution Control Regulations, smoke is “the visible aerosol, which may contain fly ash, resulting from the combustion of materials but does not mean condensed water vapor.”

D. B. Standards. The following ~~performance~~ standards shall apply to all districts and shall be determined at the location of use:

1. **Fire and Explosion Hazards:** All activities ~~and all storage of involving~~ flammable and explosive materials, ~~at any point including storage, shall be provided with adequate fire fighting and fire suppression equipment and devices, are subject to~~ 527 CMR § 1.00 (Massachusetts Comprehensive Fire Code), as amended. See Open Burning, below.

- ~~1. **Smoke:** No emission of visible smoke of a shade darker than No. 2 on the Ringlemann Smoke Chart published by The U.S. Bureau of Mines shall be permitted.~~
2. **Smoke, Fly Ash, Dust, Fume, Vapors, Gases, Other Forms of Air Pollution:** All activities involving air pollutants are subject to CMR 310, § 7, Air Pollution Control Regulations, as amended. No emission which can cause damage to human health, to animals or vegetation, or other forms of property, or which cause any excessive soiling at any point shall be permitted.- In addition, Medway Zoning Bylaw, § 5.2, Prohibited Uses, 14, prohibits any use “that produces disturbing or offensive noise, vibration, smoke, gas, fumes, odors, dust or other objectionable or hazardous features.” Specific standards and exceptions apply as follows:
 - a. **Chimney Smoke:** Smoke from the chimney of an interior fireplace is permitted.
 - b. **Outdoor Hydronic Heaters:** Hydronic heaters are a source of air pollution, and Massachusetts certifies which hydronic heaters can be sold and installed in the Commonwealth at 310 CMR § 7.26 (50-54), Air Pollution Control Regulations – Industry Performance Standards, as amended. Hydronic heaters may only burn clean wood, wood pellets from clean wood, home heating oil and biomass fuels as approved in 310 CRM § 7.26.
 - c. **Open Burning:** Burning of brush from residential landscape maintenance, agricultural activities, land clearing of residential properties requires a permit from the Fire Department and is limited by 310 CMR § 7.07, Air Pollution Control Regulations – Open Burning.
 - d. **Fire Pits, Chimineas, Outdoor Fireplaces:** 310 CMR § 7.07, Open Burning, includes firepits, chimineas, and outdoor fireplaces in the definition of “open burning” and generally restricts these amenities to outdoor cooking. These amenities should be reasonable in size, located away from combustible materials, contained in a non-flammable enclosure, and tended by an adult. “Reasonableness of size” is determined by the Fire Chief.
 - e. **Community Bonfires or Ceremonial Fires:** Community bonfires or ceremonial fires require a permit from the Fire Department and are limited by 310 CMR § 7.07, Open Burning.
 - f. **Secondhand Smoke:** Smoking is subject to federal, state and local regulations:

1) **All Smoke:** MGL 270, § 22 (Massachusetts Smoke-Free Workplace Law) restricts smoking tobacco, e-cigarettes, or vaping in places of work, public transportation, public buildings, waiting areas, and public vehicles, and other public areas. The Medway Board of Health further prohibits smoking of any product designed to be inhalable, as well as e-cigarettes, in cigar bars (hookah bars), hotel/motel/bed and breakfast rooms, outdoor spaces of eating establishments, public buildings, transportation, and waiting places.

2) **Marijuana Smoke:** MGL 94G, § 13, Penalties, prohibits the consumption of marijuana (in all forms) in public places or in places where tobacco is prohibited. Medway General Bylaws, Article XII, Penal Laws, § 12.13 also prohibits marijuana consumption in public.

i. **Registered Medical Marijuana Facilities (RMMF):** Medway Zoning Bylaw, § 8.9, Registered Medical Marijuana Facilities, E.6 prohibits smoking, burning or consumption of any product containing marijuana or marijuana-infused-products on the premises of an RMMF. Medway Zoning Bylaw § 8.9.H prohibits any nuisance to abutters or to the surrounding area, or the creation of any hazard, including but not limited to fire, explosion, fumes, gas, smoke, odors, obnoxious dust, vapors, offensive noise or vibration, flashes, glare, objectionable effluent or electrical interference, which may impair the normal use and peaceful enjoyment of any property, structure or dwelling in the area.

ii. **Recreational Marijuana Establishments (RME):** Medway Zoning Bylaw, § 8.10, Recreational Marijuana, prohibits smoking, burning or consumption of any product containing marijuana or marijuana-infused-products on the premises of an RME (E.5). Medway Zoning Bylaw § 8.10.H prohibits any nuisance to abutters or to the surrounding area, or the creation of any hazard, including but not limited to fire, explosion, fumes, gas, smoke, odors, obnoxious dust, vapors, offensive noise or vibration, flashes, glare, objectionable effluent or electrical interference, which may impair the normal use and peaceful enjoyment of any property, structure or dwelling in the area.

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~~2. In no event shall any emission from any chimney or otherwise of any solid or liquid particles in concentration exceeding 0.3 grain per cubic foot of the conveying gas or air be permitted. For measurement of the amount of particles in gases resulting from combustion, standard corrections shall be applied to a stack temperature of 500 °F and 50% excess air.~~

~~3.~~

3. Radioactivity or Electrical Disturbance: No activities which emit dangerous radioactivity at any point shall be permitted. ~~No electrical disturbances (except from domestic household appliances and from communications equipment subject to control of Federal Communications Commission or appropriate federal agencies) adversely affecting the operation at any point of any equipment other than that of the creator of such disturbance shall be permitted.~~ All activities involving radiation (radioactive materials and waste, electromagnetic radiation, x-ray radiation, microwave radiation, or other forms) are subject to the 105 CMR § 120.00 (The Control of Radiation) as amended, and are regulated by the MA Department of Public Health, unless specifically regulated by the United States Nuclear Regulatory Commission (NRC).

4. Electrical Disturbance: No use shall create any electrical disturbance that adversely affects any equipment or operations, such as television and radio broadcasting transmissions, owned by another person or people, or entity (government, commercial or institutional).

~~4.~~

~~5. Smoke:~~ No emission of visible smoke of a shade darker than No. 2 on the *Ringlemann Smoke Chart* published by The U.S. Bureau of Mines shall be permitted.

~~6. Fly Ash, Dust, Fume, Vapors, Gases, Other Forms of Air Pollution:~~ No emission which can cause damage to health, to animals or vegetation, or other forms of property, or which cause any excessive soiling at any point shall be permitted. ~~In no event shall any emission from any chimney or otherwise of any solid or liquid particles in concentration exceeding 0.3 grain per cubic foot of the conveying gas or air be permitted. For measurement of the amount of particles in gases resulting from combustion, standard corrections shall be applied to a stack temperature of 500 °F and 50% excess air.~~

7. Liquid or Solid Waste: Liquid waste is a major source of pollution because it spreads easily and pollutes water resources, such as groundwater, and is regulated at the federal, state and local level. No discharge, at any point, into a public or

private sewage system, stream, or the ground, of any materials in such a way or of such a nature or temperature as can contaminate any running streams or water supply, or otherwise cause the emission of dangerous or objectionable elements, shall be permitted except in accord with standards approved by the Massachusetts Department of Public Health. Liquid waste is further regulated below:

- a. **Septage:** 310 CMR 15, Title 5 of the State Environmental Code, regulates onsite collection, treatment and disposal of sanitary sewage, and to the transport and disposal of associated septage and grease.
- b. **Municipal Stormwater System:** Medway General Bylaws, Article XXVI, Stormwater Management and Land Disturbance, prohibit the discharge of any pollutant, unauthorized stormwater or non-stormwater discharge into the municipal separate storm sewer system (MS4) and/or Town right-of-way.
- c. **Resource Areas:** Medway General Laws, Article XXI, General Wetlands Protection, § 21.2 prohibits discharge to any freshwater wetlands, marshes, wet meadows, bogs, swamps, vernal pools, banks, reservoirs, lakes, ponds of any size, rivers, streams, creeks, land under waterbodies, lands subject to flooding or inundation by ground water or surface water, and lands within 100 feet of any of the above resource areas.

