Needham Board of Health

REVISED AGENDA

Friday, June 16, 2017
7:00 a.m. – 9:00 a.m.

Charles River Room – Public Services Administration Building
500 Dedham Avenue, Needham MA 02492

- **7:00 to 7:05 - Welcome & Review of Minutes (May 12th)**
- **7:05 to 7:40 - Staff Reports (May)**

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Board of Health Public Hearing

- **7:40 to 8:00 - Revise Article 19: Regulation Governing the Practice of Bodyworks**
- **8:00 to 8:20 - Revise Article 1: Regulation Affecting Smoking and the Sale and Distribution of Tobacco Products in Needham**

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- **8:20 to 8:30 - Update Trash Hauler Regulation and RTS Composting**
- **8:30 to 8:50 - Resident Concerns about Health Impact of Utility Work (Electrical Line EMF & Cellular RF)**
- **8:50 to 9:00 - Board of Health Configuration and Structure**
- **Other Items**
- **Next Meeting … Friday July TBD, 2017**
- **Adjournment**

(Please note that all times are approximate)

1471 Highland Avenue, Needham, MA 02492
E-mail: healthdepartment@needhamma.gov
781-455-7500 ext 511 (tel); 781-455-0892 (fax)
Web: www.needhamma.gov/health

Needham Board of Health

Notice of Public Hearings

Friday, June 16, 2017
7:40 a.m. – 8:20 a.m.

Charles River Room – Public Services Administration Building
500 Dedham Avenue, Needham MA 02492

At an open meeting and a public hearing on May 12, 2017, the Board of Health of the Town of Needham, County of Norfolk, Massachusetts, acting under the authority of Chapter 111, Section 31 of Massachusetts General Laws shall consider regulations. The purpose of these regulations is to:

- Revise Article 19, "Regulation Governing the Practice of Bodyworks", to update regulations adopted in 2015 and to revise and streamline some of the administrative requirements that are placed onto individual bodyworks practitioners and onto bodyworks establishments. [Second Public Hearing, First Public Hearing was on April 14, 2017. Board discussions occurred in December 2016, and in January, February, and March 2017.]

- Revise Article 1, "Regulation Affecting Smoking and the Sale and Distribution of Tobacco Products in Needham", which was last revised in 2015 to clarify inaccurate definition language, to incorporate revised penalties, to adopt a longer tolling period, and other revisions. [Initial Public Hearings occurred in November and December 2016, and the proposed amendment was extensively revised. Board discussions occurred in January, February, March, and April 2017. May 12, 2017 will be the First Public Hearing since the proposed revisions and those discussions.]

These regulations shall be considered in Needham in the interest of, and for the preservation of, the public health. This summary shall serve as notice to all.

Comments will be accepted at the public hearing, and will also be accepted through Tuesday June 13th in writing via electronic or postal mail. Please send comments to healthdepartment@needhamma.gov or to Public Health Division, 1471 Highland Avenue, Needham, MA 02492.

These two regulations are available for interested parties to review on the Public Health Division's website at www.needham.gov/health.

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NEEDHAM BOARD OF HEALTH
May 12, 2017
MEETING MINUTES

PRESENT: Jane Fogg, M.D., Chair, Stephen Epstein, M.D., Vice-Chair, Edward V. Cosgrove, PhD.,Member

STAFF: Timothy Muir McDonald, Director, Donna Carmichael, Catherine Delano, Maryanne Dinell, Tara Gurge, Carol Read, Dawn Stiller

Visitors: Jean and James Morehead, Needham Residents, Rebecca Neis, Speedway 207 Highland Avenue, Needham

CONVENE: 7:00am-Public Services Administration Building (PSAB) Charles River Room, 500 Dedham Avenue, Needham, MA 02492

DISCUSSION:
Meeting called to Order at 7:05am by Dr. Jane Fogg, Chair.

APPROVE MINUTES:
Upon motion duly made by Ed Cosgrove and seconded by Stephen Epstein, the minutes of the BOH meetings of April 14, 2017 were approved. The motion carried. The vote was unanimous.

STAFF REPORTS:

Environmental Health Agents Report-Tara Gurge
Ms. Gurge stated she is in the process of reviewing applications for the Farmers Market and the NBA Street Fair. Ms. Gurge reported that while inspecting the new pool at Wingate she discovered they had installed a full kitchen in a space they had presented as a serving area for food prepared in the main kitchen. They were informed that this was not on their expansion application. There is no three-bay sink and no grease traps. Ms. Gurge informed them that the only cooking of food allowed would be pizza and the reheating of previously prepared items.

A year ago when the process began, Dave Feldman never mentioned a full kitchen only that he asked if a grease

trap would need to be installed if they wanted to prepare smoothies. They decided not to prepare smoothies onsite. Dr. Epstein asked how this slipped through the cracks. Mr. McDonald stated that, in this instance, it was the vendor trying to change its proposed use without having to get permission (and new equipment) for that use. He and Ms. Gurge were working with the Water & Sewer Division and the Building Department to make sure that the Town's message to Wingate about the absolutely necessity for grease traps and appropriate appliances is achieved. One Wingate Way needs to install a grease trap onsite in order to cook meats, etc. Otherwise all foods, except pizza, need to be brought pre-cooked to this new kitchen space.

The pool at Wingate is compliant with all regulations. Renewals for other outdoor pools have all been mailed out. Ms. Gurge completed her CPO training which must be done every five years. New condos which are under construction at 6-8 Charles River Street will be on Septic. Ms. Gurge did a soil test at the new Cartwright Road sub division. She is working with Planning Department on off street drainage issues. For that project, the applicant's attorney has requested a variance due to the width of the road. Mr. McDonald stated that the subdivision's attorney also wanted a quicker review since the property is being subdivided within a family into large lots. The attorney is also objecting to the $3,500 off-street drainage bond per lot. The Planning Department is in agreement that the bond is required and that if they continue to object they would have to request a "hardship" waiver from the bond fee; such a waiver would be the subject of a hearing before the Board.

Mr. McDonald informed the Board that there will be a Public Health intern beginning the third week of May. Her name is Helenka Lepkowski Ostrom, and she will be working closely with Ms. Gurge on food permitting and inspections topics, including the Farmers' Market and food trucks.

Public Health Nurses Report-Donna Carmichael RN

Ms. Carmichael reported on communicable diseases. Flu numbers are coming down. Dr. Epstein stated that he has seen lots of cases of Flu B. Dr. Epstein questioned Ms. Carmichael on the uptick of Hep C cases, 16 so far this year. Ms. Carmichael said all were chronic. Dr. Fogg asked how the cases were discovered, screening or symptoms. Dr. Epstein stated CDC regulations will require all baby boomers be tested. Dr. Fogg noted that the treatment is very effective and expensive. Ms. Carmichael stated fuel

assistance is still going strong and that utility shut-offs are starting. CPR classes have been well received and there is one more class currently scheduled for June.

Traveling Meals Program Coordinator Report-Maryanne Dinell
Ms. Dinell spoke of the recent Traveling Meals Program Appreciation Luncheon.

There were two 9-1-1 assistance calls for Traveling Meals clients in the past month. One had fallen and was on the floor for several hours. The meal delivery volunteer called 9-1-1. The client was checked out by the medic from Needham Fire and was able to remain in the client's home. The second case was a Chestnut Hollow resident who fell on the stairs. The TM volunteer found the person, called 9-1-1 and the person was transported to the hospital.

Substance Abuse Prevention and Education Report-Senior Coordinator-Carol Read
The SAPC grant budget year is coming to an end. The BSAS quarterly meeting will talk about marijuana.

Ms. Read held a TIPS training for alcohol servers. 58 alcohol licensees out of 100 attended, six Needham establishments sent multiple servers. The license holders benefit by getting discounts on insurance, in addition to having better trained and more knowledgeable staff members. Training is also available for package stores. To promote the training, Ms. Read suggested when the TIPS certificates are available, they be presented to the establishments with Needham Police, a Public Health representative and the store owner. Mr. McDonald said Blue on Highland found the training very helpful in particular.

Ms. Read gave an update on recreational marijuana retailers. Needham and Dedham voted for a moratorium, Westwood and Norwood voted to opt out of the sale of recreational marijuana. Mr. McDonald stated that the Needham Board of Selectmen wants to wait for a town wide election in either April or November 2018.

CCIT is looking for Emergency Department statistics to see where to direct program funds. DAWN, Drug Abuse Warning Network, is having an increased level of support from Hospitals. Data supports the need for more resources for drug intervention. Needham Police has always taken psych referrals to Newton Wellesley Hospital. Since NWH cannot

take psych referrals the Police are pushing BID to take non-combative patients and NWH to take the combative patients.

Senior Substance Use Prevention Coordinator's Report-Catherine Delano

Ms. Delano spoke about the Medication Take Back Day. During the Saturday event 55 pounds of medications were taken back for a total of 400 from November 2016 through April 2017.

Bob Timmerman hosted a fund raiser for 5th Quarter at the Knights of Columbus Hall. Over 100 parents came to the "Hidden in Plain Sight" Event. Volunteers were trained. Ms. Delano went to CADCA Academy with Karen Shannon, part-time Substance Abuse Prevention Program Support. She is working on sustainability of the grant which is up in three years. Tuesday May 16 two students from SALSA and Ms. Delano are making a presentation to the School Committee. Ms. Delano will speak at the Lunch & Learn at the Center at the Heights with a Needham Pharmacist to address Prescription Drug Safety.

DIRECTOR'S REPORT-Timothy Muir McDonald

Mr. McDonald stated that the feedback on Article 19, Regulation Covering the Practice of Bodywork continues. Two comments were emailed and are included in the Board packet.

One practitioner commented that no permit should be required if the massage therapist is licensed and does 90% massage and 10% body work. An establishment license is still required. A lengthy discussion followed questioning annual CORI and SORI checks. Is this necessary if the massage license is for two years? Mr. McDonald stated that any body works applicant must apply in person. Dr. Fogg asked about Chiropractors and Dr. Epstein stated that they need CORI and SORI checks. Dr. Fogg stated that we need to see about state oversight of the practice. Dr. Epstein believes the state is lax and the town needs more oversight. Dr. Fogg wants yearly permits as an opportunity to see what is going on. Mr. McDonald pointed out Page 4 Section 4 Sub Section P requires a snapshot of the practitioners health. The State requires this every two years. Dr. Fogg asked about adding flu shot regulation and more MMR. Mr. McDonald said an employer can mandate this. Mr. McDonald stated he and Ms. Gurge will do more research before Memorial Day. Will post for additional comments and

will reach out to businesses. Revised version will be emailed out and be voted on at the June meeting.

VOTE: A motion was made to keep the hearing open. Upon motion duly made by Ed Cosgrove and seconded by Stephen Epstein. The motion carried. The vote was unanimous.

Proposed Amendments to Tobacco Regulations

Mr. McDonald stated that the proposed regulations were mailed to all tobacco vendors and there was no feedback. There was no hearing last month therefore this meeting was the 1st hearing. There should be a second hearing. The Health Department will reach out to vendors. Changes proposed will be to correct older language, crosswalk between state and town, proximity and flexibility to not issue a permit. Panella's Market has gone through most of the process to get a tobacco vending permit. There was a discussion on the graduated penalty schedule. The period of performance will be extended to three years. Dr. Epstein asked the question of whether we wipe the slate clean after the period ends or do we look back two years. After the fifth violation do we suspend the permit indefinitely? He also asked about change of ownership. Does permit roll over in a corporate transfer or change of ownership within a family? Can the Board refuse renewal? Dr. Fogg stated that a new business will get a fresh start and a new permit. Mr. McDonald wants to invite vendors and provide more details in a memo to all tobacco vendors. Dr. Epstein suggested a red line version of the regulations be put up on the Town's website. Mr. McDonald said they will not send a redline version because of all the formatting and layout changes. Dr. Epstein stated the changes need to be read carefully. Mr. McDonald will clarify transferability with DJ Wilson and Cheryl Sbarra. Continue hearing to next month. All vendors invited, but no one showed up.

A motion was made to keep the hearing open. Upon motion duly made by Ed Cosgrove and seconded by Stephen Epstein. The motion carried. The vote was unanimous.

Other Items

Mr. McDonald stated that the Town Meeting Warrant for new space for the Public Health Department was withdrawn. The space was not suitable given the department's needs specifically. Mr. McDonald will consider whether to ask the COA Board if they will give additional COA program space for one year. The Rosemary complex will be ready by June

15, 2018. Mr. McDonald will meet regularly with the construction manager. It is a different architect, but the same builder who built the Town Hall.

Dr. Cosgrove asked about VOC testing for non-wood moldings. The memo about all the Town Hall issues detailed the extensive testing undertaken in the Public Health Office since the renovation and addition was completed. Mr. McDonald questioned the cost to fix the problems and quoted from the report from Michael Feeney, MDPH Public Health Bureau of Environmental Health Indoor Air Quality Program. Mr. Feeney stated that the Town Hall's HVAC was oddly designed building. For the Rosemary complex, Ms. Gurge will focus on the pool and Mr. McDonald will focus on the building/office space.

Mr. McDonald stated the Public Health Nurse posting closes on May 19th. The new Environmental Health position will post on May 15th, he hopes. The Town posts on the Town website, the website of the Massachusetts Municipal Association (MMA)and InDeed and the Public Health Department posts on the multiple colleges and Public Health Association websites. There will be a full time social worker position in Youth Services that will be filled in June, the Youth Services Director will be leaving June 7th. The COA has the most open positions to be filled, including the Program Coordinator which we hope will be filled by mid-June with some overlap for training purposes. The Assistant Director of the COA job will post by June 12th, and hopefully before that.

Update on Eversource Reliability Project Through Town
At the May 2nd Board of Selectmen meeting, the Board of Selectmen made the recommendation that the Eversource Reliability Project choose an alternate route without Valley Road using the greatest setback distance. The Board of Selectmen wants Eversource to use the South Street option, and believes it is in Eversource's interest to work with municipalities. There will be a hearing for South Street residents. The Harris Avenue route might have been 20 feet from some homes, and the perception of health risks from EMF would be an issue and the Board of Health will need to weigh in no matter what route is selected. Mr. McDonald's understanding is that the exact placement and the depth of the lines will depend on other utilities. Eversource has studies on EMF fields which show no health risk studies.

Mr. McDonald stated that buried lines are safer than overhead because underground lines have a better degree of shielding. Dr. Epstein stated that the lines should not be near property and that the lines should be as deep as possible for better shielding. Mr. McDonald said studies are based on continuous exposure, not intermittent. Dr. Epstein said that three or more good studies are needed to shed more light on the possible health effects of EMF.

The Board concluded that line placement in the middle of the street may be acceptable, but needs to be as far away from front doors as possible. Dr. Cosgrove stated that the lines need to be as far away from residences as possible, in both distance and depth. The Board asked who monitors depth and setbacks.

The Board briefly discussed House Bill #1112, which is under consideration in the State Legislature. The bill is intended to encourage and incentivize affordable housing development, through changes to local authority over zoning and Title 5 requirements. Local public health authorities and boards of health, as well as the Conservation Commissions in many communities, have concerns that the proposed legislation would override local control and limit or eliminate a community's ability to protect its wetlands and sensitive use areas as well as a community's ability to regulate and site sewage disposal systems through the regulatory process.

Needham's Conservation Commission wants the BOH to take the lead to highlight the roll in developing standards. This bill is directed at towns like Dover and Sherborn by the construction industry, which desires the ability to build more and larger developments in a number of suburban communities.

Water bill inserts in June, July, and August will have a Public Health insert on Mosquitos and Tick borne diseases. A Fall insert may focus on Personal Preparedness and Winter on Substance Misuse Prevention. This information will also be distributed to the Center at the Heights and the Library.

Mr. McDonald discussed Board of Health composition and structure, and the idea of increasing the Board from three to five members. Right now Mr. McDonald can only meet with one member at a time and with a five person board, he could meet with two members at a time and still comply with open meeting laws. This would provide benefits for coordination and Board of Health guidance and policy direction in the weeks between Board of Health meetings.

Dr. Cosgrove agreed with the five person board with protections in place so qualified and credentialed individuals are strongly preferred. Mr. McDonald will investigate measures to insure a professional board and will explore options to gather more information. More research is needed and there should be more discussion. There are no current plans to present to Board of Selectmen on Town Meeting in order to be enacted. Changes must be approved at Town Meeting and State Legislature.

Adjournment
Upon motion duly made and was seconded, that the May 12, 2017 BOH meeting adjourn at 9:05am. The motion carried. The vote was unanimous.

Next meeting scheduled is:
Friday, June 16, 2017

Respectfully submitted: Jane Lischewski, Substitute Recording Secretary

Needham Public Health Division – Nurses Report

Donna Carmichael RN & Alison Paquette RN

COMMUNICABLE DISEASES and Animal Bites

NEEDHAM HEALTH DEPARTMENT

FISCAL YEAR 2017

DISEASES:	**JUL**	**AUG**	**SEPT**	**OCT**	**NOV**	**DEC**	**JAN**	**FEB**	**MAR**	**Apr**	**MAY**	**JUN**	T17	T16	T15
BABESIOSIS				1									1	0	3
Borrelia Miyamota													0	1	na
CAMPYLOBACTER			2	1				2					5	9	12
CRYPTOSPORIDIUM													0	0	0
Dengue						1							1	0	0
E-Coli													0	0	0
EHRLICHIOSIS/ HGA		1									1		2	2	2
Enterovirus				1									1	3	2
GIARDIASIS			1	1									2	1	5
Haemophilus Influenza									1				1	0	0
HEPATITIS B		1		1	1			1	1		2		6	5	8
HEPATITIS C	3	1	3		1	2	3		1	3	2		18	12	13
Influenza	2		5	9		2	18	26	21	24	1		108	102	77
Legionellosis													0	0	2
Listeriosis													0	1	0
LYME	5	4	7		3	6	3	2	1	4	4		39	58	57
MENINGITIS													0	0	0
Meningitis(Aseptic)													0	0	0
Mumps							1				1		2	2	0
Noro Virus													0	2	0
PERTUSSIS				1							1		2	1	1
SALMONELLA	1					1				2			4	5	1
SHIGA TOXIN	1	1											2	0	0
SHIGELLOSIS						1							1	3	2
STREP Group B													0	3	2
STREP (GAS)													0	1	2
STREP PNEUMONIAE													0	0	1
TUBERCULOSIS													0	0	1
TULAREMIA				1									1	0	0
Latent TB- High Risk				1									1	1	0
Varicella			1		2	1	1		1		1		5	9	6
Vibrio				1									3	1	1
West Nile virus													0	0	0
Zika					1								1	0	0
TOTAL DISEASES	12	8	19	17	8	14	26	31	26	33	13		207	222	197
Revoked Diseases Investigated	3	1	1	0	0	1	2	2	1				11	8	7
Contact Investigation													0	0	NA
Animal/Human Bites															
DOG		1					1	2	5	2	1		12	8	10
CAT													0	2	0
BAT	1	1					1				1		4	5	5
SKUNK													0	1	0
RACOON									1				1	0	0
other							1						1	0	0
TOTAL BITES	1	2	0	0			3	2	6	2	2		18	10	18

Immunizations	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	FY17	FY16	FY15
B12	2	2	2	2	2	2	2	2	2	2	2		20	23	22
Flu (Seasonal)	0	0	0	497	164	5	0	8	0	0	0		674	816	723
TDap	1	0	0	0	0	0	0	0	0	0	0		1	0	2
Varicella	0	1	0	0	0	0	0	0	0	0	0		1		
Consult	30	48	62	54	54	54	71	46	54	34	42		549	475	390
Fire/Police	4	6	8	2	3	12	18	6	2	4	5		70	40	49
Schools	8	10	15	16	12	10	15	2	4	2	7		101	88	59
Town Agencies	12	22	24	28	23	20	22	20	26	16	15		228	216	125
Community Agencies	6	10	15	8	16	12	16	18	22	12	15		150	139	157

ASSISTANCE PROGRAMS													FY17	FY16	FY 15
Food Pantry	0	1	3	2	2	2	0	3	2	3	2		18	21	35
Food Stamps	0	0	0	1	0	0	0	1	1	1	0		4	6	4
Friends	0	0	0	0	0	0	0	0	0	0	0		0	1 - $300.00	1- YTD
Gift of Warmth	0	0	0	0	3	1	0	1	1	3	2		11 YTD $2567.00	YTD 17	22 - YTD
Good Neighbor	0	0	0	0	0	0	2	3	1	0	0		6	YTD- 5	6- YTD
Park & Rec	0	1	0	0	0	0	0	1	1	0	0		2	5	3
RTS	0	0	0	0	0	0	0	0	0	0	0		0	0	1
Salvation Army	0	0	0	0	0	0	0	0	0	0	0		0	0	0
Self Help	0	0	3	5	11	3	3	4	8	5	4		46	27	51
Water Abatement	0	0	0	0	0	0	0	0	0	0	0		0	2	2

WELLNESS Programs													FY17	FY16	FY15
Office Visits	39	41	38	35	48	28	32	39	50	42	50		442	447	287
Safte Visits	0	0	0	1	1	0	2	0	0	0	0		4	10	33
Clinics	1	0	0	0	0	0	0	0	0	0	0		0	31	34
Housing Visit	2	0	0	1	2	0	0	0	0	0	0		3	8	27
Housing Call	6	0	2	6	3	1	2	2	0	3	0		19	70	186
Camps-summer	6	8	8	0	0	0	0	0	8	8	4		42	72	63
Tanning Insp	0	0	0	0	0	0	0	0	0	0	0		0	0	2
Articles	0	0	1	0	0	0	1	1	0	0	0		3	2	8
Presentations	0	0	0	0	0	0	0	0	0	0	0		0	2	2
Cable	1	0	1	1	0	0	0	0	1	0	1		5	1	4

EMPLOYEE WELLNESS	July	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	FY17	FY16	FY15
BP/WELLNESS - DPW/RTS	18	14	14	15	15	14	13	14	15	13	14		159	120	137
FLU VACCINE	0	0	0	36	10	0	0	2	0	0	0		48	87	52
CPR/AED INSTRUCTION	0	0	0	0	0	0	0	0	0	21	0		21	26	29
SMOKING Education	0	2	2	1	2	0	1	2	1	2	1		14	9	8
HEALTH ED Tick Borne	28	0	15	12	0	0	0	0	0	10	10		75	67	102
HEALTH ED Mosquito Borne	28	0	15	12	0	0	0	0	0	0	10		65	80	90
HEALTH ED FLU	0	0	10	28	25	12	50	15	20	0	0		160	327	221
FIRST AIDE	6	4	3	4	6	3	6	8	6	5	4		55	34	29
GENERAL HEALTH EDUCATION	20	12	22	26	25	20	28	17	25	20	25		240	188	230
Police weights	0	0	0	0	10	9	1	1	0	0	0		21	33	34
TOTAL EMPLOYEE CONTACTS	100	32	81	134	93	58	99	59	67	71	64		858	1028	981

Emergency Planning

LEPC Meeting
NC7 Meeting in Dedham
Region 4B Meeting in Canton

Meetings, Events, and Trainings

Title	*Description/Highlights/Votes/Etc.*
DVAC	Monthly Meeting with minutes
CCIT	Monthly Meeting at Police Station – Review of Mental Health Needs
MAPHN Conference	Annual Conference – Substance Abuse and Prevention – Nurses Role
MRC Presentation	Regional MRC Presentation by Dr Al DeMaria from the MDPH “Hot Topics in Public Health”
BID Needham Hospital Community Resource	Quarterly Meeting
Webinar	Communication Tips(Community Health Training Institute
NWH Infection Control	Annual regional meeting

Needham Public Health Department
May 2017
Health Agents - Tara Gurge and Brian Flynn

Activities

Activity	*Notes*
Animal Permit Renewal Mailing	**14 – Animal permit renewal notices mailed. In process of collecting applications and permit fees. New Animal Control Officer Parsons will be conducting inspections of each site prior to the issuance of the renewal permits. (On-Going)**
Demo reviews/approvals	**17 - Demolition sign-offs:** • **#14 Parkinson St.** • **#373-375 Hunnewell St.** • **#24 Dogwood Ln.** • **#47 Greendale Ave.** • **#135 Maple St.** • **#78 Harris Ave.** • **#61 Warren St.** • **#28 Grant St.** • **#652 Webster St.** • **#138 Country Way** • **#100 Wilson Ln.** • **#250 Chestnut St.** • **#41 Peacedale Rd.** • **#114 First Ave.** • **#456 Chestnut St.** • **#105 Highgate St.** • **#105 Chapel St.**
Fire – Emergency Call	**1 – Fire called to request Health Dept. assistance over at Charles River Landing residence site (located at #300 2nd Ave.), to respond to an indoor air quality concern in one of the units (Unit #1149), where there were noxious odors. Donna C. responded to the w.end call. I followed up with their Building Maintenance Dept. in coordinating the replacement of the faulty water heater. I also ensured that that the occupants had an alternate place to stay while the repairs were being made in their unit. Conducted a re-inspection of the unit once all the items were addressed.**
Food – Complaints / Follow-ups	**0 – Food Complaints.**
Food – Seasonal Inspections	**3 – Seasonal Food Inspections conducted:** - **Needham Pool and Racquet Club (x2) (for Snack Bar.)** - **Superstar Ice Cream Truck**
Food Permits (Seasonal)	**2 – Seasonal Food Permits issued to:** - **Superstar Ice Cream Truck** - **Needham Pool and Racquet Club Snack Bar**
Food – Farmers Market Permits (Helenka (Public Health intern) and I conducted inspections of all the food vendors on Sunday, May 28th and Sunday May 4th – Helenka will continue to	**7 – Farmers Market Permits issued to:** - **Ackermann Maple Farm** - **Auntie Dalie's Dry Pasta** - **Boston Sword and Tuna** - **MacArthur Farm – For Bread and Cider** - **SwissBakers – For Breads, Pretzels and Pastry** - **Teri's Toffee Haus** - **FUNdamentally Nuts**

conduct inspections each Sunday until the end of Aug.)	
Food – New Mobile Food Truck Plan Reviews	**3 – New Mobile Food Truck Food Permit Plan Reviews conducted for:** - **Dining Car (On-going)** - **Capriotti's (On-going)** - **RiceBurg (On-going)**
Food - NBA Street Fair permits (Brian F. conducted inspections of these vendors on Sat., June 3rd.)	**10 – Needham Business Association (NBA) Street Fair permits issued to:** - **Harrows Chicken Pies** - **Abbotts Frozen Custard** - **Bertuccis** - **Dedham Savings Bank** - **Gari** - **Hearth Pizzeria** - **Key Advantage Realty** - **Sage Farm** - **Kerivan-Lane** - **Hills Home Bros.**
Food – Temporary Food Event Permits/ Inspections conducted	**43 – Temp. food event permits issued/Inspections conducted for:** - **Newton-Needham Regional Chamber – Re-Imagine Needham Event at Needham Town Hall (Powers Hall).** - **North American Amusement, Inc./Hillside School PTC (x2) (For popcorn, cotton candy and hamburgers) for Spring Carnival @ Hillside School.** - **Pan Mass Challenge (for Kids Ride) – Event @ Pollard Middle School.** - **Newman School PTC – For Springfest event.** - **St. Joseph's School – For Field Day event.** - **Sam's Hot Dogs (x4) – For multiple end of year events at: St. Joseph's School, Hillside School, Newman School and Broadmeadow School. (Insp. conducted.)** - **Ben and Jerry's Ice Cream Truck (x2) for events at Babson College. (Insp. conducted.)** - **B.Good – For Geared up for Kids event at High School.** - **Adenoid Cystic Carcinoma Research Foundation (ACCRF) – Event at COA.** - **Needham Soccer Club – For Soccer Tourn. @ DeFazio Field. (Insp. conducted.)** - **Landmark News Group, Inc. – For Soccer Tournament at DeFazio Field. (Insp. conducted.)** - **Broadmeadow/Mitchell Schools PTC – Basketball event at Needham High School.** - **Needham Community Council – For Yard Sale event at Presbyterian Church. (Insp. conducted.)** - **Needham Human Rights Committee – Event at COA.** - **Relay For Life – Event at Newman School.** - **Tex's BBQ Express/Needham High School PTC (x2) – For end of year event.** - **NBA Street Fair (x10) – Inspections conducted at annual fair of all food vendors.** - **Farmers Market (x11)**
Food – Plan Reviews	**4 – Food Permit Plan Reviews:** - **#77A Street Café (Shark Ninja) – Received proposed cafeteria Plan Review items. Plan review approved.** - **Reveler Craft Beer Retail Store (located at old New Garden site @ #250 Chestnut St.) – Received application/Retail Food Permit Plan Review materials. (Plan review still in process.)** - **Goldberg's Deil & Grill (old Plates Too Café) located at #250 First Ave. lobby - Change of owner. Received application/Food Permit Plan Review materials. (Plan review still in process.)**

	- **Hillside School (new school to be located on Central Ave.) – Received proposed kitchen plans for review. Plan review comments sent.**
Food – Annual Permits	**0 – Annual Permits issued.**
Health Matters Article submitted	**3 – Health Matters articles submitted to Needham Time and Hometown Weekly** - **'Lead Safe Paint Renovation'** - **'Demolition Guidelines for Residents'** - **'Healthy Summer Grilling'**
Housing – Complaint/ Follow-up	**1 – Housing Complaint/Follow-up.** - **Charles River Landing (Unit #1149) – Fire Dept. called Health Dept.to respond to indoor air quality issue in unit. Unit evacuated due to noxious odors caused by faulty hot water heater (not venting properly.) Re-inspected unit once all items were addressed.**
Nuisance – Complaints/ Follow-ups	**4 – Nuisance Complaints/Follow-ups:** - **Charles River Landing (x2) – Trash related concerns. Residents jamming trash shoot with bulky items, etc. Spoke to manager about concern. Will have a staff member on site during 3-day weekends to ensure trash areas are clear.** - **Volante Farms – Report received of flooding of fields caused by Beavers. Site visit conducted by new Animal Control Officer to verify concern. Emergency 10-Day Beaver Trapping permit was issued by Health Dept. UPDATE: Five Beavers caught. Flooding subsided.** - **#168 Linden St. (Unit B) Needham Housing Authority – Report of insufficient handling of trash debris and other safety issues on site. Spoke to complainant. Site visit set up to inspect area. Will also meet with NHA Maintenance on site to discuss on-going concern.**
Pool Plan Reviews	**3 – Pool Plan Review conducted for:** - **Rosemary Town Pools – Plan review still in process for updated plans that were submitted. Working with the MA DPH Sanitation Program in reviewing proposed revised plans. (On-going.)** - **Homewood Suites (#200 First Ave.) – (On-going)** - **Moderna (#700 Greendale Ave.) – (On-going)**
Pool Inspections conducted	**4 – Pre-operation seasonal outdoor pool inspections conducted at:** - **Rosemary Ridge Condos – Conducted pre-operation inspection of pool. (NOTE: They cannot find any lifeguards for the weekends. Wants to get a variance for having no lifeguards on site.)** - **Needham Pool and Racquet Club - Conducted pre-operation initial and follow-up (x2) inspections of the pools.** - **Charles River Landing - Conducted pre-operation inspection of pool.**
Pool Permits	**3 – Seasonal Outdoor Pool permit issued for:** - **Needham Pool and Racquet Club** - **Charles River Landing** - **Rosemary Ridge Condos (Temp. pool permit issued, until lifeguard situation is addressed.)**
Planning Board/Special Permit reviews	**0 – Planning Board reviews conducted.**

Septic Abandonment Forms	**1 – Septic Abandonment Form received for:** - **#3 Burrill Lane (connected to sewer)**
Septic Construction Permit/Trench Permit	**1 – Septic Construction/Trench permit issued for:** - **#1554 Central Ave.**
Septic Deed Restriction	**1 – Septic Deed Restriction submitted for:** - **#6-8 Charles River St. (for septic upgrades)**
Septic – Plan Reviews/Approvals	**2 – Septic Plan Reviews conducted for:** - **#267 Cartwright Rd. – Plan review conducted. Conditional approval letter sent.** - **#12 Brookside Rd. – Reviewed second set of revised plans. Comments sent. (On-going)**
Septic Installation Inspections	**6 – Septic installation inspections conducted at:** - **#8 Charles River St. (x6)**
Subdivision Reviews	**0 – Subdivision reviews conducted**
Tobacco – Complaints	**0 – Tobacco Complaints received.**
Tobacco Insp.	**2 – Routine Tobacco inspections conducted.**

Trash Hauler Permit Renewals/Truck insp.	**21 – Waste/Trash Hauler permit total renewal applications received for review. Continuing to conduct waste hauler truck inspections (On-going). Permits issued.**
Well Permit application reviews	**4 - Irrigation Well permit applications submitted for review for:** - **#695 Charles River St.** - **#120 Stratford Rd.** - **#53 Oxbow Rd.** - **#54 Whitman Rd.**
Well – Permits	**0 – Well permits issued.**
Zoning Board of Appeals Project reviews	**0 – Zoning Board of Appeal reviews conducted.**

Yearly

Category	*Jul*	*Au*	*S*	*O*	*N*	*D*	*J*	*F*	*M*	*A*	*Ma*	*Ju*	***FY' 17***	FY' 16	FY' 15	*Notes/Follow-Up*
Biotech	0	0	0	0	0	2	0	0	0	0	0	0	2	2	2	Biotech registrations
Bodywork	0	1	0	0	0	4	1	0	0	0	0	0	6	11	0	Bodywork Estab. Insp.
Bodywork	0	1	0	0	0	4	0	0	0	0	0	0	4	3	0	Bodywork Estab. Permits
Bodywork	0	2	0	0	0	8	1	2	0	0	0	0	13	10	0	Bodywork Pract. Permits
Bottling	0	0	1	0	0	0	0	1	0	0	0	0	2	1	1	Bottling Permit insp.
Demo	5	12	11	21	9	9	4	8	6	3	17	0	105	110	100	Demo reviews
Domestic Animal Permits/ Insp.	1/0	0/1	0	0	0	1	0	0	0	0	0	0	2/1	16	15	Animal permits/ Inspections
Food Service	12	16	11	18	18	19	21	17	13	19	17	0	181	209	220	Routine insp.
Food Service	3	1	11	6	2	0	1	3	1	2	2	0	32	35	26	Pre-oper. Insp.

Retail	2	10	6	6	7	3	4	6	9	5	9	0	67	71	71	Routine insp.
Resid. kitchen	0	1	1	0	0	0	2	3	0	0	0	0	7	11	8	Routine insp.
Mobile	6	1	0	0	0	0	1	0	0	3	2	0	13	9	10	Routine insp.
Food Service	7	3	5	2	5	2	4	5	4	5	5	0	47	50	52	Re-insp.
Food Service/ Retail	1	0	3	2	1	126	1	2	0	2	2	0	140	176	170	Annual/ Seasonal permits
Food Service	13/ 6	8/3	29/15	18/0	8/0	6/1	11/1	0/0	3	8/5	43/ 26	0	147/ 57	107 /54	96/ 44	Temp. food permits/ Temp. food insp.
Food Service	0/0	0/0	0	0	0	0	0	0	0	0	7/ 11	0	7/ 11	9/ 16	18/ 45	Farmers Market permits/ Market insp.
Food Service	0/0	3/3	0/1	0	1/1	4/4	0/2	1/2	1/1	0	0	0	10/ 14	21/ 21	17/ 21	New Compl/ Follow-ups
Food Service	1	3	3	4	2	5	2	1	2	1	4	0	28	32	35	Plan Reviews
Food Service	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	Admin. Hearings
Grease/ Septage Haulers	0	0	0	1	0	22	1	0	0	0	0	0	24	29	25	Grease/ Septage Hauler permits
Housing (Chap II Housing)	0/0	0/0	7/0	0/7	0	0	0	0	0	0	0	0	7/7	7/4	7/4	Annual routine insp./ Follow-up insp.
Housing	2/4	0/2	0/2	0	0	0	1	0	0	1	1/1	0	5/ 10	18/ 37	8/ 10	New Compl./ Follow-ups
Hotel	0	0	0	0	0	2	0	0	1	0	0	0	3	3/0	2/0	Annual insp./Follow-ups
Nuisance	2/9	3/9	2/3	0/1	3/2	3/2	1/2	1/1	2/3	4/4	4/4	0	25/ 40	44/ 50	43/ 47	New Compl./ Follow-ups
Pools	0	1/3	2/2	0	0	5	0	0/1	1	1	3/2	0	13/ 8	9/3	10/ 7	Pool insp./follow-ups
Pools	0	0	0	0	0	5	0	0	0	1	3	0	9	9	10	Pool permits
Pools	2	1	2	2	2	1	0	1	1	1	3	0	16	8	7	Pool plan reviews
Pools	1	0	0	0	0	4	0	0	0	0	1	0	6	4	6	Pool variances
Septic	1	3	3	1	2	2	1	0	2	2	1	0	18	8	9	Septic Abandon Forms
Septic	1	2	1	1	0	0	0	0	0	0	0	0	5	9	10	Addition to a home on a septic plan rev/approval
Septic	0	8	5	1	1	11	0	0	0	5	6	0	37	23	14	Install. Insp.
Septic	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	COC for

																repairs
Septic	0	0	1	0	1	1	0	0	0	0	0	0	3	3	0	COC for complete septic system
Septic	6	6	7	5	4	6	5	3	5	4	4	0	55	61	61	Info. requests.
Septic	2	0	1	0	0	0	1	0	1	0	0	0	5	8	3	Soil/Perc Test.
Septic	0	1	1	1	2	0	0	0	0	2	1	0	8	6	4	Const. permits
Septic	1	0	2	0	0	5	2	0	0	0	0	0	10	9	10	Installer permits
Septic	1	0	2	1	0	2	0	0	0	0	0	0	6	6	6	Installer Tests
Septic	0	0	2	0	1	0	0	0	0	2	1	0	6	3	3	Deed Restrict.
Septic	2	1	1	1	3	2	0	0	0	1	2	0	13	14	8	Plan reviews
Sharps permits/ Insp.	0	0	0	0	0	9	0	0	0	0	0	0	9	10	10	Disposal of Sharps permits/Insp.
Subdivision	0/0	1/0	0/1	0	0	0	0	0	0	1	0	0	2/1	3/0	7/1	Plan review-Insp. of lots /Bond Releases
Special Permit/ Zoning memos	1/1	0/1	0	1	1	2/2	1	0	0	0	0	0	6/4	16	12	Special Permit/ Zoning
Tobacco	1	0	0	0	0	11	0	0	0	0	0	0	12	13	12	Tobacco permits
Tobacco	1/1	3/1	2/0	2/0	2/1	1/0	2/1	3/0	3/1	2/0	2/0	0	23/5	25/7	21/2	Routine insp./ Follow-up insp.
Tobacco	0	0	0	12	0	11	0	0	0	11	0	0	34	48	36	Compliance checks
Tobacco	0/0	0/0	0/0	0	0	0	2/2	0	0	0	0	0	2/2	4/4	3/3	New compl./ Compl. follow-ups
Trash Haulers/ Medical Waste Haulers	0/0	1/0	0/0	0	0	0/1	1/1	0	0	12/0	5	0	19/2	30/2	29/2	Trash Hauler permits/ Medical Waste Hauler permits
Wells	1	1	0	2	1/1	0	0/1	0	0	0/1	0	0	5/3	6/0	14/1	Permission to drill letters/ Well permits

FY 17 Critical Violations Chart (By Date)

Restaurant	Insp. Date	Critical Violation	Description
Fuji Steakhouse	7/18/16	- Cold Holding - Conformance with Approved Procedures/HACCP Plan (for Acidified Sushi Rice) - Food Contact surfaces cleaning and sanitizing	- Need to ensure that walk-in cold-holding temp. is maintained at 41 deg F or below. Had serviced. - Need to ensure that Sushi pH Log is maintained and entries are made when rice is prepared (Log was not up to date). Updated log; - Ensure that dish machine reaches a min. temperature of 180 deg F or greater for final hot water sanitizing rinse. Had serviced.
Gianni's Deli	10/4/16	- Hot Holding	- Need to ensure that calzones are hot held at min 140 deg F. (Moved to warmer.)
Dunkin Donuts (Highland Ave.)	10/25/16	- Cold Holding	- Need to ensure that prep reach-in cold-holding unit temp. is maintained at 41 deg F or below. (All items moved to walk-in unit.) Had unit serviced. Unit replaced.
Rice Barn	11/1/16	- Cold Holding	- Need to ensure that prep reach-in cold-holding unit temp. is maintained at 41 deg F or below. Had unit serviced.
Otrada Adult Day Care	4/14/17	- Cold Holding	- Need to ensure that refrigerator unit temp. is maintained at 41 deg F or below. Unit serviced. Replaced door gaskets.

Sheraton Needham Hotel	5/2/17	- Cold Holding	- Need to ensure that the 6-drawer prep refrigerator unit temp. is maintained at 41 deg F or below. Unit serviced.
Mandarin Cuisine	5/2/17	- Pest evidence observed.	- Need to bump up pest control to 1x/week ASAP. DONE Copies of weekly pest reports and daily cleaning logs must be submitted to Health Dept. for review. (On-going.) Need to work with landlord to fill any remaining foundation gaps, replace door sweeps, etc. Site visits conducted. Will continue to monitor.
Acapulcos*	5/24/17	- Pest evidence observed.	- Need to bump up pest control to 1x/week ASAP. DONE. Copies of weekly pest reports AND daily cleaning logs must be submitted to Health Dept. for review. (On-going). Need to work with landlord to fill any remaining foundation gaps, replace door sweeps, etc. Site visits conducted. Will continue to monitor. **(NOTE: If this on-going issue persists, need to have in for an Administrative Hearing before the BOH.)***

Needham Public Health Department

May, 2017 Monthly Report

Maryanne Dinell- Traveling Meals Program Coordinator

Monthly

Description	*Reason*	*Notes/Follow-Up (ongoing, completed, etc.)*
Month of May, 2017	Residents of Needham, needing help with their daily meals.	37 clients on the Traveling Meals Program 26 Springwell Elder Services, Waltham clients 11 private pay clients - Needham residents
671 2- meal packages were delivered in May, 2017	20 Clients receive meals 5 times a week 13 Clients receive meals 3 days a week 4 Clients receive 7 meals within 5 day period	480 meals delivered to Springwell Clients 191 meal delivered to private pay residents Total #671 meals delivered @ 5.50 per meal =cost of $3690.50
3 new clients on the Program for 1st time	2 Springwel l Clients 4 private pay	new clients- 1 expected to be long term 2- Expected to be short term
2 clients off Program	1 client in nursing home 1 Client able to care for self	1 clients on – off Program since 2010 1 client on Program 5 days

Category		*Jul*	*Aug*	*Sept*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*FY '16 Total*	*FY '17 Total*	
Meal Delivery		728	812	786	737	645	757	648	628	784	588	671		9687	7784	
General Telephone Calls-received		40	78	92	65	95	92	65	60	59	62	55		1091	763	
Assistance Calls-to Springwell		3	2	6	4	3	4	2	2	3	5	4		34	38	
Not at home at delivery		7	2	3	2	2	1	2	4	2	6	2		77	33	
911		0	0	0	0	0	0	0	0	0	2	0		2	2	

Category		*Jul*	*Aug*	*Sept*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*FY '16 Total*	*FY '17 Total*	

Meetings, Events, and Trainings

BI	*Type*	*Description/Highlights/Votes/Etc.*	*Attendance*
Board of Health Meeting		Monthly meeting held at PSAP	9
Appreciation Luncheon		Traveling Meals Program Volunteer Appreciation Luncheon held at Needham Public Library	55-60

Donations, Grants, and Other Funding [List any donations received, grants funded, etc. over the past month.]