8. No discharge, at any point, into a private sewage disposal system, stream, or the ground, of any materials in such a way or of such a nature or temperature as can contaminate any running streams or water supply, or otherwise cause the emission of dangerous or objectionable elements, shall be permitted except in accord with standards approved by the Massachusetts Department of Public Health.**Solid Waste:** Medway General Bylaws, Article XII, Penal Laws, § 12.8 prohibits the storage of junk, refuse or waste material in a visible place from any public highway. All solid waste management activities and facilities including, without limitation, landfills, dumping grounds, transfer stations, solid waste combustion facilities, solid waste processing and handling facilities, recycling facilities, refuse composting facilities and other works or sites for the storage, transfer, treatment, processing or disposal of solid waste and the beneficial use of solid waste is regulated by 310 CMR, § 19, Solid Waste Management, as amended. Solid waste is further regulated below:

- a. **Residential Composting:** Residential composting is permitted provided that composting activities conform to state and local regulations.

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- b. **Agricultural Composting:** Composting at the agricultural scale requires permitting in accordance with the 310 CMR, § 16, Site Assignment for Solid Waste Facilities.
 - c. **Small Wind Generation System Decommissioning:** As required by Medway Zoning Bylaw, § 8.8 Small Wind Generation, I.2b, owners must dispose of wind generating systems according to local and state waste regulations. Decommission plans for ground-mounted solar arrays must include a Decommissioning Plan as part of the Major Site Plan review.
 - d. **Livestock/Domestic Pets:** The Medway Board of Health requires a permit for cows, goats, sheep, horses, poultry, swine, birds, reptiles, bees, ferrets, llamas, alpacas, five or more cats or rabbits, or other domesticated animals. Every owner of such animals must adhere to the provisions of the Medway Board of Health's Manure Management Plan, which includes specifications for the siting of animal waste. Properties that are primarily agricultural or existing agricultural operations on properties greater than 5 acres are exempt.
9. **Noise:** All activities must meet the standard of 310 CMR, § 7.10, Air Pollution Control Regulations, as amended, which regulates outdoor noise. 7.10(1) of this regulation prohibits any person owning, leasing, or controlling a source of sound to "cause, suffer, allow, or permit unnecessary emissions from said source of sound that may cause noise." Noise caused by agricultural, farm-related, or forestry-related activities as defined by MGL, Chapter 128, Agriculture, § 1A, as amended, is exempt from this restriction. These regulations shall not apply to permitted public gatherings, emergency vehicles, police, fire and defense activities, and the use of domestic equipment (such as lawn mowers) between the hours of 7:00 A.M. and 9:00 P.M.

The Town of Medway further restricts noise as follows:

- a. **Construction, Demolition, or Repair:** No person shall use or cause the use of any mechanical equipment or tool operated by fuel or electric power in building, construction, repair or demolition operations between the hours of 7:00 A.M. and 9:00 P.M. within 600 feet of any residential building or hospital. The limitation of this section does not apply to any construction, demolition or repair work of an emergency nature or to work on public improvements authorized by a governmental body or agency.
- b. **Home-Based Business:** Medway Zoning Bylaw 8.3, Home-Based Businesses, §C8 prohibits detectable noise from equipment or processes resulting from a home-based business.

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c. **Wind Turbines:** Medway Zoning Bylaw 8.8, Small Wind Generation, §G.2 requires small wind energy systems and associated equipment to conform with the provisions of 310 CMR § 7.10, Air Pollution Control, unless the DEP and the Zoning Board of Appeals determine that those provisions shall not be applicable.

d. **Registered Marijuana Manufacturing Facilities:** Medway Zoning Bylaw 8.9, Registered Marijuana Facilities, §H prohibits RMMFs from any noise that creates a nuisance to abutters or the surrounding area.

e. **Recreational Marijuana Establishments:** Medway Zoning Bylaw 8.10, Recreational Marijuana Establishments, § H prohibits RMEs from any noise that creates a nuisance to abutters or the surrounding area

8. **Vibration:** ~~No~~ Vibration which is discernible to the human sense of feeling for 3 minutes or more in any hour between 7 A.M. and 7 P.M. or of 30 seconds or more in any one hour from 7 P.M. to 7 A.M. shall ~~not~~ be permitted.

i.—

C. The following performance standards shall apply to all districts and shall be determined at the property line of the use:

1. **Vibration:** No vibration which is discernible to the human sense of feeling for 3 minutes or more in any hour between 7 A.M. and 7 P.M. or of 30 seconds or more in any one hour from 7 P.M. to 7 A.M. shall be permitted. No vibration at any time shall produce an acceleration of more than 0.1g or shall result in any combination of amplitude and frequencies beyond the "safe" range or Table 7, U.S. Bureau of Mines Bulletin NO. 442.2. **Noise:**

a. Maximum permissible sound pressure levels measured at the property line nearest to the noise source for noise radiated continuously from the noise source between 10 PM and 7 AM shall be as follows:

Frequency Band (Cycles per Second)	Sound Pressure Level (Decibels re 0.0002
2 — 72	69
75 — 150	54
150 — 300	47
300 — 600	41
600 — 1,200	37
1,200 — 2,400	34
2,400 — 4,800	31
4,800 — 10,000	28

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9. **Odors:** Continuous, frequent, or repetitive odors may not be produced. The odor threshold is the point at which an odor may just be detected by the enforcement officer outside of the property line from which it was created. An odor detected for less than 15 minutes per day is exempt.

a. **Agricultural Activities:** Odors resulting from normally-accepted agricultural practices are exempt.

b. **Marijuana Facilities:** RMMFs and RMEs shall not create any nuisance to abutters or to the surrounding area.

c. **Restaurants:** Odors from restaurants are expected from time to time. Continuous odors are not permitted beyond the boundaries of the property.

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10. **Light/Shadow Flicker:** Outdoor lighting is regulated by ~~Medway~~ Medway Zoning Bylaw, Section 7.1.2.-:

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~~abutting or neighboring~~ at any elevation between residential and non-residential properties. Outdoor illumination standard. There shall be no light trespass beyond 0.01 foot candles by a luminaire at the property lines of the lot on which the illumination is located, except as within a street right of way for which there shall be no limit. This requirement shall apply to the illumination of residential properties by another residential property or a non-residentially zoned property. This shall not apply between two or more non-residentially zoned properties.

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~~1. Any outdoor luminaire subject to these provisions with a lamp or lamps rated at a total of more than 2,000 lumens shall be fully shielded and shall not emit any direct light above a horizontal plane passing through the lowest part of the light emitting luminary. Temporary emergency and construction lighting is exempt.~~ a. **Strobe lights:** Strobe lights visible from ~~another~~ ~~abutting or neighboring~~ properties are not ~~allowed~~ permitted. Medway Zoning Bylaw, § 7.2, Signs, 3.D prohibits blinking, flashing or fluttering lights.

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b. **Shadow/Light Flicker:-** Medway Zoning Bylaw 8.8..Small Wind Generation, § D.2.d states that the Zoning Board of Appeals may grant a special permit if an applicant can demonstrate that no nuisance, including shadow flicker, will be created by a proposed wind turbine(s). The applicant has the burden of proving that the shadow flicker will not have any adverse impact on neighboring or adjacent uses, and that potential shadow flicker will be addressed either through siting or mitigation measures (such as the planting of trees). If more than one turbine is proposed, shadow flicker shall be determined

for each turbine, and for all turbines cumulatively. Shadow flicker from a wind turbine shall not occur for more than 30 minutes per day and not more than 30 hours per year at any portion of an adjacent or nearby property. This shall be based on realistic modeling during the application process. A violation of this standard is an enforceable action once the turbine is in operation. The owner of the turbine shall have the burden of proving that this effect does not have a significant impact on neighboring or adjacent uses through either siting or mitigation.13. — ABATEMENT OF NONCOMPLIANT ACTION:

(a) Any violation of an environmental performance standard defined within this section shall be subject to abatement and enforcement action(s) by the Board, or any other town official so determined to be an authorized agent. The enforcement or abatement action must be presented to the owner or occupant in writing. Authorized agents include but are not limited to police, fire, building and zoning officials, town administrator or Board of Selectman. The authorized agent shall order the owner or occupant of any private premise, at their own expense, to remove any nuisance, sources of public health concerns found thereon with twenty four hours or such other time agreed to by the authorized town agent.

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(b) If the owner or occupant fails to comply with such order, the authorized agent of the Town of Medway may cause the nuisance or public health threat to be removed, and all expenses incurred thereby shall constitute a debt due to the Town of Medway.

14. ENFORCEMENT:

(a) The Board, its agents, officers and employees, and any other duly recognized authorized agent by the town, shall have the authority to enter upon privately owned land for the purpose of performing their duties for the administration and review of this section, and may make or cause to made such examinations as deemed necessary.