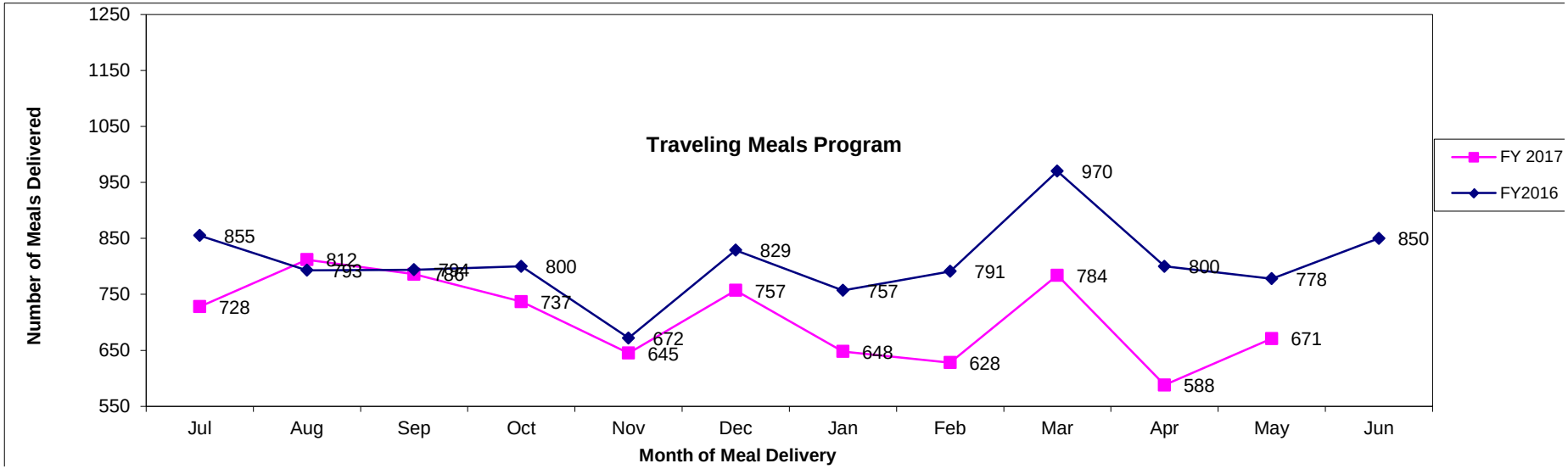
Description	*Type (D,G,O)*	*Amount Given*	*Source*	*Notes*

Traveling Meals Program

May, 2017 FY 17

Projected-12 Mo.	
$	51,374.40
#	8,492

Month	# Meals FY2016	# Meals FY2017	FY17 Cost	% Change # Meals
Jul	855	728	$4,004.00	-15%
Aug	793	812	$4,466.00	2%
Sep	794	786	$4,323.00	-1%
Oct	800	737	$4,053.50	-8%
Nov	672	645	$3,547.50	-4%
Dec	829	757	$4,163.50	-9%
Jan	757	648	$3,564.00	-14%
Feb	791	628	$3,454.00	-21%
Mar	970	784	$4,312.00	-19%
Apr	800	588	$3,234.00	-27%
May	778	671	$3,690.50	-14%
Jun	850			
Totals:	9,689	7,784	42,812.00	



Needham Public Health Department
Catherine Delano, Senior Substance Use Prevention Program Coordinator
May 2017 Monthly Report

Section 1: Highlights

- Action team meetings
- Hosted Hidden in Plain Sight and close to 100 people viewed it over the first weekend in May
- Hosted the Extended Home Room at Needham High School which was planned by the marijuana action team and SALSA
- Presented at school committee meeting with two youth from SALSA
- Co-presented to visiting group from China about substance use prevention
- Co-presented to members of CATH about medication safety in elderly
- Monthly CCIT meeting
- Attended the second SBIRT training in preparation for the fall rollout

Section 2: Goals

- Find a central location for the Department to work
- Start a monthly segment on the Needham Channel related to varying public health topics
- Build SPAN capacity/community recognition
- Build youth coalition capacity
- Get approval by Town to implement Alcohol Compliance checks

Needham Public Health Department

May 2017

Substance Abuse Prevention & Education
Needham Coalition for Youth Substance Abuse Prevention ~ NCYSAP
Karen Mullen, Project Coordinator/Capacity Building

Section 1: Activities

Activity	*Notes*
SALSA Activities- *Students Advocating Life Without Substance Abuse* 2016-17 SALSA is comprised of 136 Needham High School students- one of the largest clubs at NHS.	SALSA Field Trips to Pollard Health Classes- 5/25 & 5/26. NHS presented to @60 Pollard students total (3 classes). Arrange approval w/NHS admin., transportation, rehearsals, confirm students attending, distribute trip forms, order lunches clear students with school nurse and NHS administration. Prepare follow-up paperwork to ensure students receive community service credit for volunteer work. SALSA Leadership Team Meeting to welcome new leadership team members, plan year end membership/recruiting events, summer CSL opportunities and fall 2017 events DA Spring Leadership Event- 5/5/17. Coordinated approval w/NHS Admin. , Arranged transportation, recruited SALSA leaders, coordinated field trip forms, prepared follow-up paperwork to ensure students receive community service credit, submitted press release to Needham papers.
Needham Channel Prevention Videos	1 of 2 prevention videos completed by Needham Channel and will begin airing in May. Needham Parents Care team to distribute PSAs to community. Targeted completion May for distribution in June. Needham Channel editing 1 final prevention PSA. Targeted completion/airing- June, 2017.
SPAN Marijuana Action Team	Extended NHS homeroom event- 5/4/17. Finalized content & materials for event , coordinated with School Committee for team to present content at School Committee Meeting on 5/16, coordinated with Needham Channel for team to be filmed for Needham Channel News, Analyzed teacher and student surveys after the event, met with NHS teachers to discuss specific recommendations for future events, formulated recommendation for action team for future prevention events at NHS. Action Team meeting- Presented results of Extended Homeroom to team.
Needham Parents Care	Meeting- Discussed membership, planned future projects w/team

Needham Health Department
Monica De Winter, Program Support Assistant
Karen Shannon, Program Support Assistant
May 2017 Monthly Report

Section 1: Summary

During the month of May our primary focus was on the delivery and evaluation of May prevention events including: Extended Homeroom at Needham High School, Hidden in Plain Sight and Needham Parents Care activities. We launched the 2017 Parent Survey to the Needham community for parents of 6th-12th graders and have exceeded 900 completed surveys to date.

Section 2: Activities

Activity	*Notes*
2017 Parent Survey	Biennial survey to Needham parents of 6th-12th graders. Distribution channels to parents included: Listserv emails from Youth Services, NPS Superintendent, Pollard MS Principal, NPD Chief, the NHS school newsletter, NPHD and NPC FB postings. We have over 900 surveys completed to date and will make another push the week of 6/5 to collect more.
Needham High School - Extended Home Room: "Substance Use Awareness and Education Program," Thursday, 5/4.	This event consisted of a 45- minute extended home room at NHS for all students. Content included a student-created and produced PSA video, an online Kahoot! Quiz re: substance use knowledge, and a teacher-guided discussion. This initiative was planned and organized by the MJ Action Team, with input from the Alcohol and PD Action Teams. Survey results from students and teachers have provided valuable feedback for planning future events of this type.
Hidden In Plain Sight, 5/5/-7 at Knights of Columbus Hall, with volunteer training held on 5/3.	Parents and individuals over age 21 were invited to attend this interactive display of a teenager's bedroom containing common items which are

	hiding dangerous substances, which in turn, indicate potential at- risk behaviors. A VIP Open House was held on Friday, 5/5 for local community leaders, by invitation. **22 attended.** Exhibit was also open Saturday & Sunday, May 6 & 7, from 1-4pm. **50 attended over the two days. Total event attendance: 72** Volunteer training, 2 hours, held on 5/3, 4 attended
Data input	Entered accomplishments and outputs to REACH software
Needham Parents Care	A core group of parent volunteers has assisted in launching a NPC Facebook page, organizing a pilot program for 5th grade parent book groups, writing a press release for the local newspapers, and drafting content for the first monthly parent messaging initiative. Capacity building efforts continue for this group; current active membership is 6, with an email distribution list of 20.
Dedham Parent Survey communications	Communication liaison to Dedham parent groups to distribute the parent survey via various media channels (SAPC)

Section 3: Meetings & Conferences

Title	*Description*	*Attendance*
Needham Parents Care, 5/15, 5/23	Launch of NPC FB page; drafting of first monthly parent messaging for elementary, middle and high schools for publication in June school newsletters; prepared minutes. Tanya Cherkerzian, NPC member and Broadmeadow School PTC member has launched two pilot 5th grade parent book groups using the workbook, “Please Stop The	5

	Roller Coaster."	
Conference call w/Kelli Keck, 5/16	Discussion of Action Teams and sustaining momentum over the summer, re-engaging the Leadership Team including review of their purpose and role in the coalition.	3
Community Meeting: Highlights from 2016 MWAHS, 5/11	Presentation and discussion of Key Findings for 2016 MWAHS by EDC Project Director Shari Kessel Schneider, Framingham, MA	1-Monica
MA Alcohol Task Force Meeting, 5/30	Attended public hearing in Foxborough, MA to listen and learn about what communities are presenting to the newly formed Task Force. This committee is collecting feedback as part of their comprehensive review and assessment of the alcoholic beverage industry and Massachusetts' regulatory framework. They will ultimately report their findings to Treasurer Deborah Goldberg.	2-Monica and Karen
Prescription Drug Action Team meeting 5/31	Debrief on Pharmacist Workshop and HIPS events and discuss preliminary plans for future events.	7
SBIRT Training, 5/12	Catherine and Karen S. attended 3 hour "Part 2" training.	1 - Karen
Norfolk District Attorney Prevention Coalition Meeting, 5/17	Attended 2 hour coalition meeting in Canton, MA	1 - Karen
CADCA Academy Pre-work, 5/	On line training session for CADCA Academy Week 2 (one participant required)	1- Monica
DFC Staff Meeting , 5/9, 5/16	Discussion of Alcohol Compliance Regulation research, Parent Survey,	4

	National Prevention Week	

Carol Read, M.Ed., CAGS, CPS **May 2017**

Substance Use Prevention and Education ~ Initiative Highlights

Needham NPHD, Needham SPAN and Substance Abuse Prevention Collaborative (SAPC) grant * collaboration with the towns of Dedham, Needham, Norwood and Westwood**.**

SAPC grant

Town coalition meetings:
Dedham Prevention coalition: May 2nd Dedham Town Hall 9:00am and 6:00pm
Impact Norwood coalition: May 22nd Norwood High School 3:00pm
Westwood Cares coalition*:* May 1st *Cancelled*
SPAN coalition: *No May meeting*

SAPC program, capacity building and strategy implementation preparation:
Outreach to regional leader/ stakeholder group for (1) Regional meeting June 20th (2) Distribution of SSH- DA Morrissey ***Under The Right Influence*** parent brochure to enhance adolescent safety spring and summer (3) Social Host video Norfolk DA Morrissey-featuring Attorney, John Scheft and Needham Police Chief John Schlittler (4) Brain Imaging study project flyer Dr. Silveri and Dr. Harris (5) Review and edit SAPC FY 17 budget, prepare and submit budget amendment in online EIM system, edit SAPC budget narrative document including identifying crosstabs with Town of Needham line items for approved expenses.

SAPC Leader meeting: May 8th Review of initiatives: (1) SAPC Regional Leader Stakeholder meeting planning (2) TIPS Alcohol Training & Certification registrations and attendance (3) Town marijuana moratoriums: Dedham and Needham Town Meetings (3) Meet Maggie Sliney, **PhotoVoice** Intern, Boston College Graduate School of Social Work project update, timeline for launch (4) Community Awareness poster review: editing for each town (5) AlcoholEdu for High School parents regional launch opportunity (6) Dedham Parent Survey: ***completed***

TIPS training and certification: ***T****raining for* ***Intervention ProcedureS*****,** Monday, May 1st (2 sessions) 10:00am-3:00pm and 3:00pm-11:00pm and Monday, May 8th (1 session)10:00am-3:00pm. Responsible alcohol service training all Section 12 and Section 15 (**3** sessions licensees invited) 90 registrations- 59 licensees attended. Mike Marcantonio, trainer. Dedham VFW Hall.
BSAS Project Manager: May 4th (inn person) and May 18th (call) **Amal** Marks, Conference call to review requests for FY 17 budget amendments (lap-top/cameras for PhotoVoice) aligned with Strategic Plan, budget expenditure projections and completion of training on Virtual Gateway EIM-EAM system.

Dedham Park & Recreation: May 2nd Debbie Anderson, Park & Recreation Assistant Director. Review of PhotoVoice project mission and timeline. Request for support to engage Dedham youth in grades 9 and 10.

SAPC Financial compliance: May 3rd Online training modules, Virtual Gateway EIM-EAM system access ***completed***. Application to move forward as an administrator with Theresa Craig, MDPH

BSAS- MassTAPP Technical Assistance: May 11th and May25th Bi Monthly conference call or meeting sessions 2:00pm- 3:30pm. Tracy Desovich, MPH, SAPC TA provider. Strategic plan implementation challenges, review options for building capacity with cluster town stakeholders and discussion of SAPC Program Managers alcohol policy work town and state.

SAPC Quarterly Report: May 2nd Third quarter filing (January 1, 2017-March 31, 2017) On-line submission of all leader and stakeholder engagement, cluster processes, programs and trainings, strategy planning and implementation for the towns of Dedham- Needham- Norwood- Westwood. Scott Formica, SSRE, MDPH prevention program evaluator.

BSAS- MassTAPP quarterly meeting: May 4th Tower Hill, Boylston. Policy and advocacy parameters to impact access to substances: marijuana and alcohol, strategy sharing on prevention implementation across clusters. Identification of capacity building steps to enhance local coalition engagement with regional prevention initiatives and networking session. Fernando Perfas, Assistant Director BSAS. Andy Robinson and Amal Marks, SAPC grant project officers, Scott Formica, SSRE grant evaluator and Lauren Gilman, MassTAPP Director with Tracy Desovich, Deborah Milbauer Technical Assistance Providers

SAPC Intern: **PhotoVoice** project: May 10th and May 16th conference calls with Amy Lefort, Plymouth SAPC program coordinator. Review of Plymouth and Brockton PhotoVoice projects, guidance on implementation and document resource sharing for implementation.

Norfolk District Attorney Prevention meeting: May 17th Michael Morrissey District Attorney, Jennifer Rowe Assistant District Attorney, Dave Morgan, Pharmacist. ***Project Linus*** blanket initiative; first responders carry blankets for children and youth in homes who experience trauma related to overdose, domestic violence and alcohol and other drug use www.projectlinus.org Nancy Kearns. Safe spring and summer initiative, Social Host Liability video featuring Chief John Schlittler and SSH *Under the Right Influence* 2017 parent guidebook. Review of ***Team Rival*** program high school competition: Liberty Mutual Driving Simulator contest, Anti- bullying program Hockomock YMCA May 5th - 12 Needham students registered. Coalition program updates, town marijuana opt out status and resource sharing.

Edventi: May 17th Heidi Heilman. Online learning platform targeting real time, collaborative learning to educate and prevent marijuana, tobacco and alcohol use in underage youth. Review options to pilot platform among SAPC grant towns in health education class or options for cross discipline integration.

PhotoVoice project: May 12th 16th 22nd Planning meetings, Intern Maggie Sliney. Review SAPC grant mission, assessment reports (4 towns) qualitative and quantitative data including identified risk and protective factors, SAPC Strategic Plan including Logic Model and Action plan. Review PhotoVoice project manuals and timeline for program outreach and implementation.

SAPC TIPS training follow- up: May 15th and May 24th Maureen Doherty. Review of attendees, groups of licenses, project overview, plan to visit licensees for photo with PH Director and Police Chiefs and deliver of certifications.

SAPC strategic planning: May 12th and May 24th Conference calls. SAPC program managers focused on local prevention initiative implementation to impact access to alcohol and state education and advocacy targeting newly formed Alcohol Task Force.
(1) Collaboration and resources sharing to implement evidence- based strategies to impact youth access to alcohol: protocol for compliance check program and town regulation enhancement to impact Excessive Alcohol Use (EAU): binge drinking, underage drinking and drinking during pregnancy. (2) Planning for prevention coalition members to attend Alcohol Task Force public hearings, strategizing outreach to local and state level key stakeholders to attend hearings and provide testimony in advocacy for policies that impact underage alcohol use and EAU. Program Managers: Liz Parsons, Melrose (5 towns) Lyn Frano, Stoughton (4 towns) Jessica Healy, Hudson (4 towns) and Heather Werner (4 towns) Amy Turncliff, Ashland.

Norwood Public Health: May 23rd Conference call Sigalle Reiss, MPH. Review PhotoVoice outreach, options for engaging park and recreation, Norwood High School and faith based providers.

Dedham Community Forum: May 25th Dr. Ruth Potee, Board Certified Family and Addiction Medicine. ***The Adolescent Brain and Psychology of Addiction***

Needham Public Health (NPHD) Needham Substance Abuse Prevention Network (SPAN)

NPHD initiatives:

NPHD Office space: May 9th Walk through office space 124 Crescent Avenue, Needham.

Community Crisis Intervention Team (CCIT): May 10th* Needham Police Department: Chris Baker and Sgt. John McGrath, Needham Fire: Donald Anastasi and Eddie Sullivan, Donna Carmichael, Latanya Steel, Catherine Delano Riverside CC Community Liaison Wen-Hui Yang, LICSW. ****Unable to attend***

MetroWest Health Foundation: May 11th Regional meeting ***Advancing Adolescent Health: Promoting a Data Driven Approach in a New Decade*** Marty Cohen, President, Rebecca Donham, Grant Manager, Shari Kessel Schneider, MPH- EDC, MWAHS project manager 2016 key indicator results review. Crowne Plaza, Natick

CATH candidate review meeting: May 11th Program Coordinator resume review with team: Tim McDonald, Latanya Steele and Donna Carmichael.

Needham Board of Health: May 12th Director Report, staff public health initiatives, resident support programs and prevention reporting. 7:00am – 9:00am.

Needham community support: May 16th Dr. Paula McEvoy. Review of primary prevention initiatives, strategies for pediatric practices including SBIRT and support resources targeting youth and young adults in need.

Director meeting: May 16th Timothy McDonald, review of SAPC grant programmatic and financial status, staff initiatives and department collaboration.

Community Resource Group: May 18th BIDN Hospital initiative, Alyssa Kence facilitator, SeaBeds Way. Dedham, Westwood and Needham stakeholder meeting, networking and resource sharing of programs- educational and support for all age residents. Presented ***Project Linus*** blanket program.

Conference: May 23rd William James College ***Moving Beyond Stigma: the personal, social and institutional stigma of substance use disorder and mental illness.*** Speakers: Dr. David Herzog, Dr. Monica Bharel, MDPH, Boston Mayor Marty Walsh, John Fish, CEO Suffolk Construction, Ann Klee, President GE Foundation, Page Kelly JD, Federal Magistrate judge. A collaborative initiative to educate diverse stakeholders on the science of addiction as a chronic relapsing disease, present research on the impact stigma has on access to treatment and recovery and review diverse stakeholder programs in law enforcement, public health, medicine, court system and private and public employment settings.

Daxing Delegation presentation: May 22nd The Status of Youth Substance Youth in Needham and the MetroWest Region and what prevention science shows can impact underage substance use. Co- facilitated with Catherine Delano, MPH, SPAN. The Boston Ivy Education, Mutong Zhao facilitator.

SAPC FY 17 budget review: May 26th Conference call. Tim McDonald. Update and review of grant budget expenditure timeline, amendment submission for lap-top and cameras, projected expenses and plan to manage change in UFR classifications by program.

NPHD programs meeting preparation outreach for research and resource gathering: (1) NPHD monthly report (2) Alcohol policy research to impact local access to alcohol, promote responsible selling and serving and reduce OUI driving (3) Prepare Prevention presentation for Daxing Delegation (4) Promote McLean/ Children's Hospital NIH study on healthy brain development with Dr. M Silveri and Sion Harris.

Resident Support- Respond to calls or meeting requests related to mental health conditions and/or substance use disorder. Referral to counseling, assessment, treatment and recovery resources. 2 calls: (26 yr. old male SUD- MH)- (61 yr. old female SUD- MH *home visit)*

SPAN Initiatives:

Knights of Columbus: May 5th *Hidden in Plain Site* (HIPS) SPAN initiative. Prototype of adolescent bedroom, informative display to enhance awareness of ways alcohol and other drugs can be hidden in traditional objects adolescents use in day to day living. Sponsored by BIDN Alyssa Kence and Bob Timmerman, Knights of Columbus.

Needham Youth- Norfolk DA Team Rival program: May 5th Chaperone NHS students to Hockomock YMCA. Competition among 25 Norfolk County high schools including Liberty Mutual Driving Simulator contest, prevention coalition attendance culminating in Anti-bullying program.

Respectfully submitted by Carol Read June 11, 2017
*SAPC technical assistance calls, coordinator meetings, and compliance related to the SAPC grant program are extensively documented in the BSAS-SAPC online quarterly reports.

Holiday (1 day) Memorial Day May 29th – Vacation (3 days)

Weekly 5/25/17

SPAN encourages frank discussion

This is the time of year when parties abound. The end of the school year. The beginning of summer. Prom. Graduation. Each of these events is an opportunity to gather with friends and family to celebrate the many accomplishments and milestones of our kids. It is also an opportunity for kids to celebrate among themselves at school and student sponsored events. Most importantly, it is an opportunity for parents and caregivers to have a frank discussion with their kids about the dangers of drugs and alcohol.

We are all aware of the prevalence of drugs and alcohol in our society, and indeed even in our community. But many of us honestly believes that our kids won't and don't indulge. What we forget is that teenagers and college students, no matter how smart, how well educated, or how grounded, are still teenagers and college students. Studies and surveys show that it is an undeniable truth that teenagers and college students tend to engage in risky behaviors.

As parents, as caregivers, as friends, we owe it to our teenagers and college students to discuss, honestly and without judgment, the dangers and pitfalls of drug and alcohol use. During this season of celebrations, and throughout their college career, they will be exposed to a myriad of social situations in which they are confronted with a choice to use or to abstain. Discuss strategies with your kids for how to navigate these situations safely. Assure them that you are there for them to help extricate them if need be. Praise them for making good choices. Share with them the resources that are available to help them make smart choices. Be the role model they believe that you are. It is one of the most important discussions you will ever have. And it will keep all of our kids safe and healthy.

Substance Prevention Alliance of Needham (SPAN) has resources that can help guide a conversation with your teen. For more information please contact healthdepartment@needhamma.gov.

Weekly 5/25/17

Rosemary Complex funding approved

By Katrina Margolis
Hometown Weekly Reporter

Rosemary Pool is a staple in the Needham summer experience. Even those without pool passes were taken along by friends and experienced the relief of a body of water during the unrelenting summer heat.

For the past couple years, the Park and Recreation Department has been working towards a renovation of this space to transform what is primarily a pool, used a limited number of months throughout the year, into a year-round facility, meeting a variety of needs in the community. At the most recent Needham Town Meeting, construction funds were approved for the

ROSEMARY POOL
continued on page 9

OPEN STUDIOS
continued from front page

Rosemary Recreation Complex Project, which will hopefully be completed by the summer of 2018.

"We already put the project out to bid, and had a favorable bid, more than $1 million under the estimate," Patricia Carey, Director of Park and Recreation, said. "Now, we'll work on signing all the contract documents and get the needed construction permits through the Building Department, and then construction can begin within a few weeks, if all goes to schedule."

The biggest concern and misconception about the project is that it would only benefit the community for a few short months. However, Matt Toolan, Park and Recreation Commission Chair, made it very clear this is not the case. "We're adding community space that will allow for us, Park and Rec, to run several hundred more programs," he explained. "We will also address needs within the community for access to additional community space, most notably for clubs and organizations that struggle to find a meeting space."

Planning for this complex has been ongoing since 2014, when a feasibility study was completed. The new facility would offer community space accessible to anyone in need. In addition, it does update the pool, resulting in two pools to meet the needs of the entire community. "One of the key design elements is that we will not have to drain the pond to clean the pool anymore. The other thing we're doing is adopting best practices—some may think this is extravagant but actually it's a municipal pool practice—but because we have such a large area we're actually creating two pools to address different needs," Toolan elaborated. "We'll have competitive pool, with eight lanes, something for people to swim their laps, and then we'll have the recreational pool. They'll have slides, it will have all sorts of water features, there will be walking lanes for water walkers."