(b) Any authorized agent shall have authority to enforce these regulations and permits issued thereunder by violation notices, administrative orders, and civil and criminal court actions. The cost of which shall be borne by the owner or occupant found in violation of this regulation.

(c) Unless stated otherwise, any person who violates any provision of this regulation or permits issued hereunder, shall be subject to fine of not more than one thousand dollars. Each day or portion thereof during which a violation

occurs or continues shall constitute a separate offense, and each provision of the regulation or permit that is violated shall constitute a separate offense.

15. APPEAL:

- b. For noise levels between 7 A.M. and 10 P.M., and if the noise is not smooth and continuous, the following corrections shall be added to each of the decibel levels given above:

Daytime operation only: +5

Noise source operated less than 20% of any 1-hour period: +5

D. Odors. In all districts, no emission of odorous gases or odoriferous matter in such quantities as to be discernible outside the property line shall be permitted. Any industrial process which may involve the creation and/or emission of any odors shall be provided with a secondary safeguard system. No objectionable odor greater than that caused by 0.001201 oz. per thousand cubic feet of hydrogen sulfide or any odor threshold as defined in Table III in Chapter 5 of Air Pollution Abatement Manual (copyright 1951 by Manufacturing Chemists Assoc., Inc., Washington, DC) shall be permitted

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impacts are measured by the enforcement officer at the property line of any lot on which a use is conducted.

LIQUID WASTE: Any waste material that passes the definition of liquid (it can pass through a .45 micron filter at a pressure differential of 75 psi).

OUTDOOR HYDRONIC HEATER (OHH): As defined in 310 CMR §7.26 (50), Industry Performance Standards, a heating system for building spaces that burns wood or solid fuels and heats a liquid which is distributed through pipes to an occupied space. An OHH is installed in areas not normally occupied by humans, such as an outdoor shed or garage. OHHs are also known as a wood boilers, pellet boilers, outdoor boilers, and outdoor water stoves

MA DEP: Massachusetts Department of Environmental Protection

MGL: Massachusetts General Law

NOISE: As defined by 310 CMR, § 7, Air Pollution Control Regulations, sound of sufficient intensity and/or duration as to cause or contribute to a condition of air pollution.

ODOR: As defined by 310 CMR, § 7, Air Pollution Control Regulations, the property of gaseous, liquid, or solid materials that elicit a physiologic response by the human sense of smell.

SHADOW (LIGHT) FLICKER: The alternating changes in light intensity that occur at times when the rotating blades of wind turbines cast moving shadows on the ground or on structures.

SOLID WASTE: any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities.

SMOKE: As defined by 310 CMR, § 7, Air Pollution Control Regulations, smoke is “the visible aerosol, which may contain fly ash, resulting from the combustion of materials but does not mean condensed water vapor.”

D. B. Standards. The following ~~performance~~ standards shall apply to all districts and shall be determined at the location of use:

1. **Fire and Explosion Hazards:** All activities ~~and all storage of involving~~ flammable and explosive materials, ~~at any point including storage, shall be provided with adequate fire fighting and fire suppression equipment and devices. are subject to~~ 527 CMR § 1.00 (Massachusetts Comprehensive Fire Code), as amended. See Open Burning, below.

- ~~1. **Smoke:** No emission of visible smoke of a shade darker than No. 2 on the Ringlemann Smoke Chart published by The U.S. Bureau of Mines shall be permitted.~~
2. **Smoke, Fly Ash, Dust, Fume, Vapors, Gases, Other Forms of Air Pollution:** All activities involving air pollutants are subject to CMR 310, § 7, Air Pollution Control Regulations, as amended. No emission which can cause damage to human health, to animals or vegetation, or other forms of property, or which cause any excessive soiling at any point shall be permitted.- In addition, Medway Zoning Bylaw, § 5.2, Prohibited Uses, 14, prohibits any use “that produces disturbing or offensive noise, vibration, smoke, gas, fumes, odors, dust or other objectionable or hazardous features.” Specific standards and exceptions apply as follows:
 - a. **Chimney Smoke:** Smoke from the chimney of an interior fireplace is permitted.
 - b. **Outdoor Hydronic Heaters:** Hydronic heaters are a source of air pollution, and Massachusetts certifies which hydronic heaters can be sold and installed in the Commonwealth at 310 CMR § 7.26 (50-54), Air Pollution Control Regulations – Industry Performance Standards, as amended. Hydronic heaters may only burn clean wood, wood pellets from clean wood, home heating oil and biomass fuels as approved in 310 CRM § 7.26.
 - c. **Open Burning:** Burning of brush from residential landscape maintenance, agricultural activities, land clearing of residential properties requires a permit from the Fire Department and is limited by 310 CMR § 7.07, Air Pollution Control Regulations – Open Burning.
 - d. **Fire Pits, Chimineas, Outdoor Fireplaces:** 310 CMR § 7.07, Open Burning, includes firepits, chimineas, and outdoor fireplaces in the definition of “open burning” and generally restricts these amenities to outdoor cooking. These amenities should be reasonable in size, located away from combustible materials, contained in a non-flammable enclosure, and tended by an adult. “Reasonableness of size” is determined by the Fire Chief.
 - e. **Community Bonfires or Ceremonial Fires:** Community bonfires or ceremonial fires require a permit from the Fire Department and are limited by 310 CMR § 7.07, Open Burning.
 - f. **Secondhand Smoke:** Smoking is subject to federal, state and local regulations:

1) **All Smoke:** MGL 270, § 22 (Massachusetts Smoke-Free Workplace Law) restricts smoking tobacco, e-cigarettes, or vaping in places of work, public transportation, public buildings, waiting areas, and public vehicles, and other public areas. The Medway Board of Health further prohibits smoking of any product designed to be inhalable, as well as e-cigarettes, in cigar bars (hookah bars), hotel/motel/bed and breakfast rooms, outdoor spaces of eating establishments, public buildings, transportation, and waiting places.

2) **Marijuana Smoke:** MGL 94G, § 13, Penalties, prohibits the consumption of marijuana (in all forms) in public places or in places where tobacco is prohibited. Medway General Bylaws, Article XII, Penal Laws, § 12.13 also prohibits marijuana consumption in public.

i. **Registered Medical Marijuana Facilities (RMMF):** Medway Zoning Bylaw, § 8.9, Registered Medical Marijuana Facilities, E.6 prohibits smoking, burning or consumption of any product containing marijuana or marijuana-infused-products on the premises of an RMMF. Medway Zoning Bylaw § 8.9.H prohibits any nuisance to abutters or to the surrounding area, or the creation of any hazard, including but not limited to fire, explosion, fumes, gas, smoke, odors, obnoxious dust, vapors, offensive noise or vibration, flashes, glare, objectionable effluent or electrical interference, which may impair the normal use and peaceful enjoyment of any property, structure or dwelling in the area.

ii. **Recreational Marijuana Establishments (RME):** Medway Zoning Bylaw, § 8.10, Recreational Marijuana, prohibits smoking, burning or consumption of any product containing marijuana or marijuana-infused-products on the premises of an RME (E.5). Medway Zoning Bylaw § 8.10.H prohibits any nuisance to abutters or to the surrounding area, or the creation of any hazard, including but not limited to fire, explosion, fumes, gas, smoke, odors, obnoxious dust, vapors, offensive noise or vibration, flashes, glare, objectionable effluent or electrical interference, which may impair the normal use and peaceful enjoyment of any property, structure or dwelling in the area.

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~~2. In no event shall any emission from any chimney or otherwise of any solid or liquid particles in concentration exceeding 0.3 grain per cubic foot of the conveying gas or air be permitted. For measurement of the amount of particles in gases resulting from combustion, standard corrections shall be applied to a stack temperature of 500 °F and 50% excess air.~~

~~3.~~

3. Radioactivity or Electrical Disturbance: No activities which emit dangerous radioactivity at any point shall be permitted. ~~No electrical disturbances (except from domestic household appliances and from communications equipment subject to control of Federal Communications Commission or appropriate federal agencies) adversely affecting the operation at any point of any equipment other than that of the creator of such disturbance shall be permitted.~~ All activities involving radiation (radioactive materials and waste, electromagnetic radiation, x-ray radiation, microwave radiation, or other forms) are subject to the 105 CMR § 120.00 (The Control of Radiation) as amended, and are regulated by the MA Department of Public Health, unless specifically regulated by the United States Nuclear Regulatory Commission (NRC).

4. Electrical Disturbance: No use shall create any electrical disturbance that adversely affects any equipment or operations, such as television and radio broadcasting transmissions, owned by another person or people, or entity (government, commercial or institutional).

~~4.~~

~~5. Smoke:~~ No emission of visible smoke of a shade darker than No. 2 on the *Ringlemann Smoke Chart* published by The U.S. Bureau of Mines shall be permitted.

~~6. Fly Ash, Dust, Fume, Vapors, Gases, Other Forms of Air Pollution:~~ No emission which can cause damage to health, to animals or vegetation, or other forms of property, or which cause any excessive soiling at any point shall be permitted. ~~In no event shall any emission from any chimney or otherwise of any solid or liquid particles in concentration exceeding 0.3 grain per cubic foot of the conveying gas or air be permitted. For measurement of the amount of particles in gases resulting from combustion, standard corrections shall be applied to a stack temperature of 500 °F and 50% excess air.~~

7. Liquid or Solid Waste: Liquid waste is a major source of pollution because it spreads easily and pollutes water resources, such as groundwater, and is regulated at the federal, state and local level. No discharge, at any point, into a public or

private sewage system, stream, or the ground, of any materials in such a way or of such a nature or temperature as can contaminate any running streams or water supply, or otherwise cause the emission of dangerous or objectionable elements, shall be permitted except in accord with standards approved by the Massachusetts Department of Public Health. Liquid waste is further regulated below:

- a. **Septage:** 310 CMR 15, Title 5 of the State Environmental Code, regulates onsite collection, treatment and disposal of sanitary sewage, and to the transport and disposal of associated septage and grease.
- b. **Municipal Stormwater System:** Medway General Bylaws, Article XXVI, Stormwater Management and Land Disturbance, prohibit the discharge of any pollutant, unauthorized stormwater or non-stormwater discharge into the municipal separate storm sewer system (MS4) and/or Town right-of-way.
- c. **Resource Areas:** Medway General Laws, Article XXI, General Wetlands Protection, § 21.2 prohibits discharge to any freshwater wetlands, marshes, wet meadows, bogs, swamps, vernal pools, banks, reservoirs, lakes, ponds of any size, rivers, streams, creeks, land under waterbodies, lands subject to flooding or inundation by ground water or surface water, and lands within 100 feet of any of the above resource areas.

8. No discharge, at any point, into a private sewage disposal system, stream, or the ground, of any materials in such a way or of such a nature or temperature as can contaminate any running streams or water supply, or otherwise cause the emission of dangerous or objectionable elements, shall be permitted except in accord with standards approved by the Massachusetts Department of Public Health. **Solid Waste:** Medway General Bylaws, Article XII, Penal Laws, § 12.8 prohibits the storage of junk, refuse or waste material in a visible place from any public highway. All solid waste management activities and facilities including, without limitation, landfills, dumping grounds, transfer stations, solid waste combustion facilities, solid waste processing and handling facilities, recycling facilities, refuse composting facilities and other works or sites for the storage, transfer, treatment, processing or disposal of solid waste and the beneficial use of solid waste is regulated by 310 CMR, § 19, Solid Waste Management, as amended. Solid waste is further regulated below:

- a. **Residential Composting:** Residential composting is permitted provided that composting activities conform to state and local regulations.

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- b. **Agricultural Composting:** Composting at the agricultural scale requires permitting in accordance with the 310 CMR, § 16, Site Assignment for Solid Waste Facilities.
 - c. **Small Wind Generation System Decommissioning:** As required by Medway Zoning Bylaw, § 8.8 Small Wind Generation, I.2b, owners must dispose of wind generating systems according to local and state waste regulations. Decommission plans for ground-mounted solar arrays must include a Decommissioning Plan as part of the Major Site Plan review.
 - d. **Livestock/Domestic Pets:** The Medway Board of Health requires a permit for cows, goats, sheep, horses, poultry, swine, birds, reptiles, bees, ferrets, llamas, alpacas, five or more cats or rabbits, or other domesticated animals. Every owner of such animals must adhere to the provisions of the Medway Board of Health's Manure Management Plan, which includes specifications for the siting of animal waste. Properties that are primarily agricultural or existing agricultural operations on properties greater than 5 acres are exempt.
9. **Noise:** All activities must meet the standard of 310 CMR, § 7.10, Air Pollution Control Regulations, as amended, which regulates outdoor noise. 7.10(1) of this regulation prohibits any person owning, leasing, or controlling a source of sound to "cause, suffer, allow, or permit unnecessary emissions from said source of sound that may cause noise." Noise caused by agricultural, farm-related, or forestry-related activities as defined by MGL, Chapter 128, Agriculture, § 1A, as amended, is exempt from this restriction. These regulations shall not apply to permitted public gatherings, emergency vehicles, police, fire and defense activities, and the use of domestic equipment (such as lawn mowers) between the hours of 7:00 A.M. and 9:00 P.M.

The Town of Medway further restricts noise as follows:

- a. **Construction, Demolition, or Repair:** No person shall use or cause the use of any mechanical equipment or tool operated by fuel or electric power in building, construction, repair or demolition operations between the hours of 7:00 A.M. and 9:00 P.M. within 600 feet of any residential building or hospital. The limitation of this section does not apply to any construction, demolition or repair work of an emergency nature or to work on public improvements authorized by a governmental body or agency.
- b. **Home-Based Business:** Medway Zoning Bylaw 8.3, Home-Based Businesses, §C8 prohibits detectable noise from equipment or processes resulting from a home-based business.

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c. **Wind Turbines:** Medway Zoning Bylaw 8.8, Small Wind Generation, §G.2 requires small wind energy systems and associated equipment to conform with the provisions of 310 CMR § 7.10, Air Pollution Control, unless the DEP and the Zoning Board of Appeals determine that those provisions shall not be applicable.

d. **Registered Marijuana Manufacturing Facilities:** Medway Zoning Bylaw 8.9, Registered Marijuana Facilities, §H prohibits RMMFs from any noise that creates a nuisance to abutters or the surrounding area.

e. **Recreational Marijuana Establishments:** Medway Zoning Bylaw 8.10, Recreational Marijuana Establishments, § H prohibits RMEs from any noise that creates a nuisance to abutters or the surrounding area

8. **Vibration:** ~~No~~ Vibration which is discernible to the human sense of feeling for 3 minutes or more in any hour between 7 A.M. and 7 P.M. or of 30 seconds or more in any one hour from 7 P.M. to 7 A.M. shall ~~not~~ be permitted.

i.—

C. The following performance standards shall apply to all districts and shall be determined at the property line of the use:

1. **Vibration:** No vibration which is discernible to the human sense of feeling for 3 minutes or more in any hour between 7 A.M. and 7 P.M. or of 30 seconds or more in any one hour from 7 P.M. to 7 A.M. shall be permitted. No vibration at any time shall produce an acceleration of more than 0.1g or shall result in any combination of amplitude and frequencies beyond the "safe" range or Table 7, U.S. Bureau of Mines Bulletin NO. 442.2. **Noise:**

a. Maximum permissible sound pressure levels measured at the property line nearest to the noise source for noise radiated continuously from the noise source between 10 PM and 7 AM shall be as follows:

Frequency Band (Cycles per Second)	Sound Pressure Level (Decibels re 0.0002
2 — 72	69
75 — 150	54
150 — 300	47
300 — 600	41
600 — 1,200	37
1,200 — 2,400	34
2,400 — 4,800	31
4,800 — 10,000	28

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9. **Odors:** Continuous, frequent, or repetitive odors may not be produced. The odor threshold is the point at which an odor may just be detected by the enforcement officer outside of the property line from which it was created. An odor detected for less than 15 minutes per day is exempt.

a. **Agricultural Activities:** Odors resulting from normally-accepted agricultural practices are exempt.

b. **Marijuana Facilities:** RMMFs and RMEs shall not create any nuisance to abutters or to the surrounding area.

c. **Restaurants:** Odors from restaurants are expected from time to time. Continuous odors are not permitted beyond the boundaries of the property.

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10. **Light/Shadow Flicker:** Outdoor lighting is regulated by ~~Medway~~ Medway Zoning Bylaw, Section 7.1.2.-:

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~~abutting or neighboring~~ at any elevation between residential and non-residential properties. Outdoor illumination standard. There shall be no light trespass beyond 0.01 foot candles by a luminaire at the property lines of the lot on which the illumination is located, except as within a street right of way for which there shall be no limit. This requirement shall apply to the illumination of residential properties by another residential property or a non-residentially zoned property. This shall not apply between two or more non-residentially zoned properties.