Unfortunately, the pool will not be open this summer, however, Toolan added that Park and Recreation is working with neighboring towns to acquire residential rates for their pools. "The building itself is really going to be a huge enhancement for the community. We're going to be able to provide programming for almost a thousand more participants than we currently do," he said.

"This programming space is really the hidden gem within this project, and really will add a ton of value to the community."

Community Center thanks Rosemary Complex supporters

The Community Center of Needham, Inc. would like to express our sincere appreciation to the many groups and individuals who supported the Rosemary Recreation Complex. Thanks to you, we will have two beautiful new pools, a bathhouse and a sprinkler park, as well as year-round community space and offices. The Park and Recreation Commission has committed to expanded programming and there will be something for everyone at this central site, which is walkable and bikeable for so many.

The Board of Selectmen, the Park and Recreation Commission and staff, children, parents, seniors, swimmers, and countless community groups stepped up to make the new complex a reality. Of course, there would not be success without the Town Meeting members themselves who exceeded the two-thirds majority required to carry the warrant with 158 votes. They were, of course, just following the wishes of their constituents who made it clear — in surveys, through petitions and in personal interaction — that the Rosemary Recreation Complex is what they wanted in the center of our town.

We look forward to seeing you all at the grand opening in 2018.

Amy Hurleya and Maicharia Weir Lytle
Co-presidents, Community Center of Needham Inc.

tmes 5/25/17

Never forget their sacrifices

Every day the soldier puts his her life on the line. Many head to the battlefield and never return.

Over our history, America has been involved in wars that were just and wars that in hindsight it's reasonable to conclude we supported a flawed cause or simply had no business getting involved in the particular conflict.

We are not perfect.

The decision to go to battle is made by politicians, elected by the people, who hold the responsibility to ensure the protection of all citizens and defend the country's interest at home and abroad.

The soldier, a man or woman who carries out the demands of government officials, is not asked his or her opinion. He or she is told where to go. He or she is told whom to fight. He or she is told when the battle begins, and when it will end.

Every day the soldier puts his her life on the line. Many head to the battlefield and never return.

Since the Revolutionary War, more than 1.1 million soldiers have died for their country, according to the latest Department of Defense figures. In the Civil War alone, more than 500,000 military personnel died, and in World War II, slightly over 400,000 lost their lives.

May 29 is Memorial Day, a day set aside to remember the men and women who died while serving their country.

Some people will take time during the holiday to participate in a Memorial Day ceremony organized by their city or town. Here in Needham, observances begin in the early morning and end midday, with events of their own, lay a wreath or plant an American flag at the foot of a soldier whom they personally knew, or was a family member.

Other people may forget the real purpose, and like many Monday holidays spend the day shopping, doing chores, firing up the grill or using the day off to catch up on sleep.

Today, according to U.S. Census Bureau data, less than 1 percent of the U.S. population serves in the military, compared to 12 percent during World War II, which could explain why Memorial Day doesn't get the full recognition that it should.

"The experience of going to war and coming home — we don't have as much awareness," said Gala True, a medical anthropologist and folklorist with the Department of Veterans Affairs, in a story for "PBS NewsHour." "So few have served, and that it's very easy for people say now that 'I didn't want these wars,' but that doesn't mean that we aren't all part of this."

While there's nothing wrong with resting or spending Monday doing other things -- we're not going to judge here -- we simply suggest that you take a moment and remember the men and women who make the ultimate sacrifice.

As President Harry S. Truman once said, "Our debt to the heroic men

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times 5/25/17

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Some people, instead of attending these larger official ceremonies, may visit a cemetery on their

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While there's nothing wrong with resting or spending Monday doing other things -- we're not going to judge here -- we simply suggest that you take a moment and remember the men and women who make the ultimate sacrifice.

As President Harry S. Truman once said, "Our debt to the heroic men and valiant women in the service of our country can never be repaid. They have earned our undying gratitude. America will never forget their sacrifices."

Needham Farmers Market ready for summer

weekly 5/25/17

The Needham Farmers Market is gearing up for another great season and is set to offer shoppers another summer of market-fresh local produce and much more right in the center of town.

Starting this Sunday, May 28, members of the community will find the Needham Farmers Market in its brand new location on Garrity Way, the paved driveway between Needham Town Hall and the Town Common. The Market is open from noon until 4 p.m. every Sunday through November 19.

This week, the Needham Farmers Market will feature selections of local in-season produce, fresh fish and seafood, pasture-raised meats and poultry, granola, nuts, and treats, homemade small batch toffee, fresh-baked breads and pastries, and more. Local artists will feature beautiful hand-made jewelry, photographs and cards. Each week will bring new seasonal selections, crafts and gifts from local artisans, and live music to keep shoppers' feet moving as they walk the Market.

By visiting the Needham Farmers Market, community members support local farmers as well as businesses and neighbors.

For more information, visit www.needhamfarmersmarket.org.

 Times 5/18/17

Painting your home? Important information you should know

Submitted by the Needham Public Health Department

If lead is inhaled or ingested, it may cause lead poisoning. Lead-based paint does not pose a health threat until the paint is disturbed.

Was your home built before 1978? If so, you need to be concerned about the presence of lead paint before you do any interior or exterior renovations.

This is a reminder that in April 2010, the U.S. Environmental Protection Agency federal law started requiring contractors that disturb painted surfaces in homes (inside and outside), child care facilities and schools built before 1978 to be certified and follow specific work practices to prevent lead contamination. Always ask to see your contractor's certification, also know as their Lead Renovation, Repair and Painting (RRP) certification. Federal law requires that individuals receive certain information before renovating 6 square feet or more of painted surfaces in a room for interior projects or more than 20 square feet of painted surfaces for exterior projects or window replacement or demolition in housing, child care facilities and schools built before 1978.

If lead is inhaled or ingested, it may cause lead poisoning. Lead-based paint does not pose a health threat until the paint is disturbed. This can be a product of age or harsh weather, resulting in chipping, peeling or flaking paint. Renovation activities can also disturb subsurface layers of lead-based paint. Activities such as dry scraping, sanding or drilling can produce lead dust and lead paint chips. Any of these conditions may contribute to lead poisoning.

Home improvement activities should either be performed using lead-safe renovation techniques or by hiring a certified lead-safe renovator. Lead-safe renovators have been trained in lead-safe renovation procedures These renovators are in turn certified by the state. However, each state has their own name for this category of worker: In Massachusetts, it is Lead-Safe Renovator.

Make sure your contractor is certified and can explain clearly the details of the job and how the contractor will minimize lead hazards during the work.

- You can verify that a contractor is certified by checking EPA's website at http://epa.gov/getleadsafe or by calling the National Lead Information Center at 1-800-424-LEAD (5323). You can also ask to see a copy of the contractor's firm certification.
- Before they start the job, ask the contractor if they are trained to perform lead-safe work practices and to see a copy of their training certificate.
- Ask them what lead-safe methods they will use to set up and perform the job in your home, child care facility or school.
- Ask for references from at least three recent jobs involving homes built before 1978, and speak to each personally.
- Always make sure the contract is clear about how the work will be set up, performed and cleaned.
- Share the results of any previous lead tests with the contractor.
- The contract should specify which parts of your home are part of the work area and specify which lead-safe work practices will be used in those areas. Remember, your contractor should confine dust and debris to the work area and should minimize spreading that dust to other areas of the home.
- The contract should also specify that the contractor will clean the work area, verify that it was cleaned adequately, and re-clean it if necessary. If you think a worker is not doing what he is supposed to do or is doing something that is unsafe, you should: direct the contractor to comply with regulatory and contract requirements; call your local health or building department; or call EPA's hotline 1-800-424-LEAD (5323).

RRP certification and Massachusetts' lead laws

Here is some additional important information to keep in mind—There are only two major differences between an EPA Certified Renovator and a Massachusetts Lead Safe Renovator. First, Massachusetts' law requires that the Lead Safe Renovator be present at all times during the work. This differs from the EPA's rule, which only requires that the Certified Renovator supervising either be reachable by phone or nearby. So if you are working in Massachusetts you should be conscious of who is present at the job site.

The other major difference that a Certified Renovator should be aware of is that reusable drop cloths (containment) can be used while working outside in Massachusetts. This contradicts the EPA's RRP Rule which requires that outdoor containment be disposed of at the end of the work day.

While all these regulations and laws regarding lead paint may seem like a nuisance, they are in place for the safety of both others and yourself.

A Certified Renovator in any state must be working for a Certified Firm. Unlike the EPA's RRP Rule, Massachusetts lead paint safety laws require that firms be certified with the state of Massachusetts. You can visit the following website for additional information on these requiremts: http://mass.gov/lwd/labor-standards/deleading-and-lead-safety. To find a current list of certified companies, check out this direct web link: http://mass.gov/lwd/docs/dos/lead-asbestos/lead/la-rpt-list-lr.pdf.

If you are looking for more information on the subject, or would like to be trained, the Massachusetts Executive Office of Labor and Workforce Development-Department of Labor Standards website has a list Certified Lead Safe Renovation training providers at http://mass.gov/lwd/docs/dos/lead-asbestos/lead/la-rpt-list-dt.pdf.

For more information on lead-safe renovations, you should check out the EPA lead program online at http://www2.epa.gov/lead, or call the Massachusetts Childhood Lead Poisoning Prevention Program (CLPPP) at 617-284-8400. Feel free to check out the Needham Health Department website for a list of previous articles at http://needhamma.gov/Health.

BOH/BODYWORK AMENDMENTS
LEGAL NOTICE
Notice of Public Hearings
Friday, May 12, 2017
7:00 AM – 9:00 AM

Charles River Room – Public Services Administration Building
500 Dedham Avenue, Needham MA 02492

The purpose of this Public Hearing is to:

Revise Article 19, Regulation Governing the Practice of Bodywork in Needham in the interest of, and for the preservation of, the public health. The amendments to the regulation cover licensure, application, and renewal requirements. The regulation shall be considered in Needham in the interest of, and for the preservation of, the public health. This summary shall serve as notice to all.

Revise Article 1, "Regulation Affecting Smoking and the Sale and Distribution of Tobacco Products in Needham", which was last revised in 2015 to clarify inaccurate definition language, to incorporate revised penalties, to adopt a longer tolling period, and other revisions.

Comments will be accepted at the public hearing, and will also be accepted through Tuesday, May 9th in writing via electronic or postal mail. Please send comments to healthdepartment@needhamma.gov or to Public Health Department, 1471 Highland Avenue, Needham, MA 02492. A copy of the regulation is available for interested parties to review on the Public Health Department's website at www.needham.gov/health.

AD#13562242
Needham Times 5/4, 5/11/17

Notice of Public Hearings

weekly
5/4

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times
5/11/17

a temporary moratorium on recreational marijuana establishments and marijuana retailers.

It is already legal to use recreational marijuana, but the state has to come up with a set of regulations about the sale of recreational marijuana by March 15, 2018. That leaves towns with no guidance as to how to regulate where marijuana establishments are located for the next year.

Town Meeting decided to halt the sale of marijuana until December 31, 2018 with the anticipation that the moratorium will be repealed and replaced with zoning laws in Special Town Meeting in the fall of 2018.

Marijuana moratorium

In addition to the new laws regulating teardowns, Town Meeting on Wednesday also approved

Weekly 5/4/17

Beth Israel Deaconess Hospital
Needham

Parents, Caregivers, Teachers,
Administrators, Youth Leaders:
Please join us for a 20 minute tour of

"Hidden in Plain Sight"

Saturday, May 6 and Sunday, May 7
1:00 - 4:00 pm

Needham Knights of Columbus, 1211 Highland Ave

Free and open to all adults over the age of 21.
No RSVP required.

Hidden in Plain Sight is an interactive display of a teenager's bedroom which contains common items that can hide substances, and helps parents to "spot" signs of at-risk behavior in their teen. Visitors will receive education about substance use from trained volunteers followed by a tour of the model bedroom. This exhibit is an integral part of community education and encourages parents to talk to their children about at-risk behaviors that can lead to opioid use, addiction, and substance use disorders.

The program is sponsored by the Needham Prescription Drug Action Team, Substance Prevention Alliance of Needham (SPAN) and Beth Israel Deaconess Hospital-Needham.

SPAN
SUBSTANCE PREVENTION ALLIANCE OF NEEDHAM

'Hidden in Plain Sight' coming soon

Weekly 5/4/17

A unique, timely and important program for parents, caregivers, teachers and youth leaders, "Hidden in Plain Sight," will be held Saturday, May 6 and Sunday, May 7 from 1-4 p.m. at the Knights of Columbus, 1211 Highland Avenue, Needham.

"Hidden in Plain Sight" is an interactive display of a teenager's bedroom where common items that can hide dangerous substances indicating at-risk behaviors are on display. The purpose of "Hidden in Plain Sight" is to educate visitors about substance abuse from trained volunteers. Visitors are taken on a 20-minute tour of this model bedroom and then encouraged to initiate a dialogue with their at-risk teens about behaviors that can lead to opioid use, addiction and substance use disorders.

This program, sponsored by the Substance Abuse Alliance of Needham and the Beth Israel Deaconess Hospital-Needham, is free and will be open to all adults over 21. No advance reservations are required. For further information, contact Catherine Delano at cdelano@needhamma.gov.

Board of Health

ARTICLE 19 REGULATION GOVERNING THE PRACTICE OF BODYWORK

SECTION 1.0 PURPOSE

The purpose of this regulation is to protect the public health and safety of the community, including the patrons, employees, and owners of commercial businesses offering legitimate services such as Bodywork Therapy, Reflexology, Spa Services, and others. The scope of this regulation is broad and includes provisions designed to ensure legitimate operations and to guard against the risk of prostitution, human trafficking and disease transmission.

It is the Board of Health's intent that only an individual who meets and maintains a minimum standard of competence and conduct within their scope of professional practice may provide services to the public. This regulation designates the requirements for obtaining a permit to operate a bodywork establishment and permit to practice bodywork, as well as grounds for suspension, revocation or denial of such a permit.

SECTION 2.0 AUTHORITY

These regulations are adopted by the Needham Board of Health, pursuant to its authority under Massachusetts General Laws, Chapter 111, Section 31.

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SECTION 3.0 DEFINITIONS

Agent: shall mean a person employed by the Town of Needham who is authorized by the Board of Health to perform functions subject to these regulations.

Applicant: shall mean an individual or entity seeking licensure who has submitted an official application as provided by the Needham Public Health Department, two forms of identification, a complete CORI/SORI record request form, and has paid the application fee.

Application: shall mean the application form provided by the Needham Public Health Department which has been signed under penalty of perjury, that the foregoing information contained in the application is true and correct, said declaration being duly dated, signed, and notarized within the Town.

Bodywork: shall refer to practices including, but not limited to: Accupressure, Asian Bodywork, AMMA Therapy®, Body-Mind Centering, Chi Nei Tsang, Feldenkrais Method, Five Element Shiatsu, Integrative Eclectic Shiatsu, Japanese Shiatsu, Jin Shin Do®, Korean Bodywork, Bodymind AcupressureTM, Polarity, Macrobiotic Shiatsu, Reflexology, Reiki, Rolph Structural Integration, Shiatsu Amma Therapy, Traditional Thai Massage & Bodywork, Trager Approach, Tui na, Qi Gong, Zen Shiatsu, Ayurvedic medicine and other practices as they become known.

Criminal Offender Record Information (CORI): shall mean a record of criminal offenses committed as an adult or juvenile, as compiled by the Criminal History Systems Board.

DEPARTMENT: unless otherwise specified, shall mean the Needham Public Health Department acting in its role as the agent for the Needham Board of Health.

Establishment: shall mean any location, or portion thereof, in the Town of Needham which advertises and/or provides bodywork therapy services on the premises. Any health care facility licensed by the Commonwealth of Massachusetts or the office of any health care professional licensed by the Commonwealth of Massachusetts is not an establishment for the purposes of these regulations. In addition, bodywork establishments shall not be located in a private residence, condo, apartment, or other residentially zoned space.

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Licensee: shall mean a person holding a license to practice any form of bodywork therapy or to operate a bodywork establishment in the Town of Needham. Where applicable, this shall include partnerships and/or corporations.

Patron: shall mean a person with whom the bodywork therapist has an agreement to provide bodywork therapy services or a visitor or any other person on premises at the establishment who is not an employee.

Sanitization: shall mean effective bactericidal/germicidal treatment by a process that provides enough accumulative heat or concentration of chemicals for enough time to reduce the bacterial/germ count, including bacterial, viral, and fungal pathogens, to a safe level on massage table surfaces, instruments, and/or the general facility.

Sex Offender Registry Information (SORI): shall mean a record of convictions for specified sexual offenses committed as an adult or juvenile, as compiled by the Sex Offender Registry Board.

Therapist: shall mean a bodywork practitioner licensed by the Needham Public Health Department.

Tobacco product: Any product containing, made, or derived from tobacco or nicotine that is intended for human consumption, whether smoked, chewed, absorbed, dissolved, inhaled, snorted, sniffed, or ingested by any other means, including, but not limited to: cigarettes, cigars, little cigars, chewing tobacco, pipe tobacco, snuff, or electronic cigarettes, electronic cigars, electronic pipes electronic hookah, or other similar products, regardless of nicotine content, that rely on vaporization or aerosolization. "Tobacco product" includes any component or part of a tobacco product. "Tobacco product" does not include any product that has been approved by the United States Food and Drug Administration either as a tobacco use cessation product or for other medical purposes and which is being marketed or sold or prescribed solely for the approved purpose.

SECTION 4.0 BODYWORK ESTABLISMENT & INDIVIDUAL BODYWORK THERAPIST LICENSES

Any person or entity desiring to open or conduct a commercial business practicing Bodywork Therapy shall obtain a Bodywork Establishment License from the

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Needham Public Health Department. Any person desiring to be a bodywork therapist at a Bodywork Establishment shall obtain an Individual Bodywork Therapist License. The application for these licenses shall include the items specified herein:

(a) The applicant shall submit a completed application form provided by the Needham Public Health Department.

(b) The applicant shall submit a non-refundable application fee according to the Health Department fee schedule.

(c) The applicant shall provide supporting documentation that he/she is eighteen (18) years of age or older by presenting two forms of positive identification. One form must include a photograph, such as a valid state driver's license with photo, a state identification card with photo, and/or a valid passport. The second form of ID may be a certified long-form birth certificate, certified baptismal record, certified record of marriage, certified copy of Social Security Card, or other government-issued photo ID.

(d) The applicant shall submit to the Needham Public Health Department a form authorizing the Town of Needham or a contracted third party to conduct a Criminal Offender Record Information (CORI) inquiry and a Sex Offender Registry Information (SORI) inquiry, and to report the results of those inquiries to the Needham Public Health Department. All responses to these record checks shall be kept confidential. By signing the application or renewal form, the applicant gives authorization to the Town of Needham or its contracted third party to run a CORI/SORI background check, which will consist of the information pertaining to all convictions, non-convictions, and pending criminal case information. CORI and SORI checks may be conducted in all states in which the applicant has resided within the last ten (10) years.

(f) The applicant shall disclose the circumstances surrounding any of the following convictions or license revocations:

1. Disclosure of any conviction for any sexual-related offense, including prostitution or sexual misconduct.

2. Disclosure of any conviction of any misdemeanor or felony occurring within the past ten (10) years.

3. Disclosure of open criminal charges that are pending judicial action.

4. Revocation, suspension, or denial of a license to practice massage issued by any state or municipality.

5. Loss or restriction of any licensure or certification by any municipality or other jurisdiction for any reason.

(g) The Needham Police and the Needham Public Health Departments shall determine whether an applicant's conduct, criminal or otherwise, shall disqualify that person from obtaining license. Any convictions or license revocations as outlined in Article 19, Sub-Section 6, a through d will result in an automatic denial of the application.

(h) The applicant shall submit written declaration, under penalty of perjury, that the foregoing information contained in the application is true and correct, and said declaration shall be duly dated, signed, and notarized in the Town False statements shall constitute grounds for revocation of an issued license or denial of a pending license application or license renewal.

(i) The Needham Public Health Department, prior to the issuance of any license, shall evaluate each individual application by the information provided. The Board of Health or Public Health Department may place special conditions on any license issued.

(j) False statements in said application shall be grounds for denial, suspension, or revocation of a license.

(k) Applicants for a Bodyworks Establishment License shall provide proof of professional liability insurance with a minimum coverage level of $1,000,000 single limit, as well as workers compensation insurance.

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(l) Applicants for a Bodyworks Establishment License shall provide the name or names of individuals that are currently certified in basic cardiopulmonary resuscitation (CPR) and a copy of their valid certification form. One individual trained in CPR must be on-site at all times during operating hours.

(m) The holder of the Bodywork Establishment License shall be ultimately responsible for the physical facility, instruments, advertising, postings, employees, and all compliance with these regulations.

(n) The holder of a Bodywork Establishment License shall also obtain an Individual Bodywork Therapist License, if the individual will conduct bodywork. An establishment license does not permit the person to practice without a therapist license.

(o) All applicants for an Individual Bodywork Therapist License shall allow one front faced digital photograph to be taken by the Needham Public Health Department at the time of license application submittal. This photograph will be attached to the license, if granted.

(p) All applicants for an Individual Bodywork Therapist License shall obtain a medical provider/practitioner's~~physician's~~ letter dated no earlier than twelve~~six~~ months prior to the submittal of the application, stating that the applicant ~~has had a physical examination~~ is in good health, and ~~to the best of the physician's knowledge~~ is up-to-date with adult immunizations (including flu shots and MMR) and free from communicable diseases and/or conditions that may be transmitted due to close physical contact and which are detrimental to the public's health.

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(q) All Individual Bodywork Therapist License applicants must identify the name(s) of the licensed establishment(s) where he or she will practice bodywork therapy. In addition, a license holder shall notify the Needham Public Health Department if the individual changes employment venue within the town.

(r) The holder of the Bodywork Establishment License shall also submit (if applicable) a copy of their valid MA Board of Registration of Massage Therapy Establishment License.

(s) All applicants applying for an Individual Bodywork Therapist License shall submit a copy of their valid MA Board of Registration of Massage Therapy therapist license if they practice both Massage and Bodywork at their Needham establishment.

(t~~r~~) It is a violation of these regulations for any person who is not licensed in the manner described herein to operate a Bodywork Establishment or to operate as an Individual Bodywork Therapist.

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SECTION 5.0 LICENSE RENEWAL

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(a) This license shall expire on December 31st annually.

(b) The applicant shall provide a completed renewal application, including new medical provider/practitioner's~~physician's~~ letter and CORI/SORI form authorization with required documentation, in person to the Needham Public Health Department.

(c) As stated in section 4.0 above, specifically section (k), Bodywork Establishment applicant shall provide proof of professional liability insurance with a minimum coverage level of $1,000,000 single limit, as well as workers compensation insurance.

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(d) As stated in section 4.0 above, specifically section (l), the applicant must provide the name or names of individuals that are currently certified in basic cardiopulmonary resuscitation (CPR) and copies must be provided of their valid certifications. One individual trained in CPR must be on-site at all times during operating hours.