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~~1. Any outdoor luminaire subject to these provisions with a lamp or lamps rated at a total of more than 2,000 lumens shall be fully shielded and shall not emit any direct light above a horizontal plane passing through the lowest part of the light emitting luminary. Temporary emergency and construction lighting is exempt.~~ a. **Strobe lights:** Strobe lights visible from ~~another~~ ~~abutting or neighboring~~ properties are not ~~allowed~~ permitted. Medway Zoning Bylaw, § 7.2, Signs, 3.D prohibits blinking, flashing or fluttering lights.

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b. **Shadow/Light Flicker:-** Medway Zoning Bylaw 8.8..Small Wind Generation, § D.2.d states that the Zoning Board of Appeals may grant a special permit if an applicant can demonstrate that no nuisance, including shadow flicker, will be created by a proposed wind turbine(s). The applicant has the burden of proving that the shadow flicker will not have any adverse impact on neighboring or adjacent uses, and that potential shadow flicker will be addressed either through siting or mitigation measures (such as the planting of trees). If more than one turbine is proposed, shadow flicker shall be determined

for each turbine, and for all turbines cumulatively. Shadow flicker from a wind turbine shall not occur for more than 30 minutes per day and not more than 30 hours per year at any portion of an adjacent or nearby property. This shall be based on realistic modeling during the application process. A violation of this standard is an enforceable action once the turbine is in operation. The owner of the turbine shall have the burden of proving that this effect does not have a significant impact on neighboring or adjacent uses through either siting or mitigation.13. — ABATEMENT OF NONCOMPLIANT ACTION:

(a) Any violation of an environmental performance standard defined within this section shall be subject to abatement and enforcement action(s) by the Board, or any other town official so determined to be an authorized agent. The enforcement or abatement action must be presented to the owner or occupant in writing. Authorized agents include but are not limited to police, fire, building and zoning officials, town administrator or Board of Selectman. The authorized agent shall order the owner or occupant of any private premise, at their own expense, to remove any nuisance, sources of public health concerns found thereon with twenty four hours or such other time agreed to by the authorized town agent.

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(b) If the owner or occupant fails to comply with such order, the authorized agent of the Town of Medway may cause the nuisance or public health threat to be removed, and all expenses incurred thereby shall constitute a debt due to the Town of Medway.

14. ENFORCEMENT:

(a) The Board, its agents, officers and employees, and any other duly recognized authorized agent by the town, shall have the authority to enter upon privately owned land for the purpose of performing their duties for the administration and review of this section, and may make or cause to made such examinations as deemed necessary.

(b) Any authorized agent shall have authority to enforce these regulations and permits issued thereunder by violation notices, administrative orders, and civil and criminal court actions. The cost of which shall be borne by the owner or occupant found in violation of this regulation.

(c) Unless stated otherwise, any person who violates any provision of this regulation or permits issued hereunder, shall be subject to fine of not more than one thousand dollars. Each day or portion thereof during which a violation

Last Updated: January 31, 2020

occurs or continues shall constitute a separate offense, and each provision of the regulation or permit that is violated shall constitute a separate offense.

15. APPEAL:

b. For noise levels between 7 A.M. and 10 P.M., and if the noise is not smooth and continuous, the following corrections shall be added to each of the decibel levels given above:

Daytime operation only: +5

Noise source operated less than 20% of any 1-hour period: +5

D. Odors. In all districts, no emission of odorous gases or odoriferous matter in such quantities as to be discernible outside the property line shall be permitted. Any industrial process which may involve the creation and/or emission of any odors shall be provided with a secondary safeguard system. No objectionable odor greater than that caused by 0.001201 oz. per thousand cubic feet of hydrogen sulfide or any odor threshold as defined in Table III in Chapter 5 of Air Pollution Abatement Manual (copyright 1951 by Manufacturing Chemists Assoc., Inc., Washington, DC) shall be permitted

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Current Noise Standards

2. Noise.

- a. Maximum permissible sound pressure levels-measured at the property line nearest to the noise source for noise radiated continuously from the noise source between 10 PM and 7 AM shall be as follows:

Frequency Band (Cycles per Second)	Sound Pressure Level (Decibels re 0.0002 Dyne/CM ²)
2 – 72	69
75 – 150	54
150 – 300	47
300 – 600	41
600 - 1,200	37
1,200 - 2,400	34
2,400 - 4,800	31
4,800 - 10,000	28

- b. For noise levels between 7 A.M. and 10 P.M., and if the noise is not smooth and continuous, the following corrections shall be added to each of the decibel levels given above:

Daytime operation only: +5

Noise source operated less than 20% of any 1-hour period: +5

Converted Standards per Noise Control Engineering and Acentech

The table below shows the c

onversion of the *Bylaw's* frequency band noise standards to the modern octave band noise standards with the nighttime and daytime adjustments.

Octave Band Center Frequency (Hz)	Medway Zoning Bylaw Sound Pressure Level, (dB re 20 micro-Pa) Nighttime	Medway Zoning Bylaw Sound Pressure Level, (dB re 20 micro-Pa) Daytime
63	67	72
125	55	60
250	48	53
500	42	47
1000	38	43
2000	35	40
4000	32	37
8000	28	33

Susan Affleck-Childs

From: Barbara Saint Andre
Sent: Monday, February 03, 2020 4:32 PM
To: Susan Affleck-Childs
Subject: Environmental Standards

Susy, here are some initial comments on Weston and Sampson's first draft of the environmental standards by-law:

1. Section A, first line, delete the word "common".
2. Definitions: Consider adding these to Section 2, Definitions, instead of here, these definitions should apply throughout the by-law.
3. Regarding the definitions, CFR and CMR are probably not needed; MGL is not needed and the existing format for General Laws used in the by-law should be followed: G.L. c. __, §__.
4. Section D.2.f should be deleted, second hand smoke should not be regulated via zoning.
5. Section D.7.a, I believe the time period should be 9:00 p.m. to 7:00 a.m.
6. Section D.9.c, this allows odors from restaurants; are these odors subject to the 15 minutes per day which generally applies under Section D.9?
7. Section D.10: I recommend using the phrase "lighting and shadow flicker".
8. There are some sections, such as D.6.d, that refer to permits and regulations that are under the jurisdiction of other town boards or departments. I don't think we want to incorporate those into the ZBL; would that mean dual authority and enforcement? See also D.2, D.5.

Barbara J. Saint Andre
Director, Community and Economic Development
Town of Medway
155 Village Street
Medway, MA 02053
(508) 321-4918

Susan Affleck-Childs

From: Jeff Lynch
Sent: Monday, February 03, 2020 12:41 PM
To: Susan Affleck-Childs
Subject: RE: 2020_0202_DRAFT MEDWAY ENVIRONMENTAL PERFORMANCE STANDARDS - For 2-4-20 PEDB meeting

Susy, I still have some concern about the electrical disturbances section. Although not necessarily a fire department issue, (unless it is interfering with our radios etc.), and more of a hobbyist for the purpose of this discussion, it is rather vague in its description. The FCC does have regulations, 47 CFR Part 15, regarding interference that I believe should be referenced. My concern is if someone has a poorly designed item that is susceptible to interference the identified source could be in compliance with the FCC regulations, rather it is the device that is getting interfered with is NOT in compliance and that could cause an issue. My 2 cents. Thanks. Jeff

From: Susan Affleck-Childs
Sent: Monday, February 03, 2020 8:11 AM
To: Andy Rodenhiser <andyrodenhiser@gmail.com>; Andy Rodenhiser <andy@rodenhiser.com>; Bob Tucker <rktucker51@gmail.com>; Bob Tucker <RTucker@compasspminc.com>; Matthew Hayes <hayes7000@msn.com>; Rich Di Iulio <richd@trolleycomputers.com>; Tom Gay <tag70c3@verizon.net>
Cc: Amy Sutherland <jdsals@msn.com>; Barbara Saint Andre <bsaintandre@townofmedway.org>; Stefany Ohannesian <sohannesian@townofmedway.org>; Jack Mee <jmee@townofmedway.org>; Beth Hallal <bhallal@townofmedway.org>; Bridget Graziano <bgraziano@townofmedway.org>; Jeff Lynch <ChiefLynch@townofmedway.org>; Mike Fasolino <mfasolino@townofmedway.org>
Subject: 2020_0202_DRAFT MEDWAY ENVIRONMENTAL PERFORMANCE STANDARDS - For 2-4-20 PEDB meeting

Good morning,

Attached is a draft of possible changes to the Environmental Standards section of the Zoning Bylaw, prepared by Weston and Sampson.

Please review this in preparation for Tuesday's special PEDB discussion meeting on this topic.

Beth, Jack, Bridget, Jeff and Mike . . . you are more than welcome to attend the meeting. Whether you can or not, I want to keep you in the loop on the evolution of changes to this section of the Zoning Bylaw.

Thanks.

Susan E. Affleck-Childs
Planning and Economic Development Coordinator
Town of Medway
155 Village Street
Medway, MA 02053
508-533-3291

Weston & SampsonSM

transform your environment



Medway Bylaws

Section 7.3 Environmental Standards

Why revisit Section 7.3?

- Criteria had not been reviewed in decades
- Measuring systems do not make sense or are out of date
- New possible hazards and nuisances have arisen (marijuana, for example)
- Many of the standards are already set by the Commonwealth and enforced by Police or the Board of Health (*should they also be in zoning?*)

Our Approach

- Discussed with staff about common hazards and nuisances and how they are managed
- Reviewed national, statewide, and local standards for examples and insight
- Compared examples with what is most likely sensible and feasible for Medway

Medway Environmental Zoning: Comparison Chart

Nuisance/Hazard	Medway Existing Standard	Commonwealth BMP	National BMP	Comments:
Fire	Zoning By-law Section 7.3: All activities and storage of flammable and explosive materials, at any point, shall be provided with adequate fire-fighting and fire-suppression equipment and devices	<ul style="list-style-type: none"> Franklin MA: Requires a license for storage with approval by Fire Chief. MASS Guide for Municipal Officials on Licensing the Storage of Flammables, Combustible and Explosives 	Westport WI: Fire Prevention and Safety Codes (http://www.townofwestport.org/Ordinances/Title%203/Title%203%20Chapter%202.pdf)	Consider a local Fire Prevention Code with permits for open burn https://cityofsatsuma.com/wordpress/wp-content/uploads/2019/01/Ordinance-512-Outdoor-and-Open-Burning-Ordinance.pdf
Explosives	Zoning By-law Section 7.3: All activities and storage of flammable and explosive materials, at any point, shall be provided with adequate fire-fighting and fire-suppression equipment and devices	<ul style="list-style-type: none"> Franklin MA: Requires a license for storage with approval by Fire Chief. MASS Guide for Municipal Officials on Licensing the Storage of Flammables, Combustible and Explosives MASS 527 CMR 13.00 Explosives https://www.sec.state.ma.us/reg_pub/pdf/500/527013.pdf 	Westport WI: Fire Prevention and Safety Codes (http://www.townofwestport.org/Ordinances/Title%203/Title%203%20Chapter%202.pdf)	https://www.atf.gov/explosives/docs/report/publication-federal-explosives-laws-and-regulations-atf-p-54007/download
Radioactivity	Zoning By-law Section 7.3: No activities which emit dangerous radioactivity at any	<ul style="list-style-type: none"> MASS Radiation Control Program 105 CMR 120.00: The Control of Radiation 		MASS DEP. GL. Part 1. Title XVI. Chapter 111. Section 122 thru 125A: Regulations relative

Medway Environmental Zoning

Comparison Table

1-16-20

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What does Medway want to achieve with Section 7.3?

- Many limits and definitions already exist in federal, state, local law
- Reiterate prohibition on hazardous, or potentially hazardous, uses
- Define “disturbing and offensive” impacts
- How do we define, measure and enforce “disturbing and offensive”?
 1. Set Performance Measure (a standard)
 2. Use a “reasonable person” standard

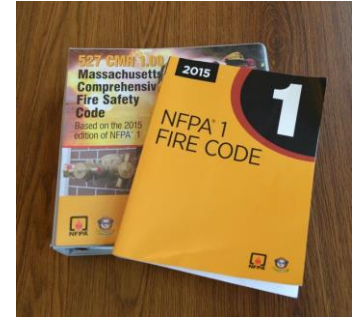
Proposed Definition for Offensive or Disturbing

Any **irritating**, **worrying** or **upsetting** impact which causes distress, annoyance, discomfort or injury to or which interferes with the comfort_or repose of any person of reasonable nervous sensibilities in the vicinity thereof. Disturbing or offensive impacts are measured by the enforcement officer at the property line of any lot on which a use is conducted.

What Impacts Have We Included?

- Fire/Explosion Hazards
- Air Pollution
- Radioactivity
- Electrical Disturbance
- Liquid and Solid Waste
- Noise and Vibration
- Odors
- Light and Shadow Flicker

Fire/Explosion



All activities ~~and all storage of~~ involving flammable and explosive materials, **including storage**, ~~at any point, shall be provided with adequate fire-fighting and fire-suppression equipment and devices.~~ **are subject to 527 CMR Section 1.00 Massachusetts Comprehensive Fire Code), as amended. See Open Burning, below.**

Fly Ash, Dust, Fume, Vapors, Gases, Other Forms of Air Pollution:

No emission which can cause damage to health, to animals or vegetation, or other forms of property, or which cause any excessive soiling at any point shall be permitted. In no event shall any emission from any chimney or otherwise of any solid or liquid particles in concentration exceeding 0.3 grain per cubic foot of the conveying gas or air be permitted. For measurement of the amount of particles in gases resulting from combustion, standard corrections shall be applied to a stack temperature of 500 °F and 50% excess air.

Air Pollution (including Smoke)

All activities involving air pollutants are subject to 310 CMR § 7, Air Pollution Control Regulations, as amended. No emission which can cause damage to human health, to animals or vegetation, or other forms of property, or which cause any excessive soiling at any point shall be permitted. In addition, Medway Zoning Bylaw, § 5.2, Prohibited Uses, 14, prohibits any use “that produces disturbing or offensive noise, vibration, smoke, gas, fumes, odors, dust or other objectionable or hazardous features.”

Specific Standards:

- Chimney smoke (permitted)
- Outdoor hydronic heaters
- Open burning
- Fire pits, chimineas, outdoor fireplaces
- Community bonfires or ceremonial fires
- Secondhand smoke (all)
 - Marijuana smoke

Radioactivity ~~or Electrical Disturbance~~

No activities which emit dangerous radioactivity at any point shall be permitted. All activities involving radiation (radioactive materials and waste, electromagnetic radiation, x-ray radiation, microwave radiation, or other forms) are subject to 105 CMR, Section 120 (The Control of Radiation) as amended, and are regulated by the MA Department of Public Health, unless specifically regulated by the United States Nuclear Regulator Commission (NRC).

Electrical Disturbance

No use shall create any electrical disturbance that adversely affects any equipment or operations, such as television and radio broadcasting transmissions, owned by another person or people, or entity (government, commercial or institutional). The Federal Communications Commission (FCC) regulates radio frequency (RF) devices contained in electronic-electrical products that are capable of emitting radio frequency energy by radiation, conduction, or other means at 47 CFR Part 15, Radio Frequency Devices.

**Added per Fire
Chief's
comments**

Liquid Waste ~~or Solid Waste~~

Liquid waste is a major source of pollution because it spreads easily and pollutes water resources, such as groundwater, and is regulated at the federal, state, and local level. No discharge, at any point, into a private sewage disposal system, stream, or the ground, of any materials in such a way or of such a nature or temperature as can contaminate any running streams or water supply, or otherwise cause the emission of dangerous or objectionable elements, shall be permitted except in accord with standards approved by the Massachusetts Department of Public Health.

Specific Standards

- Septage
- Municipal Stormwater System
- Resource Areas

Solid Waste

Medway General Bylaws, Article XII, Penal Laws, § 12.8 prohibits the storage of junk, refuse or waste material in a visible place from any public highway. All solid waste management activities and facilities including, without limitation, landfills, dumping grounds, transfer stations, solid waste combustion facilities, solid waste processing and handling facilities, recycling facilities, refuse composting facilities and other works or sites for the storage, transfer, treatment, processing or disposal of solid waste and the beneficial use of solid waste is regulated by 310 CMR, § 19, Solid Waste Management, as amended.