(e) As stated in section 4.0 above, specifically sections (r) and (s), copies must be submitted of valid MA Board of Registration of Massage Therapy Establishment and Therapist licenses where applicable.

(f~~e~~) The fee for each license renewal shall be in accordance with the most recent Health Department fee schedule.

SECTION 6.0 CONDITIONS OF BODYWORK LICENSE

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(a) No bodywork therapist shall perform services if either the practitioner, or a patron, has a communicable disease or exhibits any skin fungus, skin infection, skin inflammation, or skin eruption.

(b) No licensed therapist shall use the therapist-client relationship to solicit for or engage in sexual activity with any client, whether consensual or otherwise, whether within or outside the bodywork establishment, or to make arrangements to engage in sexual activity with any client.

(c) Bodywork therapists must wash his/her hands with soap and water immediately before and after administering services to any person.

(d) Therapists must maintain a sufficient level of personal cleanliness and be clothed in clean and appropriate attire which at no time will expose any portion of the areola of the female breast or any portion of the pubic hair, cleft of the buttocks, or genitals.

(e) Clients must be clothed in appropriate attire or draped with clean towels, at no time shall the client's areola of the female breast or any portion of the pubic hair, cleft of the buttocks, or genitals be exposed.

(f) Therapists may not perform services they are not specifically licensed to perform, such as; diagnose disease, perform joint/spinal manipulation, perform acupuncture, or other. In addition practitioners shall not operate equipment they are not trained or licensed to operate, such as; x-ray, fluoroscope, diathermy, or other similar equipment.

(g) Therapists may not use, or allow patrons to use, alcoholic beverages, illegal drugs, illicit drugs, marijuana, whether for medical or recreational usage, or controlled substances on the licensed premises.

(h) The individual license to conduct bodywork and the bodywork establishment license are non-transferable. Any changes in the business location or other applicable information of the licensee must be reported to the Needham Public Health Department within fourteen (14) days of the change.

(j) For those therapists who conduct business at more than one location, the original license shall be retained on file at the first address indicated on the license. At the additional business address, the practitioner shall retain on file a copy of the license to which an original Needham Public Health Department stamp has been placed.

(k) Bodywork establishment licenses must be prominently displayed in the waiting room of the establishment; licenses for individual bodywork practitioners shall be retained on file in all locations at which the individual practices bodywork.

(l) The use of aliases by practitioners and apprentices is prohibited.

(m) Therapists may not administer a massage, unless the individual is properly licensed by the Massachusetts Board of Registration of Massage Therapy AND the premise at which the massage occurs is similarly licensed by the Commonwealth for the conduct of massage.

(n) Therapists and Bodyworks practitioners may ~~not~~ administer treatment to a person younger than 18 years of age, provided that a parent or guardian signs an intake form for the client younger than 18 years of age who is receiving treatment and provided that the parent or guardian of the client is provided the option to observe the treatment session from inside the therapy room.

(o) All therapists shall have a valid form of identification on them at all times within the establishment.

(p) All bodywork practitioner licensees shall notify the Needham Public Health Department of a change of name and/or home address within fourteen (14) days.

(q) All licensees shall notify the Needham Public Health Department of any criminal complaint brought against them or licensed practitioners operating within their establishment within seven (7) days. Failure to do so may result in revocation of licensure.

SECTION 7.0 FACILITY and EQUIPMENT

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(a) The operator shall provide that all public areas, rooms used for therapy, and employee areas are clean and sanitary. The establishment must be well-lighted, adequately ventilated, properly heated, and free from defects that would create a public health or employee safety hazard in accordance with all local, state, and federal regulations.

(b) Every room used for the treatment of patrons shall be equipped with a door and have at least 70 square feet of floor space. All treatment room doors shall not be capable of being locked.

(c) No room or section of an Establishment shall be used as a bedroom, for sleeping purposes, or as a domicile.

(d) Every waiting room area must be lit with a combination of natural and artificial lights. Blackout curtains, other light prohibitive shades, or window sprays are prohibited.

(e) Standard or portable massage tables shall be covered with a durable washable material, which is capable of being cleaned and sanitized, and is cleaned and sanitized after each patron use.

(f) A sink with running hot and cold water (minimum hot water temperature should be 110 degrees Fahrenheit) must be located in an easily accessible area within the permitted establishment.

(g) Sanitizing chemicals/equipment should be on site and labeled with ingredients it contains, in case of a spill. All furniture and equipment in each room shall be kept clean and sanitary at all times.

(h) Restrooms must be made available to customers/employees and shall be located in an easily accessible area within or near the permitted establishment.

(i) Non-disposable instruments shall be sanitized after use on each person in a manner sufficient to maintain cleanliness

(j) The facility shall have adequate equipment for disinfecting and sanitizing non-disposable instruments and materials used in administering bodywork.

(k) No un-sanitized part of an instrument (i.e. Hot Stones) shall be applied directly to the skin of a patron.

(l) Robes, towels, cloths, or other linens, which come into direct contact with the bodies of patrons, shall, after use and before re-use, be laundered in such a manner as to ensure effective sanitization.

(m) No common use of robes, towels, cloths, sheets, or other linens is permitted. All used robes, towels, cloths, or other linens shall be kept in covered containers, closed cabinets, or closed bags and shall be held separately from clean robe, towel, cloth or linen storage areas. Such separate storage areas shall be plainly marked as "CLEAN" OR "SOILED".

(n) All oils, creams, lotions, talc, or other preparations used in administering bodywork shall be kept in factory labeled containers in a clean and closed condition. All such containers shall be stored in appropriate cabinets or shelving.

(o) All non-disposable instruments and devices designed or used for direct application to the skin shall be kept in a clean location.

(p) Ensure non-latex gloves are available on site. If latex-containing products are to be used, a sign shall be conspicuously posted stating all clients shall be advised that latex containing products are in use.

(q) Conducting bodywork therapy shall be limited between the hours of 7:00 a.m. and 9:00 p.m.

(r) Patrons shall be granted access to inspect all oils, creams, lotions, talc, or other preparations treatment substances before use on the individual.

(s) The facility shall have a conspicuously placed sign in the lobby which reads "Report any inappropriate or unsanitary conditions to the Needham Public Health Department at (781) 455-7500 or to the Needham Police Department at (781) 444-1212. In the event of an emergency, please immediately call 9-1-1."

(t) No items of sexual nature may be stored or displayed within the establishment or on the grounds.

(u) Use of any kind of tobacco products and/or electronic cigarette, etc., ~~products,~~ is prohibited within a bodywork establishment or on the grounds, thereof.

(v) One individual trained in basic cardiopulmonary resuscitation (CPR) must be on-site at all times during operating hours.

(w) A Department of State – "Know Your Rights" pamphlet and other educational material as deemed necessary by the Public Health Department shall be displayed prominently in employee areas, in English and also in all languages spoken by on-site personnel.

(x) No bodywork facility shall install a shower or other home good that would allow the employees of such establishment with the ability to live at the facility.

SECTION 8.0 ADVERTISING

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Bodywork therapists and owners of such establishments shall be mindful of professional ethics when placing advertisements. Advertising in periodicals, newspapers, or on-line in a sexual or provocative manner (i.e. pictures or language) to promote business may be construed as a violation of the proper standards of bodywork and will result in the revocation of the license. Please see Article 5 of the Town of Needham's Bylaws for the article regulating Signs for further information.

SECTION 9.0 DEPARTMENT OF STATE – KNOW YOUR RIGHTS PAMPHLET

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Any place of employment that is thought to be a common location of human trafficking, as reported by the National Human Trafficking Resource Center, shall conspicuously post a Department of State – Know Your Rights Pamphlet in a commonly visited employee information posting area. The pamphlet must be available in both English and the primary language of all employees.

As of the date these regulations are enacted, common human trafficking employment locations shall include hotels, nail salons, restaurants, bars, strip clubs, farm labor camps, construction companies, large factories, and bodywork establishments defined herein.

The Needham Public Health Department has the right to include more business locations that are common locations for human trafficking as they become known to the Needham Public Health Department, Needham Police Department, or the National Human Trafficking Resource Center.

This pamphlet is available free of charge at the following web address:
http://travel.state.gov/content/visas/english/general/rights-protections-temporaty-workers.html

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SECTION 10.0 INSPECTIONS

(a) The purpose of inspections is to verify the compliance of these regulations.

(b) Denial of access to any part of an establishment, by the licensee, by a bodywork therapist, or an employee may result in immediate revocation/suspension of the license.

(c) Applicants will be subject to a minimum of two inspections by the Needham Public Health Department, Needham Police Department, or their authorized agents over the course of the fiscal year. One inspection may be announced to the facility prior to the visit and one or more inspections may be unannounced, where an agent visits without prior notification to the facility.

(d) Re-inspection shall take place when an establishment does not pass an inspection. The applicant shall submit an application for re-inspection, which shall include:

1. A correction plan to be submitted to the Needham Public Health Department within five (5) business days of the initial inspection.

2. If more than one re-inspection is required, re-inspection fees of $50 by check or money order made payable to the Town of Needham.

3. A re-inspection application must be submitted to the Needham Public Health Department in writing.

SECTION 11.0 DISCIPLINARY ACTIONS, ORDERS AND HEARINGS

A. ***Actions*** - Upon a finding by an agent that a licensee has violated any provisions of these regulations, the Needham Public Health Department and/or the Board of Health may impose any of the following actions separately or in any combination which is deemed appropriate to the offense:

1. Suspension of a licensee's right to practice or maintain an establishment for a fixed period of time, or denial of a license application or license renewal.

2. Administrative revocation for failing to renew licensure in a timely manner. Licenses that have been administratively revoked may be reinstated upon the licensee's achievement of all the renewal requirements of these regulations. The license will expire if there is no renewal and the therapist

will be considered to not have a license until the renewal requirements are achieved and a license is renewed or (re)issued.

3. Revocation for cause which terminates the license. The Needham Public Health Department and/or the Board of Health may allow reinstatement of a revoked license upon conditions and after a period of time deemed appropriate. Any person whose license has been revoked may not apply for licensure for at least one (1) year unless otherwise stated in the revocation order.

B. *Orders*

1. All orders shall be in writing.

2. Orders shall be served on the licensee or licensee's agent as follows:

- by sending a copy of the order by certified mail, return receipt requested at the last known address or the address appearing on the license, or
- personally, by any person authorized to serve civil process, or
- by posting a copy in a conspicuous place on or about the establishment.

C. *Hearings*

1. The person to whom any order or notice has been issued pursuant to violations of any provision of these regulations may request a hearing before the Board of Health. Such a request must be in writing and shall be filed with the Needham Public Health Department within five (5) working days of receipt of the order or notice.

Upon receipt of such request, the Board of Health or its agent shall inform the petitioner thereof in writing of the time and place of said hearing, which shall be commenced within a reasonable time.

2. At the hearing, the petitioner shall be given an opportunity to be heard, to challenge the inspection findings, and/or to show why the order should be modified or rescinded, or why the license should not be suspended or revoked. Any oral testimony given at a hearing shall be recorded electronically and shall be part of the licensee's file.

3. After the hearing, the Board of Health shall make a final decision based upon the complete hearing record and shall inform the petitioner in writing of the decision. If the Board of Health sustains or modifies an order, it shall be carried out within the time period allotted in the original order or in the modification.

4. Every notice, order, decision or other record prepared by the Board of Health in connection with the hearing shall be entered as a matter of public record in the Needham Public Health Department.

SECTION 12.0 PROHIBITIONS

(a) No person licensed by Needham Public Health Department to perform bodywork shall use the therapist-client relationship to solicit for, or engage in, sexual activity with any client, whether consensual or otherwise, whether within or outside the bodywork establishment, or to make arrangements to engage in sexual activity with any client.

(b) At no time shall a practitioner of bodywork therapy conduct any business, or list as a business, his/her home address. Additionally, at no time may clients be seen at the practitioner's residence or run a bodywork business as a door-to-door enterprise.

(c) At no time shall a practitioner of bodywork therapy run a business from a residence, condominium, hotel, motel, mobile home, or other residential setting.

SECTION 13.0 CRIMINAL ACTS

(a) At no time shall an individual offer, or agree to engage in sexual conduct, with another person for a fee per Massachusetts General Laws (M.G.L.) Chapter 272, section 53A.

(b) At no time shall a customer of an establishment request to receive, or agree to engage in, sexual conduct with another regardless of age per M.G.L. Chapter 272, section 53A.

(c) At no time shall an individual derive support or income from a prostitute's earnings per M.G.L. 272, section 7.

(d) At no time shall an individual induce a minor to become a prostitute or knowingly assist in inducing a person under the age of 18 to become a prostitute per M.G.L. Chapter 272, section 4A.

(e) At no time shall an individual knowingly permit prostitution on the premises per M.G.L. Chapter 272, section 6.

(f) At no time shall an individual intentionally expose his/her genitals or breasts to one or more persons per M.G.L. Chapter 272, section 53.

(g) At no time shall an individual annoy or accost in a sexual way per M.G.L. Chapter 272, section 53.

(h) At no time shall an individual engage in natural or unnatural sexual intercourse with a victim, by compelling the victim to submit by force and against her or his will, or by threat of bodily injury per M.G.L. Chapter 265, section 22(a) or 22(b).

(i) At no time shall an individual commit an "indecent" assault & battery which the victim did not consent to, regardless of age, per M.G.L. Chapter 265, section 13(b) or 13(h).

(j) At no time shall an individual secretly video or photograph naked or partially naked people, and at no time shall an individual disseminate secretly obtained videos or photographs of nude or partially nude individuals, per M.G.L. Chapter 272 section 105.

(k) At no time shall an individual provide or obtain another individual, or subject, recruit, entice, harbor, or transport, an individual by any means, in order to force him or her into servitude per M.G.L. Chapter 265, section 51.

(l) At no time shall an individual provide or obtain another individual, or subject, recruit, entice, harbor, or transport, an individual by any means, in order to force him or her into sexual servitude per M.G.L. Chapter 265, section 51.

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SECTION 14.0 GENERAL ENFORCEMENT

These regulations may be enforced by the Needham Public Health ~~Department~~ Division,~~and~~ the Police Department, and other departments or agencies supporting the Town of Needham if so designated by the Board of Health or its Agent, except that only the Public Health ~~Department~~ Division and/or Board of Health may grant, deny, revoke, suspend or modify permits or grant variances of these regulations.

The grounds on which the Public Health Department may deny renewal, revoke, suspended, or modify any permit or certification issued pursuant to these regulations include, but are not limited to:

(a) Refusal to permit an agent of the Public Health Department or other government official to inspect the facility;

(b) Interference with an agent of the Public Health Department or other government official in the performance of their duty;

(c) A criminal conviction of the license holder relating to the operation of the establishment;

(d) Failure of the license holder to submit the appropriate documentation;

(e) Failure to pay the required license fees or assessed fines or penalties;

(f) The establishment's owner, operator, or employee's failure to comply with these regulations;

(g) Committing a Prohibited or Criminal Act as outlined in this document.

(h) Keeping or submitting any misleading or false records or documents related to the operation of the establishment or practicing bodywork;

Otherwise operating a bodywork facility or practicing bodywork so as to cause a threat to the public health or safety shall cause suspension, modification, or revocation of license. Such action by the Public Health Department may include ordering other appropriate relief, including but not limited to, ordering corrections to the physical facility.

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These regulations may be enforced through appropriate criminal or civil process, including but not limited to that specified at M.G.L .c. 40, section 21D, in any court of competent jurisdiction.

All criminal acts or violations of M.G.L. will be enforced by the Needham Police Department. In addition, the Needham Police Department or Public Health Department may issue fines per this ordinance on top of penalties accessed by the appropriate criminal court.

SECTION 15.0 FINES FOR VIOLATIONS OF ORDERS AND SUSPENSIONS

Any person or entity violating any term or condition of these regulations, or any Needham Public Health Department suspension or order enforcing these regulations, shall be subject to a fine for each violation of not less than fifty dollars ($50) nor more than threefive hundred dollars ($500300) for each day that such violation continues.

SECTION 16.0 EXEMPTIONS

Pursuant to these regulations a professional practitioner license shall not be required of the following individuals while engaged in the regular performance of the duties of their respective professions:

(a) Physicians, chiropractors, osteopaths, occupational therapists or physical therapists who are licensed to practice their respective professions in the Commonwealth of Massachusetts.

(b) Athletic trainers duly licensed under the laws of the Commonwealth of Massachusetts.

(c) Nurses who are registered or licensed under the laws of the Commonwealth of Massachusetts.

(d) Barbers and beauticians who are duly registered under the laws of the Commonwealth of Massachusetts, provided that this exemption shall apply solely to the massage of the neck, face, scalp, and hair of the customer or client for cosmetic or beautifying purposes.

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(e) Acupuncturists duly licensed under the laws of the Commonwealth of Massachusetts.

~~**(f)** Persons licensed to practice massage in the Commonwealth of Massachusetts may, at the request of a physician, attend patients in the Town of Needham without taking out an additional license.~~

(~~g~~f) Naturopathic Physicians who are duly licensed by a state or province.

SECTION 17.0 SEVERABILITY

If any chapter, section, paragraph, sentence, clause, phrase, or word of these regulations shall be declared invalid for any reason whatsoever, that decision shall not affect any other portion of these regulations, which shall remain in full force and effect; and to this end the provisions of these regulations are hereby declared severable.

SECTION 18.0 TRANSITIONAL RULES

Existing bodywork establishments, as well as, individuals who conduct bodywork shall submit applications for licensure to the Needham Public Health Department within ninety (90) days of passage of these regulations (regulation adopted September 11, 2015; application must be submitted by December 11, 2015).

SECTION 19.0 EFFECTIVE DATE

These regulations ~~are~~ were formally adopted by the Needham Board of Health on September 11, 2015, and ~~shall take~~took effect on January 1, 2016.

Public meetings about these~~is~~ regulations occurred in December 2016, January 2017, February 2017, and March 2017. A public hearing occurred in April 2017, in May 2017, and in June 2017. These~~is~~ amended regulations were~~as~~ approved by a [unanimous] vote of the Needham Board of Health on XYZ, 2017, and shall take effect on August 1, 2017.

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A notice and summary of the regulations was posted by the Needham Town Clerk, was posted on the Needham Public Health ~~Division~~Department's website, and was published in a newspaper in circulation in the Town of Needham. Copies of this regulation have also been filed with the Needham Town Clerk and the Massachusetts Department of Environmental Protection.

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Public Comments received on Amendments to Bodywork Regulation

#1

From: Bonnie Matross-Antoniou [mailto:bonnielmt@gmail.com]
Sent: Thursday, April 06, 2017 10:32 AM
To: Health Department; Timothy McDonald; Tara Gurge; Dr.jane Fogg
Subject: Public Health hearing/revised Article 19

Hi Tim and others,

Thank you for my opportunity to have a voice in our community, as a business owner in Needham AND Massage Therapist. I am planning to attend the hearing next Friday morning at 7:00 AM.

I reviewed the revised Article 19 (attached) and believe there are still adjustments to be made. The following will be shared next Friday, but I wanted the board to have my comments in advance:

ESTABLISHMENT PERMITS: I am happy to adhere to all the new regulations that pertain to my Bodywork Establishment Permit. I think it's a great idea that the town be involved with the businesses and business owners, because admittedly, the state of MA doesn't do much once we secure our establishment licenses. And, as Tara and Detective Schlittler will tell you, a few minutes within our practice doors gives all the information needed to know. It was also really nice for me/us to have contact with the Needham Police Department, in the unlikely event that we have security issues with clients. I know 100% that this is for our protection, too.

INDIVIDUAL BODYWORK PERMITS: It is my strong opinion that **if a staff member is a licensed MASSAGE THERAPIST** (which requires 800+ hours of schooling, a CORI check, a medical check-up and TB shots, and 40+ hours of continuing education every four years), they should not have to adhere to the individual bodywork permit regulations. The new regulations make sense for those who are NOT massage therapists,. But for us, the "bodywork" modalities that we practice are simply **massage therapy TOOLS**! Cupping, Reiki, Reflexology, and Caniosacral are to a massage therapist what weights and dumbbells

are to a personal trainer, or resistance bands are to a physical therapists! Many of the items classified as "bodywork" are massage tools that we learn in our continuing education classes.

My hope is that the board considers changing these regulations so that licensed massage therapists are exempt. **Put the focus of your inquiries on the BUSINESSES and business owners**.

If this is not possible, I kindly request that the following items be considered:

* Make the renewal process easier! How about every two years? Also, do not require that therapists come to town hall in person. They should be able to mail the paperwork, two forms of ID, and a check. Town Hall's hours are limited, and we have therapists who have small children dependent on child care, who drive from an hour away a few days a week. It's not easy for many, and to be honest, it makes us feel like criminals, particularly the piece about NPH taking a photograph of us upon paperwork drop-off.

* Section 16f isn't clear: "Persons licensed to practice massage in the Commonwealth of Massachusetts may, at the request of a physician, attend patients in the Town of Needham without taking out an additional license." Our practice is almost 100% referral based, with a good percentage being from physicians and physical therapists. Does this mean that we are exempt?

* Question on Section 4P "All applicants for an Individual Bodywork Therapist License shall obtain a medical provider/practitioner's letter dated no earlier than twelve months prior to the submittal of the application, stating that the applicant is in good health, and is up-to-date with adult immunizations and free from communicable diseases and/or conditions that may be transmitted due to close physical contact and detrimental to the public's health." Can you confirm that this means we can get a letter from an urgent care center or walk-in clinic, and we do not need to schedule a physical to obtain this? The timing has been tricky for a few therapists this past year who have switched insurance carriers and doctors, and then couldn't get appointments in time to meet these deadlines. I also think that having to do this annually is unnecessary and overkill.

In short - let's keep the focus on the business owners and off the individual therapists. Continue site visits, require that businesses keep perfect records of their therapists' licenses on file, etc, and continue to require the high standards of cleanliness

and professionalism that practices like mine display. But don't make these hard working licensed massage therapists have to double-pay (town and state) and jump through hoops simply to provide a wellness service to the community.

I look forward to speaking with the group on these items next Friday, but would love to hear from you prior to the hearing if possible.