Specific Standards

- Residential composting (permitted)
- Agricultural composting
- Small Wind Generation System Decommissioning
- Livestock/Domestic Pets

Noise

2. Noise.

- a. Maximum permissible sound pressure levels-measured at the property line nearest to the noise source for noise radiated continuously from the noise source between 10 PM and 7 AM shall be as follows:

Frequency Band <u>(Cycles per Second)</u>	Sound Pressure Level <u>(Decibels re 0.0002 Dyne/CM²)</u>
2 – 72	69
75 – 150	54
150 – 300	47
300 – 600	41
600 - 1,200	37
1,200 - 2,400	34
2,400 - 4,800	31
4,800 - 10,000	28

- b. For noise levels between 7 A.M. and 10 P.M., and if the noise is not smooth and continuous, the following corrections shall be added to each of the decibel levels given above:

Daytime operation only: +5

Noise source operated less than 20% of any 1-hour period: +5

Noise

All activities must meet the standard of 310 CMR, § 7.10, Air Pollution Control Regulations, as amended, which regulates outdoor noise. 7.10(1) of this regulation prohibits any person owning, leasing, or controlling a source of sound to “cause, suffer, allow, or permit unnecessary emissions from said source of sound that may cause noise.” Noise caused by agricultural, farm-related, or forestry-related activities as defined by MGL, Chapter 128, Agriculture, § 1A, as amended, is exempt from this restriction. These regulations shall not apply to permitted public gatherings, emergency vehicles, police, fire and defense activities, and the use of domestic equipment (such as lawn mowers) between the hours of 7:00 A.M. and 9:00 P.M.

A noise source will be considered to be violating the Department's noise regulation (310 CMR 7.10) if the source:

1. Increases the broadband sound level by more than 10dB(A) above ambient, or
2. Produce a “puretone” condition – when any octave band center frequency sound pressure level exceeds the two adjacent center frequency sound pressure levels by 3 decibels or more.

These criteria are measured both at the property line and at the nearest inhabited residence. “Ambient” is defined as the background A-weighted sound level that is exceeded 90% of the time, measured during equipment operating hours. “Ambient” may also be established by other means with consent of the Department.

Noise – Specific Standards

- Construction, demolition, and repair
- Home-based business
- Wind Turbines
- Registered Marijuana Manufacturing Facilities (RMMF)
- Registered Marijuana Establishments (RME)

Vibration

~~No vibration which is discernible to the human sense of feeling for 3 minutes or more in any hour between 7 A.M. and 7 P.M. or for 30 seconds or more in any one hour from 7 P.M. to 7 A.M. shall be permitted. No vibration at any time shall produce an acceleration of more than 0.1g or shall result in any combination of amplitude and frequencies beyond the "safe" range or Table 7, U.S. Bureau of Mines Bulletin NO. 442.~~

Odor

In all districts, no emission of odorous gases or odoriferous matter in such quantities as to be discernible outside the property line shall be permitted. Any industrial process which may involve the creation and/or emission of any odors shall be provided with a secondary safeguard system. No objectionable odor greater than that caused by 0.001201 oz. per thousand cubic feet of hydrogen sulfide or any odor threshold as defined in Table III in Chapter 5 of Air Pollution Abatement Manual (copyright 1951 by Manufacturing Chemists Assoc., Inc., Washington, DC) shall be permitted.

Odor

Continuous, frequent, or repetitive odors may not be produced. The odor threshold is the point at which an odor may just be detected by the enforcement officer outside of the property line from which it was created. An odor detected for less than 15 minutes per day is exempt.

Odor – Specific Standards

- Agricultural activities
- Registered Marijuana Manufacturing Facilities (RMMF)
- Registered Marijuana Establishments (RME)
- Restaurants

Shadow/Light Flicker

Outdoor lighting is regulated by Medway Zoning Bylaw, Section 7.1.2.

- a. **Strobe lights:** Strobe lights visible from an abutting or neighboring properties are not permitted. Medway Zoning Bylaw, § 7.2, Signs, 3.D prohibits blinking, flashing or fluttering lights.
- b. **Shadow/Light Flicker:** Medway Zoning Bylaw 8.8,.Small Wind Generation, § D.2.d states that the Zoning Board of Appeals may grant a special permit if an applicant can demonstrate that no nuisance, including shadow flicker, will be created by a proposed wind turbine(s). The applicant has the burden of proving that the shadow flicker will not have any adverse impact on neighboring or adjacent uses, and that potential shadow flicker will be addressed either through siting or mitigation measures (such as the planting of trees). If more than one turbine is proposed, shadow flicker shall be determined for each turbine, and for all turbines cumulatively.

thank you
westonandsampson.com

December 11, 2019

Michael E. Boynton
Office of the Town Administrator
Town of Medway
155 Village Street
Medway, MA 02053

Re: **Technical Proposal for Environmental Zoning Consultant**

Dear Mr. Boynton:

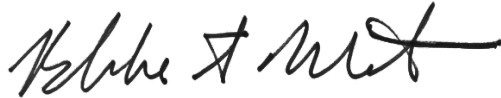
Weston & Sampson is excited to submit this proposal to provide environmental zoning consulting services for the Town of Medway. We have long been recognized as an environmental engineering firm but have expanded our capabilities substantially to provide a variety of planning, development, landscape architecture, and resiliency design services for municipalities, public agencies, and private sector clients. Our firm understands the tremendous pressures that municipalities face to perform and produce beyond their available staff time and budgets. Weston & Sampson has over 100 years of knowledge and experience that allows us to develop plans and projects, taking them off the to-do list and setting them into motion.

Incorporated on October 25, 1713, the Town of Medway is rich in history, with an idyllic welcoming community. To ensure the Town remains serene and safe for residents, visitors, and businesspeople, we will work closely with your staff to certify the environmental standards in Medway's Zoning Bylaw are met and reflect current best practices. From our office in Foxborough, we will assemble a team of highly skilled and knowledgeable professionals to provide the type of responsive, quality service that is expected by the Town. We will proactively reach out to key stakeholders and the public throughout this process to guarantee all needs are met. As a truly interdisciplinary consulting firm, we also offer expertise in hazardous waste management, environmental permitting, and remediation that will supplement research for this project and inform based on real-world applications.

We look forward to the opportunity to work with the Town of Medway on this exciting project. Please contact me by phone at 978-532-1900 ext. 2290 or by e-mail at martinb@wseinc.com if you have questions or need additional information.

Sincerely,

WESTON & SAMPSON ENGINEERS, INC.



Blake Martin
Vice President

Established in 1899, Weston & Sampson has been providing municipalities, public agencies, and private sector clients with cost-effective and innovative solutions to environmental challenges for more than a century. Our wide-ranging capabilities include policy and regulation development, project planning, assessment, permitting, compliance, design, construction, and long-term operation and maintenance.

Nationally ranked among the top 175 design firms and top 125 environmental firms in the United States, according to the *Engineering News Record*, Weston & Sampson is proud of our steady record of growth and the ability of our project management staff to understand the needs of our clients as well as how to develop appropriate solutions and provide comprehensive engineering services on time and on budget. Weston & Sampson has also been widely recognized for our excellence in engineering by the American Public Works Association and the American Council of Engineering Companies, in further testimony of our creativity and performance. All of this has contributed to a consistent company-wide client return rate exceeding 85%.

To meet the diverse needs of our clients, Weston & Sampson offers full-service capabilities to address the complex challenges of today's projects. Our areas of expertise include:



- Vulnerability Assessments & Resiliency Planning
- Land-Use and Master Planning
- Landscape Architecture & Urban Design
- Landscape Planning & Restoration Wetlands Replication & Restoration
- Public Facilities Planning & Design
- Recreational Facility & Athletic Field/Complex Design
- GIS & Digital Mapping
- Land Surveying
- Environmental Site Assessment
- Environmental Permitting
- Regulatory & Enforcement Assistance
- Peer Review
- Infrastructure Design & Construction
- Site/Civil Development
- Wastewater Collection & Treatment
- Transportation & Traffic Engineering
- Renewable Energy
- Mechanical/HVAC and Electrical Engineering
- Water Supply Development & Treatment
- Water Supply Distribution
- Construction Inspection, Oversight & Management
- Operation & Maintenance of Water & Wastewater Systems
- Geotechnical & Structural Engineering
- Watershed & Stormwater Management
- Hydrology & Hydraulics

PROJECT UNDERSTANDING

Weston & Sampson understands that the Town of Medway seeks a planning firm to analyze and update zoning bylaws that regulate activities with negative environmental impacts such as vibration, noise, odor, fire and explosive hazards, radioactivity and electrical disturbance, smoke, fly ash, dust, fumes, vapors, gases and other forms of air pollution, and liquid or solid waste. This will require research and recommendations for new bylaws that address new challenges, such as the management of marijuana. Specific tasks that are expected from the contract include:

- Review and recommend revisions to the Town's zoning bylaws related to environmental standards (particularly Section 7.3);
- Research existing environmental standards throughout the Commonwealth as well as guidance provided by state and federal agencies;
- Solicit input from Town officials, including Community and Economic Development staff, the Building Commissioner, Health Agent, and Conservation Agent and coordinate revisions of the standards;
- Provide opportunities for public input into the revisions during meetings of the Planning and Economic Development Board;
- Based on the outcome of the analysis, feedback from the Town, public input, and best practices, we will produce recommendations for amendments to the zoning by-laws, and a draft final zoning amendments for consideration by the Board;
- Provide recommendations on needed equipment and staff training to measure variations and possible violations of the selected environmental standards.