All the best,

Bonnie

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Bonnie Matross-Antoniou, LCMT
B In Touch Massage Therapy
1253 Highland Avenue
Needham, MA 02492
(781) 400-1257
www.BIntouchMassage.com

"How beautiful a day can be when kindness touches it." ~ George Elliston

#2

-----Original Message-----
From: dianajp@earthlink.net [mailto:dianajp@earthlink.net]
Sent: Tuesday, April 11, 2017 4:06 PM
To: Health Department
Subject: Bodywork comments

Hello,

I am unable to make the hearing on Friday morning. I will be away at a continuing education training. I find the bodywork ordinance a bit short sighted. I understand that it is an attempt to thwart prostitution and human trafficking. I question the requirement of getting a doctors note to prove that I am in good health. I feel this is an invasion of my privacy. My health status is not my clients or the departments of health business. Frankly this is what HIPPA laws were designed for. If you actually thought I was a professional, then why doesn't this board want to see my education and my continuing commitment to continuing education? My doctor was utterly shocked when I requested a letter stating that I didn't have any communicable diseases. Its almost makes me sound like a prostitute. I feel that the bodywork ordinance does not see me as a professional. Thank you for listening,

Diana Phillips, Certified Advanced Rolfer
1492 Highland Ave. #1
Needham, MA 02492
617-272-0170
dianajp@earthlink.net

269 CMR 3.00: Individual Licensure

By the Division of Professional Licensure

3.01 Application and Licensing

(1) **Application**.

(a) Application for licensure must be made in the manner prescribed by the Board.

(b) No application shall be acted upon by the Board unless said application is made on forms which are furnished by the Board, and unless said application is completely and properly filled out in the manner prescribed by the Board, attested to under the pains and penalties of perjury, and accompanied by such other information that the Board may require.

(c) Incomplete applications will be held open for 180 calendar days.

State does NOT do SORI checks. State Inspector Shawn Croke applauded Needham for including that in its regs.

(2) **Licensure**. With the exception of those provisions in 269 CMR 3.01(3), in order to be licensed as a Massage Therapist, applicants must meet the requirements for licensure set by M.G.L. c. 112, §§ 227 through 235, to wit:

(a) Possess a high school diploma or its equivalent. An equivalent shall include a General Equivalency Diploma ("GED"), or a transcript from a regionally-accredited institution of higher education, or, in the discretion of the Board, similar documents from foreign jurisdictions;

(b) Be at least 18 years of age;

(c) Provide the Board with two letters of professional reference, of which:

1. One letter shall be from an employer in the Massage therapy or medical field, Massage therapy educator, Massage Therapist, or health care provider with whom the applicant has had a professional relationship who should address the applicant's competency and integrity; and

2. One letter shall be from any, Unrelated individual who should attest to the applicant's business or professional integrity;

(d) Be of good moral character as set forth in 269 CMR 3.04;

(e) Have successfully completed a Board-approved course of study,

including a minimum of 650 classroom hours or an equivalent number of credit hours of supervised instruction at a Licensed Massage School, including 300 supervised classroom hours in Massage Theory and Technique, 150 hours of which meet the definition of “massage” in G. L. c. 112, §§ 227, 228(a), and including 100 hours of unpaid and supervised clinical or externship experience;

(f) Have not been convicted, in any jurisdiction, of a sexually-related crime or a crime involving moral turpitude for a period of ten years immediately prior to the date of application;

(g) Provide proof of coverage by an individual professional liability insurance policy of at least $1,000,000 per occurrence and at least $1,000,000 aggregate; and

(h) Pay the non-refundable fee as established by the Secretary of Administration and Finance pursuant to M.G.L. c. 7, § 3B.

(3) **Reciprocal Licensure**. The Board, upon receipt of the required, non-refundable fee and a completed, Board-approved application, pursuant to M.G.L. c. 112, § 230, may issue a reciprocal license without examination to any person who holds a license, certification or registration as a Massage Therapist, or the equivalent thereof, as determined by the Board, issued by another state or jurisdiction, provided that:

(a) The requirements and standards for that license, certificate or registration are reasonably equivalent to or exceed the standards of the Commonwealth, as determined by the Board; and

(b) The applicant meets the requirements of 269 CMR 3.01(2)(a) through 3.01(2)(h).

(c) The Board shall not grant reciprocal licensure to any person whose license to practice Massage Therapy is revoked or suspended by any other jurisdiction.

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3.02 Procedures for Renewal of a License and Renewal of a Lapsed/Expired License

(1) **Requirements for Renewal of a License**.

(a) Licensees must renew their licenses every year. Each license originally issued to a Licensee shall be valid for a minimum of 12 months and shall expire on the 28th day of the Licensee's birth month. Each subsequent renewal shall be on the anniversary of that date.

(b) A Licensee must submit to the Board, or its agent, a completed written or electronic renewal application and the required fees prior to the expiration date of the license; and

(c) A Licensee must furnish the Board with satisfactory proof that he/she has not been convicted in any jurisdiction of a sexually-related crime or a crime of moral turpitude since the original application for licensure; and

(d) A Licensee must furnish the Board with satisfactory proof that he/she has adequate individual professional liability insurance consistent with 269 CMR 3.01(2)(g); and

(e) A Licensee must fulfill and document the satisfactory completion of continuing education requirements as specified in 269 CMR 4.00 *et seq*.

(2) **Procedures for Renewal of a Lapsed/Expired License**.

(a) If a Licensee fails to meet the requirements for license renewal as set forth in 269 CMR 3.02(1), the license of such person shall be considered expired and not in good standing. A Licensee with an expired license shall not be permitted to use the title "Massage Therapist" or "Massage Practitioner" or "LMT" or any other abbreviation that implies state licensure or practice Massage during the period in which the license is expired.

(b) If a former Licensee of this jurisdiction requests that an expired license be reinstated within five years from the date of expiration, that individual must pay one renewal fee, the fee for the current licensure period, and one late fee. In addition, the individual must meet all continuing education contact hours required by the Board since the date the license was last issued/renewed. The individual also may be subject to disciplinary action for unlicensed practice, if he/she practiced massage without a license.

(c) If an expired license is not renewed within five years of the date of expiration, the Licensee must apply for license re-issuance. The license will only be reissued if the applicant meets all of the Board's statutory and regulatory licensure requirements in existence at the time of re-application, pays all application fees in accordance with the procedures identified in 269 CMR 3.01, and completes all continuing education requirements for all renewal periods between the date of license expiration and the date of reapplication.

(d) For an individual who is licensed and practicing Massage in another jurisdiction, but whose license has expired in the Commonwealth, the Board, or its agent, shall consider, on a case-by-case basis, whether the continuing education requirements of the other jurisdiction are reasonably equivalent to those in the Commonwealth and, therefore, can be used as a basis for reinstatement of the expired license.

1. The Board, or its agent, shall consider, on a case-by-case basis, the overall competence of the individual. The Board may require the applicant to appear before the Board, and/or take an examination, and/or document continued professional competence, and/or practice under supervision prior to, or as a term or condition of reinstatement of the expired license.

2. For purposes of 269 CMR 3.02(2)(d), the fee for re-instatement of such a license shall be the same as the reciprocal license fee established by the Secretary of Administration & Finance.

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3.03 Procedures for Reinstatement of a License that has been Revoked, Suspended, Surrendered, or Placed on Probation

Reinstatement of a License/Removal of Probation. The procedures for reinstatement of a license after that license has been revoked, suspended, surrendered, or placed on probation shall be determined by the guidelines established by the Board or, in specific matters, by consent agreement, or by decision and order of the Board. In all cases, unless there is specific language to the contrary in the documentation of the action taken, the individual shall be required to petition the Board, in writing, for a change in license status. At the discretion of the Board, a personal appearance may be required. Said petitions and appearances will ordinarily be considered at a regularly scheduled Board meeting, at least 60 days prior to the appropriate anniversary of the disciplinary action.

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3.04 Good Moral Character Requirement

(1) An application for licensure as a Massage Therapist or Massage Practitioner shall be accompanied by such written documentation as the Board may reasonably require in order to determine whether the applicant is of "good moral character".

(2) Conduct which reasonably raises a question about whether an applicant possesses the "good moral character" required for registration includes, but is not limited to, any of the following:

(a) Conviction of any criminal offense, other than a routine traffic violation. The term "conviction" means any of the following:

(1) A final judgment entered after a jury verdict of guilty or a judicial finding of guilty; or

(2) A plea of guilty; or

(3) A plea of *nolo contendere* (no contest); or

(4) Any other plea or finding which is treated by the court as a plea or finding of guilty;

(b) Conduct that violates any of the provisions in the Code of Professional Ethics contained in 269 CMR 5.01; and

(c) Disciplinary action taken against any professional license, registration or certification held by the applicant by the applicable governmental authority of any state, territory or political subdivision of the United States or any foreign jurisdiction;

(3) If the Board receives information about an applicant for licensure that reasonably raises a question about whether that applicant is of "good moral character", the Board shall conduct a further inquiry into the relevant facts and circumstances before making a final decision on the application.

(a) Determinations about whether an applicant for registration possesses the "good moral character" required for licensure shall be made on an individualized, case-by-case basis.

(b) If the Board determines, in its discretion, that such steps are reasonably necessary, the Board may require the applicant to appear personally before the Board, and/or furnish additional written information to the extent permitted by applicable state or federal law.

(c) The burden of demonstrating that the applicant possesses the good moral character required for registration shall rest with the applicant.

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3.05 Communication with the Board; Notification of Change of Name or Address

(1) **Official Mailing Address**. The mailing address supplied to the Board by the Licensee will suffice as the legal address for the receipt of official process or notification from the Board. Failure to supply the Board with an official address for the receipt of legal process or other Board notifications may result in a default judgment or independent disciplinary action taken as a result of this failure.

(2) **Change of Name or Address**. The Licensee shall notify the Board of any change in name or address. Such notification shall be in writing or electronically and shall be submitted within 30 calendar days of the change in name or address.

(3) **Responding to the Board**. A Licensee shall respond within 30 calendar days, unless otherwise indicated, to a written communication from the Board, or its designee, and shall make available to the Board any relevant and authorized records with respect to an inquiry or complaint about the Licensee's professional conduct. The 30-calendar day period commences on the date the Board sends the communication by regular mail to the Licensee's last known address.

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3.06 License Fee

License fees are set by the Secretary of Administration and Finance of the Commonwealth of Massachusetts, consistent with M.G.L. c. 7, § 3B.

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3.07 Late Filing Fee

Renewal forms and fees received after the due date will be subject to a late filing fee set by the Secretary of Administration and Finance, consistent with M.G.L. c. 7, § 3B.

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3.08 Reimbursement of Fees

Application and license fees are not refundable.

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REGULATORY AUTHORITY
M.G.L. c. 13, §99; c. 112, §234.

269 CMR 6.00: Facility Licensure

By the Division of Professional Licensure

6.01: Scope and Purpose

269 CMR 6.00 establishes the standards for applying for licensure and operating a licensed Massage Therapy Establishment pursuant to M.G.L. c. 112, § 227 through 235. The purpose of 269 CMR 6.00 is to protect the health, safety, and welfare of the public by promoting minimum standards for Massage Therapy Establishments throughout the Commonwealth.

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6.02: Definitions

Adult Entertainment Venues. Any Establishment, including but not limited to a nightclub, bar, restaurant, tavern, dance hall, stage or other performance venue, which displays live entertainment, including but not limited to persons or entertainers appearing in a state of nudity or other live performance, distinguished by an emphasis on depicting, describing or relating to sexual conduct or sexual excitement as defined in M.G.L. c. 272, § 31.

Chair Massage. Massage therapy performed on a clothed, seated (i.e. not in a reclining or prone position) client.

Establishment. Any location, or portion thereof, which advertises and/or provides Massage Therapy services , which has been licensed by the Board pursuant to M.G.L. c. 112, § 227 through 236.

Operator. A person who, by their direction or control, allows Massage Therapy to be offered for compensation on premises owned/leased or controlled by that individual or an entity controlled by the individual. For the purposes of 269 CMR 6.03(5) a Massage Therapist practicing alone shall be considered an Operator.

Regular. More than eight hours in a one week period.

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6.03: Establishment Licensure Required

(1) **Delivery of Massage Therapy**. Massage Therapy, including the provision of out of office massage therapy services, shall only be delivered or offered at any location or portion thereof covered by valid Massage Therapy Establishment license issued by the Board or otherwise exempted from licensure under 269 CMR 6.03(8).

(2) **License Required**. Each Massage Therapy Establishment within the Commonwealth shall be licensed by the Board before providing or offering to provide Massage Therapy and shall annually renew its license using an application provided by the Board, unless there is a change in ownership or location.

(3) **Establishment License Type Classes**.

(a) Solo Establishment License. A Solo Establishment License shall entitle a single Massage Therapist to deliver or offer massage therapy services from one designated location.

(b) Multiple Therapists Establishment License. A Multiple Therapists Establishment License shall entitle two or more Massage Therapists to deliver or offer massage therapy services from one designated location.

(4) **Multiple Therapists Establishment License Required**. A Multiple Therapists Establishment License shall be required at all locations where two or more Massage Therapists are delivering or offering massage therapy services jointly.

(5) **Responsibility for Obtaining an Establishment License**. The responsibility for obtaining an Establishment License shall rest with the Operator of the location.

(6) **Failure to Obtain an Establishment License**. Failure to obtain an Establishment License shall be considered unlicensed practice, unless otherwise exempted.

(7) **Number of Licenses Required for Two or More Establishments at the Same Address**. Each Massage Therapy Establishment shall require a separate license. The Board will consider the following in determining whether two or more Massage Therapists delivering Massage Therapy services at the same address constitute one or more Massage Therapy Establishments:

(a) The business structure of each Establishment, including but not limited to, overlap in areas of financing, management, or ownership;

(b) The resources shared by the Establishments, including but not limited to, office space, staff, record storage and maintenance facilities; and

(c) The overall impression created by advertising, signage, stationery, and office layouts.

(8) **Exemptions**.

(a) A Massage Therapy Establishment license is not required for the following:

1. Any healthcare facility licensed by the Massachusetts Department of Public Health;

2. Board approved continuing education programs and student clinics operated by Board licensed Massage Schools;

3. Locations at which Chair Massage is exclusively done; and

4. Locations at which Massage Therapy is offered for not more than 24 hours in a one week period every six months at a public or charitable event with a primary purpose unrelated to massage.

(b) The Board may require any location at which Massage Therapy is provided to provide satisfactory evidence why it is eligible for the exemption from Massage Therapy Establishment licensure requirements. The burden of proving eligibility shall rest with the entity claiming the exemption.

(9) **Locations at which the Delivery of Massage Therapy is Prohibited**.

(a) Massage Therapy shall not be delivered in adult entertainment venues;

(b) Massage Therapy shall not be delivered in bars or nightclubs; and

(c) Regular Massage Therapy shall not be delivered on the streets or sidewalks.

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6.04: Initial Application for an Establishment License

(1) Application for a Massage Therapy Establishment license may be made by a sole proprietorship, partnership, corporation, limited liability company, or limited liability partnership. A Massage Therapy Establishment may be owned by an individual who is not a licensed Massage Therapist.

(2) An application for a Massage Therapy Establishment License shall be:

(a) made on forms prescribed by, and available from the Board;

(b) signed under the pains and penalties of perjury by the applicant or a person authorized to act on behalf of the applicant;

(c) accompanied by information concerning ownership and control that identifies: if owned by an individual, partnership or trust, the names and ownership.

(d) percentages of such individual, partners or trustees, except that, in the case of a limited partnership, such information shall be provided only for those limited partners owning 5% or more of the partnership interest and the general partner;

1. if owned by a for profit corporation, the names of all stockholders who hold 5% or more of any class of the outstanding stock, specifying the percentage owned;

2. if owned by a not for profit corporation, the names of the members and directors of the corporation; and

3. the name and ownership percentage of each individual who directly or indirectly has any ownership interest of 5% or more, unless otherwise provided pursuant to 269 CMR 6.03(c)1. through 3.;

(e) accompanied by any information required by the Board as part of the application, including, but not limited to, such additional information concerning ownership and control as the Board may require.

(f) accompanied by the required nonrefundable fees;

(g) accompanied by a floor plan that demonstrates compliance with the specifications necessary to meet the minimum standards required to meet the public health, safety and welfare set forth in 269 CMR 6.07(4); and

(h) accompanied by evidence of suitability of ownership required by the Board as set forth in 269 CMR 6.04(4);

(3) The Board shall not approve an application for original or renewal license unless the Board has conducted an investigation of the proposed licensee(s) and/or owners of 5% or more and determined that each proposed licensee/owner is suitable and responsible to establish or maintain an Establishment.

(4) Evidence of Responsibility and Suitability.

(a) In determining whether an applicant is responsible and suitable to be granted an Establishment license, the Board shall consider all relevant information including, but not limited to, the following:

1. the proposed licensee's history of prior compliance with Massachusetts state and local laws governing operation of Massage Therapy Establishments and the practice of Massage Therapy. Assessment of this factor shall include, but not be limited to, the ability and willingness of the proposed licensee to take corrective action when notified by the authority having jurisdiction over any regulatory violations;

2. the history of criminal conduct of the proposed licensee and owners, officers and directors as evidenced by criminal proceedings against those individuals which resulted in convictions, or guilty pleas, or pleas of nolo contendere, or admission of sufficient facts; and

3. the proposed licensee's history of statutory and regulatory compliance for Massage Therapy Establishments in other jurisdictions or localities, including, but not limited to, proceedings in which the proposed licensee was involved which proposed or led to a limitation upon or a suspension, revocation, or refusal to grant or renew a Massage Therapy Establishment license.

(b) If the Board receives information about an applicant for Establishment licensure that reasonably raises a question about whether that applicant is suitable to hold an Establishment license or lacks the responsibility to hold an Establishment license, the Board shall conduct a further inquiry into the relevant facts and circumstances before making a final decision on the application.

(c) If the Board determines, in its discretion, that such steps are reasonably necessary, the Board may require the applicant to appear personally before the Board, and/or furnish additional written information to the extent permitted by applicable state or federal law.

(d) The burden of demonstrating that the applicant possesses the responsibility required for Establishment licensure or is suitable for such licensure shall rest with the applicant.

(e) Conduct which reasonably raises a question about whether an applicant possesses the responsibility required for Establishment licensure or is suitable for such licensure includes, but is not necessarily limited to, any of the following:

1. Conviction of any criminal offense, other than a routine traffic violation;

2. Disciplinary action taken against any professional license, registration or certification held by the applicant, or denial of licensure, by the applicable governmental authority of any state, territory or political subdivision of the United States or any foreign jurisdiction; or

3. Conduct which is not described in 269 CMR but which nevertheless involves any of the following: failure to exercise proper regard for the applicant's own health, welfare or safety; failure to exercise proper regard for the health, welfare, safety or legal rights of another person; or fraud, deception or lack of honesty or truthfulness.

(5) Inspection. The Board shall not approve an application for an original Establishment license or renewal of such license unless the Board has been afforded the opportunity to inspect the Establishment;

(a) The applicant for an Establishment license must arrange for the inspection by the Board of the location seeking that license.

(b) In order to pass that inspection, the location must meet the minimum standards necessary to protect the public health, safety and welfare set forth in 269 CMR 6.07.

(6) The Board may require and consider supplemental Establishment licensure application information and materials reasonably necessary to prevent insurance fraud, protect the health, safety, or welfare of the public, or for other valid regulatory purposes, including obtaining appropriate permits either prior to or as a condition subsequent to receiving an Establishment License.

(7) The Board shall not issue an Establishment license based on an incomplete submission.

(8) The Board may not issue an Establishment license if the Board's inspection reveals any violation of 269 CMR 1.00 through 6.00.

(9) The Board will consider the evidence produced and make licensing decisions accordingly

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Top

6.05: Renewal/Reinstatement

(1) A Massage Therapy Establishment shall renew its license annually on or before the anniversary of the date of issue by submitting:

(a) Massage Therapy Establishment renewal form as prescribed by the Board;

(b) complete information as required on the form, including changes in information since the original application or last renewal; and

(c) the nonrefundable renewal fee;

(2) If a Massage Therapy Establishment's license has expired, the Massage Therapy Establishment may request that the Board reinstate its license. The authorized representatives may be required to personally appear before the Board to discuss the request for reinstatement. All requests for reinstatement must be in writing and shall include the following submissions:

(a) an application;

(b) a nonrefundable late fee; and

(c) any other pertinent information as required by the Board.

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6.06: Record Retention

(1) Required records shall be maintained in a manner that protects them from foreseeable damage or destruction.

(a) A Massage Therapy Establishment shall maintain required records on the premises for each active client.

(b) For a client who is under two years of age when he or she receives Massage Therapy, records shall be maintained at least until the client reaches nine years of age.

(c) For clients who receive Massage Therapy on or after the client reaches two years of age, records shall be maintained for a minimum of seven years from the date of the last client encounter.

(d) Records stored electronically shall have an established system of regular back-up. Copies of the back-up records shall be maintained safely and securely.

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6.07: Establishment Standards

(1) **Compliance Officer**. Each Multiple Massage Therapist Establishment shall designate a Licensed Massage Therapist who is responsible for the Massage Therapy Establishment's compliance with the laws of the Commonwealth and 269 CMR 1.00 through 6.00. Said Licensed Massage Therapist shall agree to be accessible to the Board and shall be responsible for cooperating with inspections or investigations conducted by the Board or its agents. Upon the request of the Board or its agents, the designated Licensed Massage Therapist shall provide immediate access to, and, if requested, copies of records maintained by the Massage Therapy Establishment. Such Massage Therapist shall be designated the Massage Therapy Establishment's compliance officer.

(2) **Compliance Plan**. Each Multiple Therapists Establishment shall implement and maintain a business compliance plan, that shall include, but not be limited to, standards, procedures, and policies that address the Massage Therapy Establishment's administrative and clinical protocols. The standards, procedures, and policies in the compliance plan shall include, but not be limited to, addressing the following issues:

(a) A plan for ascertaining that all individuals providing massage therapy in the Massage Therapy Establishment have current, valid licenses;

(b) A list of all Massage Therapists who practice at the Establishment;

(c) The methods for training personnel regarding the Massage Therapy Establishment's standards, procedures, and policies, including appropriate right-to know training, standard precautions to prevent communicable disease, proper documentation, clients' rights, and proper billing, on an ongoing basis;

(d) The methods of maintaining and encouraging open lines of communication among the Massage Therapy Establishment's personnel;

(e) The methods of maintaining and ensuring that equipment is inspected on an annual basis and is in safe operating condition;

(f) The mechanisms used to report and respond to violations or complaints in an appropriate manner;

(g) The implementation and maintenance of a schedule of the Establishment's compliance audits; and

(h) In the event of the dissolution of the Massage Therapy Establishment or the departure of a licensed Massage Therapist from the Establishment, a plan for the dissolution of the Massage Therapy Establishment or for the departure of a practicing Massage Therapist, including, but not limited to, a plan for the storage and retrieval of clients' records.

(3) **Personnel**.

(a) All Massage Therapists at an Establishment must hold a current Massage Therapist license from the Board, unless exempted by regulation or statute.

(b) All Massage Therapists conducting massage at an Establishment shall be deemed the responsibility of the Operator of the Establishment.

All students who perform massage therapy at an Establishment must be supervised by a licensed Massage Therapist.

(c) Massage Establishment Licenses are not transferable.

(d) The use of aliases by Massage Therapists is prohibited.

(4) **Interior Specifications**.

(a) The Establishment shall maintain a properly installed smoke detector and fire extinguisher.

(b) Massage therapy may be conducted only in rooms, which are adequately lighted and ventilated, and so constructed that they can be kept clean. Floors, walls, ceilings and windows must be kept free of dust, soil, and other unclean substances.

(c) Massage rooms shall have at least 65 square feet of floor space for all Establishments licensed after December 12, 2008.

(d) Smoking is prohibited anywhere on the premises.

(e) Every Establishment shall have accessible rest room facilities, including at least one toilet with toilet tissue provided, a hand sink with soap, disposable towels, single use linens, or air dryers provided.

(f) Every Establishment shall have hand-washing facilities for therapist use. Said facilities shall provide an adequate supply of hot water at a temperature that complies with 105 CMR 410.000 (State Sanitary Code).

(g) Hand washing facilities for Establishments shall be accessible and located no more than 50 feet from the treatment area.

(h) Soap, disposable towels, single use linens or air dryers and adequate waste receptacles shall be provided at all times.

(i) Toilet and hand washing facilities shall meet the requirements of the state plumbing code and shall be maintained in good repair, well-lighted and adequately ventilated, kept in a clean and sanitary condition and free of vermin.

(j) Every Establishment shall provide for safe and unobstructed passage in the public and private areas of the premises.

(k) Facilities shall be provided for the storage and removal of garbage, waste and refuse.

(l) Any flammable or hazardous materials in the Establishment shall be stored in a safe manner in accordance with local and state regulations and Massachusetts General Laws.

(5) **Equipment**.

(a) All equipment and supplies used in the performance of massage shall be maintained in a safe and clean manner. All tables and other cleanable surfaces that come into contact with clients shall be cleaned by the regular application of a cleanser and sanitized with an EPA registered sanitizer. "Regular application" as used in 269 CMR 6.07(5)(a) means a thorough cleansing of the massage table at least one time a day or whenever oils, lotions, or other substances visibly accumulate on client contact surfaces.

(b) Each client shall receive a separate, clean covering for use on the massage table, such as sheets or towels.

(c) All re-usable sheets, towels, and other cloth materials used in the conduct of a massage that come in contact with a client shall be laundered after each use.

(d) Each Establishment shall maintain a sufficient supply of clean linens for the purpose of draping each client while the client is being massaged. As used in 269 CMR 6.07(5)(d) drapes means towels, gowns, or sheets.

(e) If any latex-containing products are used, a sign shall be conspicuously posted so stating and all clients shall be advised that latex-containing products are used.

(6) **Sanitary Conditions**. The Massage Therapy Establishment shall be equipped with proper and adequate lighting and ventilation and kept in clean, orderly, and sanitary condition.

(7) **Change in Massage Therapy Establishment Ownership**. A change in Massage Therapy Establishment Ownership shall require application for and receipt of a new Massage Therapy Establishment license. A change in Massage Therapy Establishment ownership shall occur on the date that there is a transfer of a controlling interest in a Massage Therapy Establishment. When a change in ownership occurs, the Massage Therapy Establishment license shall expire, and the new owner must apply for a new license within 30 days.

(8) **Change in Location**. An Establishment license is valid only for the location stated on the license and is neither transferable nor assignable.

(a) The Board must be notified in writing at least 30 days prior to a change in location of a Massage Therapy Establishment.

(b) The license for the previous location will be cancelled and will be invalid as of the date of relocation.

(c) The Massage Therapy Compliance Officer or Establishment owner shall file a new application for a massage therapy Establishment license that is subject to the Board's approval.

(d) The Massage Therapy Establishment shall not operate at the new location until the Board has approved a massage therapy Establishment license for the new location.

(9) **Required Displays**. Current true copies of the following must be conspicuously displayed for the benefit of the public at each Massage Therapy Establishment. A licensee may redact his/her residential address from the posted license.

(a) The Massage Therapy Establishment's license;

(b) The license of each licensed Massage Therapist licensed by the Board who provides Massage Therapy services at the Massage Therapy Establishment; and

(c) The most recent inspection report completed by the Board or its agents.

(10) **Variances**.

(a) Variance Permitted. The Board may vary the application of any provision of 269 CMR 6.00 with respect to any particular case when, in its opinion, the enforcement thereof would create a manifest injustice. This may include practitioners who do not deliver massage at a specific location. Any variance granted by the Board shall be in writing.

(b) Expiration, Modification, Suspension. Any variance or other modification authorized to be made by 269 CMR 6.07(10) may be subject to such qualification, revocation, suspension, or expiration as the Board expresses in its grant. A variance or other modification authorized to be made by 269 CMR 6.00 may otherwise be revoked, modified, or suspended, in whole or in part, only after the holder thereof has been notified in writing and has been given an opportunity to be heard.

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6.08: Inspections

(1) The Board or its agent may inspect any Massage Therapy Establishment at any time during regular business hours, and without prior notice, for the purpose of verifying that the Massage Therapy Establishment, and its agents or employees are in compliance with all applicable requirements of M.G.L. c. 112, §§ 61 through 65, M.G.L. c. 112, §§ 227 through 236, and 269 CMR 6.00, and all other applicable federal, state and local laws or regulations.

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6.09: Grounds for Disciplinary Action

(1) Pursuant to G. L. c, 13, § 99(a)(v) the Board may, through the processes set out in M.G.L. c. 30A, M.G.L. c. 112, §§ 61 through 65, and 801 CMR 1.00 et seq., take disciplinary action against any Massage Therapy Establishment. Grounds for disciplinary action shall include, but shall not be limited to:

(a) Violation of any provision of 269 CMR 6.00 et seq. by any person associated with the Establishment;

(b) Unlicensed practice at the Massage Therapy Establishment or arranged through the Massage Therapy Establishment. Unlicensed practice includes practice by an individual who:

1. has never held a license to render care within the discipline in which he or she is acting;

2. has let his or her license to practice lapse or expire;

3. has had her or his license to practice suspended or revoked; or

4. has voluntarily surrendered his or her license.

(c) Where a person having more than 5% ownership interest, company officer, principal, or any employee of, or person associated with, the Massage Therapy Establishment:

1. violates or permits the violation of any of the grounds for disciplinary action under 269 CMR;

2. interferes with or obstructs the Board or its agent in the performance of the Board's duties;

3. is sanctioned for violations of state or federal laws regarding insurance fraud; or

4. solicits, facilitates, or otherwise permits illicit behavior.

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REGULATORY AUTHORITY:

269 CMR 6.00: M.G.L. c. 13, § 99; M.G.L. c. 112, § 234.

BOARD OF REGISTRATION OF MASSAGE THERAPY
Instructions for Initial Massage Therapist License Application

1. Please read and review the Board's regulations governing Individual Licensure at CMR 3.00 and/or visit the Board's website at http://www.mass.gov/ocabr/licensee/dpl-boards/mt/regulations/269-cmr/269-cmr-200-definitions.html

2. If you are ineligible for a Social Security Number, contact the Board for instructions.

3. Regarding Question #4, the address that you choose as your mailing address is **public record** and will be released to anyone upon request. If you select the business address option, please include the business name.

4. You must be 18 years old **and** a high school graduate, or its equivalent.

5. If you answered "yes" to Question #8, an official verification of standing is required for every professional license listed, including from every **out-of-state** licensure jurisdiction. An official verification of standing is required for **all** licensure status including **lapsed, expired, etc.** Please contact the appropriate licensing authority/jurisdiction and have the document mailed to you for inclusion with your application. Please maintain the official statement(s) **in the unopened, jurisdiction-sealed envelope(s) to accompany your application.** The document may also be mailed directly to the Board at 1000 Washington St. Suite 710 Boston, MA 02118. **(Please note, verification(s) of standing is not required if professional license is held within the Division of Professional Licensure)**

6. Regarding **Question #13**, you must list all offenses including OUI, DUI, and Operating after/with suspended license or registration. Dispositions of "continued without finding" ("CWOF") or "admission to sufficiency of facts" must be reported. Do not include minor traffic offenses.

7. Both the application and checklist pages of this application must be notarized.

8. You must obtain an **Official Transcript** from your Massage Therapy program and include the **still-sealed envelope** with your application. You must also include a completed **Transcript Analysis Form** and include all supporting documents with your application (detailed course descriptions and full breakdown of the **clock hours** for each course, if noted as credit hours on official transcripts.) **Please note: If your program is noted in Credit Hours, **a complete breakdown of the program Clock Hours is required directly from your school on letterhead**.*

9. **Two signed letters of reference must accompany your application**. One letter must be from an employer in the massage therapy or medical field, massage therapy educator, massage therapist, or health care provider with whom you have had a professional relationship and should address your competence and integrity. The other letter may be from any unrelated person who can comment favorably upon your professional integrity.

10. **You must provide a copy of the insurance policy declarations page that indicates the amount and effective date of coverage.** The policy must be in your own name and provide for a minimum of at least $1,000,000 per occurrence and at least $1,000,000 aggregate. The Board cannot make recommendations about insurers; however, professional associations are usually a good source of information. See the Board's web site for links.

11. If you have taken and passed either the **Massage and Bodywork Licensing Exam** (MBLEx) administered by the Federation of State Massage Therapy Board (FSMTB) or the **National Certification Examination** for Therapeutic Massage and Bodywork (NCBTMB) administered by the National Certification Board of Therapeutic Massage and Bodywork (NCBTMB) **on or after 2010**, submit proof of passage.

12. Include a check or money order for **$225.00** in U.S. funds made payable to the **Commonwealth of Massachusetts.** The fee is **not** refundable. Please note that your application will not be processed without the correct fee. The initial fee includes both application processing and your first license.

13. **Mail the complete application package to: Board of Registration of Massage Therapy, 1000 Washington Street, Suite 710: *Individual Licensure*, Boston, MA, 02118-6100.**

14. **Please allow 4-6 weeks for processing. You will be contacted via e-mail if further information is required. If you do not have an e-mail address, you will be contacted by postal mail; but this may take longer.**

15. If you have any additional questions, please contact the Board via e-mail: MassageTherapy@state.ma.us or contact Fei Yen Chen by phone (617) 727-9964.

16. Please keep this instruction page for reference.

Revised 9/29/2016

INITIAL MASSAGE THERAPIST LICENSE APPLICATION

1. Applicant Name: _____
Last First Middle

Maiden Name/Other Name: _____

2. Permanent Address: _____
No. Street Apt. #

_____
City/Town State Zip Code

3. Business Address (If Applicable): _____
No. Street Apt. #

_____
City/Town State Zip Code

4. Which address should appear on your license? Permanent ☐ Business ☐

5. E-mail: _____
Please note: EMAIL will be the primary means of contact for routine correspondences during the application process.

6. Telephone Number-Day : _____ Evening: _____

7. Educational Background:

High School Name: _____ Location: _____ Year: _____

Massage Therapy School: _____ Location: _____ Year: _____

Have you taken and passed the **Massage and Bodywork Licensing Exam** (MBLEx) administered by the Federation of State Massage Therapy Board (FSMTB) or the **National Certification Examination** for Therapeutic Massage and Bodywork (NCBTMB) administered by the National Certification Board of Therapeutic Massage and Bodywork (NCBTMB) **on or after 2010**? (If yes please submit proof of passing) Yes: ☐ No: ☐

8. List all professional licenses/certifications you have held in the United States, or any country or foreign jurisdiction, and the state/jurisdiction from which the license/certification was originally issued. Enclose all certificate of standing from each profession in which you have been licensed/certified, indicating the status of your license and any disciplinary information. _____
_____

9. Has any disciplinary action been taken against you by a licensing/certification board located in the United States or any country or foreign jurisdiction? Yes: ☐ No: ☐
If yes, please state the details (use a separate sheet if necessary): _____
_____

10. Are you the subject of pending disciplinary actions by a licensing/certification board located in the United States or any country or foreign jurisdiction? Yes: ☐ No: ☐
If yes, please state the details (use a separate sheet if necessary): _____
_____

11. Have you ever voluntarily surrendered or resigned a professional license to a licensing/certification board in the United States or any country or foreign jurisdiction? Yes: ☐ No: ☐
If yes, please state the details (use a separate sheet if necessary):_____

_____

12. Have you ever applied for and been denied a professional license in the United States or any country or foreign jurisdiction? Yes: ☐ No: ☐ If yes, please state the details (use a separate sheet if necessary): _____

_____

13. Have you ever been convicted of, or admitted to, a felony or misdemeanor in the United States or any country or foreign jurisdiction, other than a traffic violation for which a fine of less than $200.00 was assessed? Yes: ☐ No: ☐ If yes, please state the details (use a separate sheet if necessary):_____

_____

14. Have you made any plea or finding which the court treated as a please or finding of criminal guilt? Yes: ☐ No: ☐ If yes, please state the details (use a separate sheet if necessary):_____

_____

NOTE: The Board has received certification by the Criminal History Systems Board (ID# MAREG G) to access data about convictions and pending criminal cases. Your signature on this application allows the Board to conduct criminal background checks for conviction, non-conviction, and pending criminal case information only, on an ongoing basis, and that it will not necessarily disqualify you from licensure (or later license renewal). Other Federal and professional records may also be checked. The Board will not deny you a license (license renewal) based on criminal information prior to giving you an opportunity for a limited appearance before the Board.

I certify, under the pains and penalties of perjury, that the information I have provided pursuant to this application for licensure is truthful and accurate. I understand that the failure to provide accurate information may be grounds for the Massachusetts Board of Registration of Massage Therapy to deny me the right to sit as a candidate or to suspend or revoke a license issued to me in accordance with Massachusetts Law. I further attest that, pursuant to G.L. c.62C, §49A, to the best of my knowledge and belief, I have filed all Massachusetts tax returns and paid all Massachusetts taxes required by law.

Place a 2" by 2" original photo of yourself in this box.

_____
Signature of applicant

_____
Date

On this ____ day of _____, 20__, before me, the undersigned notary public, personally appeared_____ (name of document signer), proved to me through satisfactory evidence of government issued identification, which was/were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

_____ My commission expires _____
Signature of Notary

Revised 9/29/2016

YOU MUST SIGN (AND NOTARIZE) THIS

APPLICATION CHECKLIST

AND INCLUDE IT WITH YOUR APPLICATION

I certify, under the pains and penalties of perjury, the truth of the following statements:

- I have read the "Instructions for Initial Massage Therapist License Application".
- I have enclosed a completed (signed & notarized) "Initial Massage Therapist License Application" form.
- I have enclosed two signed Letters of Reference (one letter from an employer in the massage therapy or medical field, massage therapy educator, massage therapist, or health care provider with whom you have had a professional relationship and the other from any unrelated person who can comment favorably upon your professional integrity).
- If applicable, I have enclosed sealed, official, certificates of standing from each professional license and/or jurisdiction (outside of MA) in which I have held a professional license or certification. **(*Not required if professional license is held with the Division of Professional Licensure*)**
- I have enclosed my $1,000,000 individual, massage therapy liability insurance policy declaration, **valid for post-graduate, professional, unsupervised practice**.
- Signed and dated **CORI Authorization Form**.
- I have enclosed a $225.00 Check/Money Order payable to: **Commonwealth of MA.**
- I have enclosed an official, sealed transcript.
- I have enclosed a **completed transcript analysis form and supporting documents**.

MANDATORY
My Social Security Number is:

☐☐☐-☐☐-☐☐☐☐

Pursuant to G.L. c. 62C, § 47A, the Division of Professional Licensure is required to obtain your social security number/tax identification number and forward it to the Department of Revenue. The Department of Revenue will use these numbers to ascertain whether you are in compliance with the tax laws of the Commonwealth.

_____
Signature of applicant

_____
Date

On this ____ day of _____, 20__, before me, the undersigned notary public, personally appeared_____ (name of document signer), proved to me through satisfactory evidence of government issued identification, which was/were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

_____ My commission expires _____
Signature of Notary

Mail your application materials to: Board of Massage Therapy, 1000 Washington Street, Suite 710: Individual Licensure, Boston, MA, 02118-6100.

Revised 9/29/2016

COMMONWEALTH OF MASSACHUSETTS
BOARD OF REGISTRATION IN MASSAGE THERAPY
1000 Washington Street, Suite 710
Boston, MA 02118-6100
www.mass.gov/dpl/boards/mt

CRIMINAL OFFENDER RECORD INFORMATION (CORI) ACKNOWLEDGEMENT FORM

The Division of Professional Licensure by itself and on behalf of boards of registration pursuant to M.G.L. c. 13, §9 [hereinafter, "Division of Professional Licensure"] is registered under the provisions of M.G.L. c. 6, § 172 to receive CORI for the purpose of screening current and otherwise qualified prospective license applicants and current licensees.

As a license applicant or current licensee, I understand that a CORI check will be submitted for my personal information to the Department of Criminal Justice Information Services ("DCJIS"). I hereby acknowledge and provide permission to the Division of Professional Licensure to submit a CORI check for my information to the DCJIS. This authorization is valid for one year from the date of my signature. I may withdraw this authorization at any time by providing the Division of Professional Licensure written notice of my intent to withdraw consent to a CORI check.

FOR LICENSING PURPOSES ONLY:

The Division of Professional Licensure may conduct subsequent CORI checks within one year of the date this Form was signed by me. If subsequent CORI checks are necessary, the Division of Professional Licensure will provide me with written notice of the subsequent CORI checks.

By signing below, I provide my consent to a CORI check and acknowledge that the information provided on Page 2 of this Acknowledgement Form is true and accurate.

_____ _____

Signature Date

Please provide the name of the board of registration and license type for which you are applying or currently hold:

_____ _____

Board of Registration License Type

NOTE: DPL CANNOT ACCEPT THIS TWO-PAGE CORI ACKNOWLEDGMENT FORM UNLESS IT IS EITHER (1) SIGNED IN PERSON AT THE BOARD'S OFFICES IN THE PRESENCE OF A DPL EMPLOYEE WHO HAS VERIFIED THE APPLICANT'S IDENTITY THROUGH ACCEPTABLE IDENTIFICATION, OR (2) SIGNED IN THE PRESENCE OF A NOTARY PUBLIC WHO HAS LIKEWISE VERIFIED IDENTITY AND THEN MAILED OR OTHERWISE DELIVERED TO THE BOARD'S OFFICES AT THE ADDRESS SET FORTH ABOVE.

SUBJECT INFORMATION: (A red asterisk (*) denotes a required field)

_____

*Last Name *First Name Middle Name Suffix

_____

*Maiden Name (or other name(s) by which you have been known)

_____ _____

*Date of Birth Place of Birth

* Social Security Number: _____ - _____ -_____

Sex: _____ Height: ____ ft. ____ in. Eye Color: _____

Driver's License or ID Number: _____ State of Issue: _____

Current and Former Addresses:

_____

Street Number & Name City/Town State Zip

_____

Street Number & Name City/Town State Zip

IDENTITY VERIFICATION SECTION: If this form is submitted by hand at DPL Offices, Section A must be completed. Otherwise, Section B must be completed.

SECTION A: VERIFICATION BY DPL EMPLOYEE: I hereby certify that I verified the identity of the above-referenced subject by reviewing the following form(s) of government-issued identification:[1]

☐ Passport ☐ State-issued driver's license ☐ Military identification ☐ State-issued identification card

VERIFIED BY: _____

Name of Verifying DPL Employee (Please Print)

_____

Signature of Verifying DPL Employee Date

SECTION B: VERIFICATION BY NOTARY:

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), and proved to me through satisfactory evidence of identification, which was the following:[1]

☐ Passport ☐ State-issued driver's license ☐ Military identification ☐ State-issued identification card

to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____

Notary Public: Notary Commission Expires On

[1] If a subject does not have an acceptable government-issued identification, his or her identity shall be verified by other forms of documentation as determined by DCJIS. 803 CMR 2.09(2).

650 Hours Transcript Analysis Form

Applicant Name: _____

Address: _____

City/Town:_____ State:_____ Zip Code: _____

DIRECTIONS FOR APPLICANT:

The Board of Registration of Massage Therapy ("Board") approved a course of study of 650 hours for individual licensure effective May 1, 2010, which is posted on the Board's website and detailed below. Please complete this form and provide the following documentation for the Board to review for approval of your application:

1) **All Course syllabi and/or School Catalogue, which should include a course description for each course taken and outlines of class dates and subject matter covered.**

Educational Requirements

The minimum educational qualifications for licensure as a massage therapist include:

(1) A high school diploma or GED;
(2) Graduation from a state licensed massage school; and
(3) Completion of a course of study of at least 650 hours which shall comply with the requirements specified in the following table:

Curriculum

Subject	**Hours**
Section A: Anatomy & Physiology	100 Hours
Section B: Pathology	45 Hours
Section C: Kinesiology	45 Hours
Section D: Massage Theory and Technique	300 Hours
Section E: Ethics and Professionalism	60 Hours
Section F: Unpaid and supervised clinical or internship experience	100 Hours

SECTION A: 100 Hours: Anatomy & Physiology

Please list all courses specific to Section A: Anatomy & Physiology to be considered towards the Massachusetts Massage Therapy Educational Requirements for Licensure. Only list the number of hours in each course that were devoted to Section A subject matter.

Course Name (from transcript)	Hours Completed	Date Started	Date Completed
1. _____			
2. _____			
3. _____			
4. _____			
	TOTAL HOURS:		

650 Hours Transcript Analysis Form

SECTION B: 45 Hours: Pathology

Please list all courses specific to Section B: Pathology to be considered towards the Massachusetts Massage Therapy Educational Requirements for Licensure. Only list the number of hours in each course that were devoted to Section B subject matter.

Course Name (from transcript)	Hours Completed	Date Started	Date Completed
1. _____			
2. _____			
3. _____			
4. _____			

TOTAL HOURS:

SECTION C: 45 Hours: Kinesiology

Please list all courses specific to Section C: Kinesiology to be considered towards the Massachusetts Massage Therapy Educational Requirements for Licensure. Only list the number of hours in each course that were devoted to Section C subject matter.

Course Name (from transcript)	Hours Completed	Date Started	Date Completed
1. _____			
2. _____			
3. _____			
4. _____			

TOTAL HOURS:

SECTION D: 300 Hours Massage Theory and Technique

Please list all courses specific to Section D: Massage Theory and Technique to be considered towards the Massachusetts Massage Therapy Educational Requirements for Licensure. Only list the number of hours in each course that were devoted to Section D subject matter.

Course Name (from transcript)	Hours Completed	Date Started	Date Completed
1. _____			
2. _____			
3. _____			
4. _____			

TOTAL HOURS:

650 Hours Transcript Analysis Form

SECTION E: 60 Hours Ethics and Professionalism

Please list all courses specific to Section E: Ethics and Professionalism to be considered towards the Massachusetts Massage Therapy Educational Requirements for Licensure. Only list the number of hours in each course that were devoted to Section E subject matter.

Course Name (from transcript)	Hours Completed	Date Started	Date Completed
1. _____			
2. _____			
3. _____			
4. _____			
	TOTAL HOURS:		

SECTION F: 100 Hours Unpaid and supervised clinical or internship experience;

Please list all courses specific to Section F: Unpaid and Supervised Clinical or Internship Experience to be considered towards the Massachusetts Massage Therapy Educational Requirements for Licensure. Only list the number of hours in each course that were devoted to Section F subject matter.

Course Name (from transcript)	Hours Completed	Date Started	Date Completed
1. _____			
2. _____			
3. _____			
4. _____			
	TOTAL HOURS:		

Certification of Applicant:

I, _____, certify under the pain and penalty of perjury that I have personally completed the courses shown above and that the information provided is true and accurate.

_____ _____

Signature ***Date***

MASSAGE TRAINING REQUIREMENTS FOR LICENSURE

- **100 hours in the Anatomy and Physiology of the Body;**
- **45 hours in Pathology;**
- **45 hours in Kinesiology;**
- **300 hours in supervised in classroom Massage Theory and Technique;**

  Please note that, pursuant to the advisory ruling adopted by the Board on August 20, 2010, the Board will not accept training in modalities that do not fit the regulatory definition of massage in 269 CMR 2.0. Training in Reiki, Reflexology, Acupressure, Polarity Therapy, Asian Bodywork, Cranial Sacral, etc. may not be applied to this requirement.

  Please see the Statutes and Regulations section of the web site for more information.

- **60 hours in Ethics, Professionalism and Business Practices.**
- **100 hours of unpaid and supervised clinical internship or externship experience;**

The hours are further defined so that the curriculum of an approved massage school shall include:

100 hours of Anatomy and Physiology including the structure and function of the following body systems:

- **Integumentary System,**
- **Musculoskeletal System**
- **Cardiovascular System**
- **Blood Lymphatic and Immune systems**
- **Nervous system**
- **Endocrine system**
- **Respiratory system**
- **Digestive system**
- **Urinary system**
- **Reproductive system**

45 Hours of Pathology:

The study of common pathologies encountered in the practice of massage and how they impact the application of massage, specific indications, contraindications and precautions to the application massage in the presence of these pathologies.

45 Hours of Kinesiology:

Location, identification and palpation of the bellies and attachments of the major muscles of external movement of the body.

MASSAGE TRAINING REQUIREMENTS FOR LICENSURE

300 Hours of Massage Theory and Technique:

To include the following learning objectives in the areas of:

Effects of touch and massage techniques:

- Identify and describe the physiological effects of touch and specific massage.
- Identify and describe potential emotional effects of touch and specific massage techniques.
- Define and describe the interpersonal and physical components of a therapeutic environment
- Develop competency in musculoskeletal palpation and pain assessment skills relating to the appropriate application of massage techniques.
- Develop a safe and effective treatment plan, based on client goals, assessment findings, and understanding of effects of massage.
- Write clear, concise and accurate notes of client treatment sessions.
- Demonstrate commonly recognized techniques that are within the scope of practice and training for massage therapy disciplines. Demonstrate techniques that are appropriate for each body area, including endangerment sites.
- Demonstrate the use of draping during treatment as a professional boundary
- Identify and practice appropriate methods of sanitation and personal hygiene in the performance of massage sessions.

Self-care:

- Identify and describe the effect of physical fitness and life style habits on the performance of massage techniques.
- Identify and demonstrate biomechanical skills necessary for the safe and effective performance of massage techniques.

National Examination:

100 Hours of education may be credited towards the 300 hour requirement in Massage Theory and Technique if:

The applicant submits proof of passing the **Massage and Bodywork Licensing Exam** (MBLEx) administered by the Federation of State Massage Therapy Board (FSMTB) or the **National Certification Examination** for Therapeutic Massage and Bodywork (NCBTMB) administered by the National Certification Board of Therapeutic Massage and Bodywork (NCBTMB) **on or after 2010**

60 Hours of Ethics and Professionalism:

Professionalism and Communication:

- Define and demonstrate active listening, rapport, empathy and feedback.
- Identify strategies to effectively deal with emotional and behavioral client responses to massage therapy treatment.

- Describe the principles of conflict resolution and apply conflict resolution skills effectively in the client-therapist relationship.
- Define and discuss the differences between a personal and a professional relationship
- Discuss the importance of professional boundaries Describe techniques for establishing and maintaining safe and respectful boundaries with clients.
- Identify and describe the purpose of a code of ethics. Identify and describe the purpose of Standards of Practice specific to massage therapy.
- Identify confidentiality principles related to massage therapy
- Identify common ethical situations in massage therapy and strategies to effectively resolve ethical issues.
- Identify and design effective methods for time management, client scheduling, and maintenance of the work environment.
- Outline an employment strategy, including short and long-term professional goals
- Create, maintain and identify legal requirements for retaining client, financial and tax records.
- Demonstrate knowledge of federal, state and local regulations as they pertain to massage therapy practice.
- Identify the elements of effective job search and marketing materials (such as resumes, brochures, business cards).
- Identify and discuss common methods of marketing for massage therapy.
- Identify strategies to develop and maintain a client base.
- Discuss the value of ongoing education and skill development as a professional
- Describe methods for identifying advanced training programs to enhance performance, knowledge and skills.
- Identify the role of professional associations for massage therapists.

100 hours of unpaid and supervised clinical or internship experience;

A minimum of **60 hours** of which must be dedicated to the actual hands on practice of massage therapy, supervised by a licensed massage or qualified health care professional. The other clinic or internship hours may be dedicated to assessment and treatment planning, treatment note preparation, clinic management and or externship practice supervised by a school approved on-site supervisor and evaluated by a school faculty member. The 100 hours may be dedicated entirely to hands on practice.

Memorandum

To: Needham Board of Health
From: Tara Gurge, Assistant Public Health Director
Monica De Winter, Project Coordinator
Date: February 10, 2017; Revised and Resubmitted: March 2, 2017; Revised June 2017
Re: Tobacco Regulation Updates and Discussion Points

Tobacco use remains a significant health concern and according to the Surgeon General it is considered the leading preventable cause of disease and death in the U.S[1] and it causes at least 12 cancers.[2] Specifically, addiction to nicotine can lead to respiratory disease, cardiac disease, and negative birth outcomes.[3] Nearly 9 out of 10 adult daily smokers smoked their first cigarette by the age of 18.1[4] and more than 90 percent do so before the end of their teen years.[5] In addition, nicotine harms youth brain development. Namely, e-cigarette products containing nicotine are unsafe and can potentially cause permanent changes to the adolescent brain and lungs.[6]

We propose the following five (5) recommendations to the current tobacco regulations:

1. Ban new retailers within 500 feet of a school. A Tobacco Product Sales Permit should not be issued to a new applicant for a retail location within 500 feet of a school as measured by a straight line from the nearest point of the property line of the school to the nearest point of the property line of the site of the applicant's business premises. A school would be a public or private elementary or secondary school in Needham. Research shows that reducing access and availability of tobacco can reduce youth use rates.[7]

In a similar vein, potential new tobacco vendors should be prohibited from obtaining a permit if they are located within 500 feet of each other. This reduces density, spaces out retailers from being so close to one another, and eliminates the option for price wars. [7]

2. Regarding e-cigarette and vaping regulations, we recommend incorporating the Massachusetts AG Regulation 940 CMR 21.00 which states, "The sale or distribution of tobacco products, as defined herein, must comply with those provisions found at 940 CMR 21.00 ("Sale and Distribution of Cigarettes, Smokeless Tobacco Products, and Electronic Smoking Devices in Massachusetts").

3. In order to tighten enforcement for penalties a flat $300 is recommended when the tobacco vendor is in violation of selling to a minor. This is the highest dollar amount that can be charged under Non-Criminal Disposition. Compliance checks have been consistently done quarterly for the 12 tobacco vendors in town and, when illegally sold tobacco to minors, were brought before the Board of Health and had their permits suspended and were issued a fine.

4. Tighten enforcement by increasing the tolling period. That is, increase from 24 to 36 months the period of performance in which a violation of the regulation is considered current on a permit

holder's "record." We propose the following updated suspension schedule across a 36 month period of performance:

Violation	Permit Suspension	Fine
First Violation	7 Business Day Suspension	$300 fine (Non-Criminal Disposition)
Second Violation	14 Business Day Suspension	$300 fine (Non-Criminal Disposition)
Third Violation	30 Business Day Suspension	$300 fine (Non-Criminal Disposition)
Fourth Violation	90 Business Day Suspension	$300 fine (Non-Criminal Disposition)
Fifth Violation	Indefinite Permit Suspension	$300 fine (Non-Criminal Disposition)

5. Cartridge labeling (section 1.9.8 in current Needham regulations, below) requires that the nicotine content and the complete list of ingredients are to be added on the label of liquid e-cigarette cartridges. We propose requiring accurate nicotine content labeling with the following language:

> *1.9.8* No retailer, retail establishment, or other individual or entity shall sell or distribute or cause to be sold or distributed nicotine in a liquid or gel substance in Needham unless the liquid or gel product lists ~~the ingredients and~~ nicotine content, measured in milligrams per milliliter, of that liquid or gel product.

There is compelling evidence that warning labels on cigarettes and nicotine containing products will improve health and discourage smoking.[8,9]

We would like to discuss the following three items with you at the next Board of Health meeting.

1. We had an existing owner come in and question our single cigar sale regulations so we propose updating the language regarding Section 1.9 "Cigarette Packaging and Cigar Sales."

1.9.1 The sale or distribution of tobacco products, as defined herein, in any form other than an original factory-wrapped package is prohibited, including the repackaging or dispensing of any tobacco product, as defined herein, for retail sale. No person may sell or cause to be sold or distribute or cause to be distributed, any cigarette package that contains fewer than twenty (20) cigarettes, including single cigarettes. No person shall sell or distribute or cause to be sold or distributed a single cigar unless the single cigar has a retail price of two dollars and fifty cents ($2.50) or more.

1.9.3 ~~No retailer, retail establishment, or other individual or entity shall sell or distribute or cause to be sold or distributed any original factory-wrapped package of two or more cigars, unless such package is priced for retail sale at $5.00 or more.~~ This Section shall not apply to a person or entity engaged in the business of selling or distributing cigars for commercial purposes to another person or entity engaged in the business of selling or distributing cigars for commercial purposes with the intent to sell or distribute outside the boundaries of Needham

2. We have been advised that there is good public health reasoning to change the language in 1.9.8 to take out "…the ingredients and" so that we require accurate nicotine content labeling. It may, however, cause a second "cease and desist" letter.

3. Regarding warning signs *near* e-cigarettes within the store, we propose the following, "E-cigarette solutions may or may not contain the following ingredients, some of which are found to be dangerous." We cannot be too specific with the language, but if we stay sufficiently broad then this sign is permitted.

4. Regarding tobacco sales permits we currently maintain a waiting list with a cap of 12 permits. Our suggestion would be to give the Board discretion as whether to grant a returned permit to a new applicant or to refrain from granting the returned permit to that applicant. For example, if a tobacco vendor leaves the town, then the Board would retract the permit and, at its discretion, decide whether to issue that permit to a future applicant. Perhaps the decision would be to reduce the total number of permits allowed in the town altogether.

Sincerely,

Tara E. Gurge, R.S., C.E.H.T., M.S.
Assistant Public Health Director

Monica J. De Winter, MPH
Project Coordinator

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[1] U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: US Dept. of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014. https://www.surgeongeneral.gov/library/reports/50-years-of-progress/

[2] U.S. Department of Health and Human Services. Smoking and Cancer (Fact Sheet). Atlanta, GA: US Dept. of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm

[3] https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm

[4] https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm

[5] SAMHSA, Calculated based on data in 2011 National Survey on Drug Use and Health.

[6] King BA, Tynan MA, Dube SR, et al. 2013. "Flavored-Little-Cigar and Flavored-Cigarette Use Among U.S. Middle and High School Students." Journal of Adolescent Health., http://www.jahonline.org/article/S1054-139X(13)00415-1/fulltext

[7] McCarthy WJ, Mistry R, Lu Y, Patel M, Zheng H, Dietsch B. Density of tobacco retailers near schools: effects on tobacco use among students. American Journal of Public Health. 2009;99(11):2006-2013.

[8] Noel T. Brewer, Marissa G. Hall, Seth M. Noar, Humberto Parada, Al Stein-Seroussi, Laura E. Bach, Sean Hanley, Kurt M. Ribisl. Effect of Pictorial Cigarette Pack Warnings on Changes in Smoking Behavior: A Randomized Clinical Trial. JAMA Intern Med. Published online June 6, 2016.

[9] Carpenter CM, Wayne GF, Pauly JL, et al. 2005. "New Cigarette Brands with Flavors that Appeal to Youth: Tobacco Marketing Strategies." Health Affairs. 24(6): 1601 –1610; Lewis M and Wackowski O. 2006. "Dealing with an Innovative Industry: A Look at Flavored Cigarettes Promoted by Mainstream Brands." American Journal of Public Health. 96(2): 244

Crosswalk of Needham Tobacco Regulations to State Model Regulations

Description	Location in State Model Regs	Location in old Needham Regs
Definition of tobacco products includes nicotine delivery products	Section C	Section 1.3
Include cessation sign requirement	Section D.2.b	**-- (Not Included)**
Include minimum cigar package size/price	Section F	Sections 1.9.3 and 1.9.4
No permit renewal if outstanding fines exist	Section E.5	Section 1.7.11
No permit renewal if X number of sales to buyers under MLSA	Section E.10	Section 1.12
Cap and/or reduce number of permits	Section E.11.A	Section 1.7.12
No sales within 500 feet of a school	Section E.11.C	**-- (Not Included)**
No new permits within 500 feet of existing permit	Section E.11.D	**-- (Not Included)**
Restrict flavored tobacco products	Section G	Section 1.6.10
Minimum legal sales age for tobacco products	Section D	Section 1.6.1
Ban blunt wraps	Section H	Section 1.6.9
Ban free distribution of tobacco products & redemption of coupons	Section I	Section 1.8
Ban out of package sales	Section J	Section 1.9.1
Ban self-service displays	Section K	Section 1.10
Ban vending machines	Section L	Section 1.11.1
Ban Non-Residential RYO machines	Section M	Section 1.11.2
Ban tobacco product sales in health care institutions	Section N	Section 1.6.7
Ban tobacco product sales in educational institutions	Section O	Section 1.6.8
Fining structure mirrors state law OR Flat Fine	Section S ***Flat Fine***	Section 1.12 ***State Tiered Structure***
Tolling periods for violations	Section S	Section 1.12
Suspension Period	Section S	Section 1.12
Shall" vs. "May" language for suspensions	Section S ***Shall—all***	Section 1.12 ***Shall--mostly***
Prohibition on smoking in public places and workplaces	**-- (Not Included)** Now Section Q	Section 1.4
Smoking Bars	**-- (Not Included)** Now Section R	Section 1.5
Require Employees to Do Training	**-- (Not Included)** Now Section E.3	Section 1.7.3
Require Employees to Sign Acknowledgment of Regulation	**-- (Not Included)** Now Section E.4	Section 1.7.8
No Sales by Employees under 21	**-- (Not Included)** Now Section D.5	Section 1.6.6

From: Timothy McDonald
Sent: Monday, March 13, 2017 5:34 PM
To: Timothy McDonald
Subject: Distances between Tobacco Retailers.xlsx

Board of Health:

There were a number of action items generated as a result of last week's Board of Health meeting. My staff and I will work to address a number of those issues in the weeks ahead. But thanks to Dawn and Ben Anderson (Town's GIS guy), we already have one action item to check off the list. Attached please find a chart detailing the distance between existing tobacco vendors. There are two pairs of locations that are located within 500 feet of one another. They are the 7-11 and the Needham Heights Auto Service and, in the downtown, the Tedeschi/7-11 and the Needham Service Center.

7-11	845 HIGHLAND AVE	Needham Heights Auto Service	875 HIGHLAND AVE	165
Tedeschi	168 GARDEN ST	Needham Service Center	1417 HIGHLAND AVE	347

Have a good evening.

Thanks,
TM

Timothy Muir McDonald
Director, Public Health Division
Health & Human Services Department
Town of Needham

Town Hall
1471 Highland Avenue
Needham, MA 02492

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Mobile: 781-883-7421
Email: tmcdonald@needhamma.gov

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InputName	InputAddress	NearName	NearAddress	DISTANCE Feet	
Speedway	207 HIGHLAND AVE	Roche Brothers	377 CHESTNUT ST	12,292	
Speedway	207 HIGHLAND AVE	7-11	173 CHESTNUT ST	11,073	
Speedway	207 HIGHLAND AVE	Fernandes Mini Mart	397 GREAT PLAIN AVE	10,529	
Speedway	207 HIGHLAND AVE	Great Plain Ave Gas	1111 GREAT PLAIN AVE	10,218	
Speedway	207 HIGHLAND AVE	Needham Center Fine Wines	1013 GREAT PLAIN AVE	9,934	
Speedway	207 HIGHLAND AVE	Tedeschi	168 GARDEN ST	9,328	
Speedway	207 HIGHLAND AVE	Needham Service Center	1417 HIGHLAND AVE	9,273	
Speedway	207 HIGHLAND AVE	Sudbury Farms	1177 HIGHLAND AVE	7,758	
Speedway	207 HIGHLAND AVE	Needham Heights Auto Service	875 HIGHLAND AVE	5,662	
Speedway	207 HIGHLAND AVE	7-11	845 HIGHLAND AVE	5,573	
Speedway	207 HIGHLAND AVE	Panella's Market & Deli	50 CENTRAL AVE	3,168	
7-11	845 HIGHLAND AVE	Roche Brothers	377 CHESTNUT ST	7,552	
7-11	845 HIGHLAND AVE	7-11	173 CHESTNUT ST	6,292	
7-11	845 HIGHLAND AVE	Fernandes Mini Mart	397 GREAT PLAIN AVE	8,672	
7-11	845 HIGHLAND AVE	Great Plain Ave Gas	1111 GREAT PLAIN AVE	5,146	
7-11	845 HIGHLAND AVE	Needham Center Fine Wines	1013 GREAT PLAIN AVE	5,105	
7-11	845 HIGHLAND AVE	Tedeschi	168 GARDEN ST	4,366	
7-11	845 HIGHLAND AVE	Needham Service Center	1417 HIGHLAND AVE	4,455	
7-11	845 HIGHLAND AVE	Sudbury Farms	1177 HIGHLAND AVE	2,821	
7-11	845 HIGHLAND AVE	Needham Heights Auto Service	875 HIGHLAND AVE	165	
7-11	845 HIGHLAND AVE	Speedway	207 HIGHLAND AVE	5,573	
7-11	845 HIGHLAND AVE	Panella's Market & Deli	50 CENTRAL AVE	6,454	
Needham Heights Auto Service	875 HIGHLAND AVE	Roche Brothers	377 CHESTNUT ST	7,394	
Needham Heights Auto Service	875 HIGHLAND AVE	7-11	173 CHESTNUT ST	6,133	
Needham Heights Auto Service	875 HIGHLAND AVE	Fernandes Mini Mart	397 GREAT PLAIN AVE	8,528	
Needham Heights Auto Service	875 HIGHLAND AVE	Great Plain Ave Gas	1111 GREAT PLAIN AVE	4,994	
Needham Heights Auto Service	875 HIGHLAND AVE	Needham Center Fine Wines	1013 GREAT PLAIN AVE	4,945	
Needham Heights Auto Service	875 HIGHLAND AVE	Tedeschi	168 GARDEN ST	4,208	
Needham Heights Auto Service	875 HIGHLAND AVE	Needham Service Center	1417 HIGHLAND AVE	4,294	
Needham Heights Auto Service	875 HIGHLAND AVE	Sudbury Farms	1177 HIGHLAND AVE	2,658	
Needham Heights Auto Service	875 HIGHLAND AVE	7-11	845 HIGHLAND AVE	165	SAME AS ABOVE
Needham Heights Auto Service	875 HIGHLAND AVE	Speedway	207 HIGHLAND AVE	5,662	
Needham Heights Auto Service	875 HIGHLAND AVE	Panella's Market & Deli	50 CENTRAL AVE	6,599	
Sudbury Farms	1177 HIGHLAND AVE	Roche Brothers	377 CHESTNUT ST	4,757	
Sudbury Farms	1177 HIGHLAND AVE	7-11	173 CHESTNUT ST	3,494	
Sudbury Farms	1177 HIGHLAND AVE	Fernandes Mini Mart	397 GREAT PLAIN AVE	6,744	
Sudbury Farms	1177 HIGHLAND AVE	Great Plain Ave Gas	1111 GREAT PLAIN AVE	2,468	
Sudbury Farms	1177 HIGHLAND AVE	Needham Center Fine Wines	1013 GREAT PLAIN AVE	2,304	
Sudbury Farms	1177 HIGHLAND AVE	Tedeschi	168 GARDEN ST	1,603	
Sudbury Farms	1177 HIGHLAND AVE	Needham Service Center	1417 HIGHLAND AVE	1,642	
Sudbury Farms	1177 HIGHLAND AVE	Needham Heights Auto Service	875 HIGHLAND AVE	2,658	
Sudbury Farms	1177 HIGHLAND AVE	7-11	845 HIGHLAND AVE	2,821	
Sudbury Farms	1177 HIGHLAND AVE	Speedway	207 HIGHLAND AVE	7,758	
Sudbury Farms	1177 HIGHLAND AVE	Panella's Market & Deli	50 CENTRAL AVE	9,175	
Tedeschi	168 GARDEN ST	Roche Brothers	377 CHESTNUT ST	3,187	
Tedeschi	168 GARDEN ST	7-11	173 CHESTNUT ST	1,931	
Tedeschi	168 GARDEN ST	Fernandes Mini Mart	397 GREAT PLAIN AVE	6,498	
Tedeschi	168 GARDEN ST	Great Plain Ave Gas	1111 GREAT PLAIN AVE	902	
Tedeschi	168 GARDEN ST	Needham Center Fine Wines	1013 GREAT PLAIN AVE	764	
Tedeschi	168 GARDEN ST	Needham Service Center	1417 HIGHLAND AVE	347	
Tedeschi	168 GARDEN ST	Sudbury Farms	1177 HIGHLAND AVE	1,603	
Tedeschi	168 GARDEN ST	Needham Heights Auto Service	875 HIGHLAND AVE	4,208	
Tedeschi	168 GARDEN ST	7-11	845 HIGHLAND AVE	4,366	
Tedeschi	168 GARDEN ST	Speedway	207 HIGHLAND AVE	9,328	
Tedeschi	168 GARDEN ST	Panella's Market & Deli	50 CENTRAL AVE	10,769	
Needham Service Center	1417 HIGHLAND AVE	Roche Brothers	377 CHESTNUT ST	3,117	
Needham Service Center	1417 HIGHLAND AVE	7-11	173 CHESTNUT ST	1,856	
Needham Service Center	1417 HIGHLAND AVE	Fernandes Mini