The Town requires recommendations to be prepared in time for February 28, 2020 in order to meet the schedule for the Medway Town Meeting in May.

APPROACH

The general scope of services to be provided is described in the Town's Request for Proposals and establishes the Town's basic expectations. The scope may be expanded and or refined during the negotiation process or as each assignment dictates. Our goal is to provide the Town with efficient and cost-effective services so that the Town can maximize taxpayers dollars without sacrificing quality. We anticipate frequent communication with the Planning and Economic Development Department and other Town staff before, during, and after we complete each task so that we can be mutually assured that the desired progress is being made and that any needed resources are located.

We anticipate the following tasks as part of our Scope of Services:

Task 1. Kick-Off Meeting with the Town Staff to set expectations, share information, and refine schedules and milestones in order to reach the February 28th deadline.

Upon execution of a contract, Weston & Sampson staff will meet with designated Town staff to introduce the team and set a framework to complete tasks. We will set forth a schedule of milestones and meetings with Town staff and others identified by the Town. A schedule for deliverables will be developed, and a process for communication between Town staff and the Project Manager will be established.

Deliverable: Weston & Sampson will prepare agendas for all meetings, attend, and complete Meeting Summaries to capture discussion, actions, and next steps.

Task 2. Research best practices for zoning environmental standards in Massachusetts and at the national level

Based on the RFP, we will review zoning and other town regulations that create impacts that may affect public health, safety and well-being. We will review zoning standards found in the Commonwealth and nationally, and work with staff to identify a set of alternatives for comparison and consideration. We will consult with our technical experts in environmental monitoring to ensure that we have captured the full scope of potential hazards, and any equipment or staff training will be required to monitor and enforce standards.

Deliverable: Weston & Sampson will prepare a technical memorandum describing research methods and results on environmental standards and crosswalk these standards with the current Medway Zoning Ordinance, noting gaps and deficiencies. The memorandum will include a comparison of a potential alternative to outline standards as a basis for discussion with Town staff.

Task 3. Confer with Town officials (Community and Economic Development staff, Building Commissioner, Health Agent and Conservation Agent) to solicit input and coordinate revision of the standards.

Weston & Sampson will consult with Town staff regarding the current regulations to understand the history of problems that occurred and insight on anticipated concerns for the future. Weston & Sampson will discuss with Staff the array of alternatives identified by research, and work with staff to identify measures that seem feasible given staff time, technical capacity, and resources.

Deliverables: A draft set of updated environmental standards and consistency references in Medway's Zoning Bylaws based on research and discussions with Town staff.

Task 4. Provide for public input into the process during meetings of the Planning and Economic Development Board.

Weston & Sampson will provide a presentation to the Planning and Economic Development Board giving an overview of the research process, the alternatives for updated environmental standards identified, the training and equipment required for each alternative (if any) and the outcome of staff discussions that led to the draft zoning bylaws.

Deliverable: A PowerPoint presentation to the board and a question and answer session with the board and public. A Meeting Summary will be prepared to outline any comments as a basis for discussion with Town staff.

Task 5. Based on the outcome of the analysis, feedback from the Board, public and Town staff, Weston & Sampson will produce recommendations for amendments to the zoning bylaws, and draft final zoning amendments for consideration by the Board.

Weston & Sampson will work with Town staff to address any lingering questions or concerns raised by the Board and/or the public.

Deliverable: A draft of the Medway Zoning Bylaws with updated environmental.

Task 6. Provide recommendations on needed equipment and staff training to measure variations and possible violations of the selected environmental standards.

New environmental standards will not be successful without the means to monitor and enforce potential violations. Equipment will be considered throughout the research and drafting of the updated bylaws so that the Town can make decisions that are workable given staff budgets and time.

Deliverable: A Technical Memorandum describing needed equipment to monitor and enforce new environmental standards, along with estimated costs and sources.

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SCHEDULE FOR COMPLETION OF TASKS

The Town of Medway requires the revised zoning bylaws to be finalized by February 28, 2020 to meet the deadline for Town Meeting in May. This timeline will require close communication between the consultants and town staff to ensure that alternatives are identified, reviewed, discussed, and selected to allow for the process to continually move forward. We have identified the following milestones (although this is merely a suggestion and is subject to negotiation and amendment by the Town of Medway).

Approximate Milestone Schedule	
Milestone	Approximate Timeframe (Week of)
1. Kick-off Meeting with town staff.	January 6, 2020
2. Technical Memorandum on best practices in the Commonwealth and Nation-wide regarding environmental standards for zoning. Research on equipment and expertise utilized by zoning offices will be part of this effort to inform the discussion on monitoring and enforcement.	January 13, 2020
3. Meet with Town officials to solicit input on best practices. This meeting will set a course for those zoning standards that are most feasible for Medway.	January 21, 2020
4. Public presentation and meeting with the Planning and Economic Development Board.	January 27, 2020
5. A complete draft of the Medway Zoning Bylaws including environmental standards (Section 7.3) and appropriate cross-references.	February 3, 2020
6. Completed Technical Memorandum describing any equipment, training, outside services or other needs required to monitor and enforce the updated bylaws, including costs and sources.	February 10, 2020
7. Staff reviews all submittals and any final comments. Revisions are incorporated into a finalized draft of the Medway Zoning Bylaws.	February 17, 2020

STAFFING PLAN

Weston & Sampson offers the Town of Medway a highly skilled, experienced, and competent group of environmental and planning experts to complete this project. Our staff will maintain ample availability during the two-month timeframe to meet with town staff, complete the updated bylaws, and present the final draft to the Board. We have included resumes for our proposed team members at the end of this section.

PROJECT MANAGEMENT

Blake Martin is Weston & Sampson's environmental resources manager and will serve as the principal-in-charge for your project. His role is to ensure that your process moves smoothly. Blake has over 30 years of experience in monitoring and managing environmental resources. His projects include evaluations of groundwater systems, designing permanent systems for extraction and supply, and supervising rehabilitation efforts at municipal groundwater supplies. He is a frequent speaker on PFAS contamination and is knowledgeable about cutting edge thinking in environmental regulations. Blake has helped to lead many of our recent planning and development policy review projects and brings invaluable experience as a technical advisory.



Caroline Wells, AICP, a senior project manager with nearly 20 years of experience in municipal planning, will serve as project manager for your zoning bylaw update. As a former planning director and redevelopment planner, she reviewed, interpreted and prepared zoning ordinances for Warren and Coventry, Rhode Island and Greensboro, North Carolina. In addition, she has drafted regulatory documents for municipal boards that meet local, state, and federal standards. Caroline has managed numerous public projects involving green infrastructure, brownfields, redevelopment, parks, streetscapes, and bike paths. She has expertise in GIS mapping, policy and plan development, transportation, comprehensive planning, board presentations, permitting, community outreach and stakeholder engagement.



PLANNING SERVICES

Ashley Sweet, a senior planner with 15 years of experience, will support Caroline with the review of Medway's current planning and zoning regulations and research best practices within the Commonwealth. She has extensive knowledge of planning regulations, including zoning, comprehensive planning, environmental planning, subdivision regulations, site plan review, and ordinances. Ashley is experienced with GIS (ArcMap, ArcView, and ArcEdit) and has an in-depth understanding of survey design, administration, and analysis. She is also familiar with federal, state, and local regulatory and administrative procedures.

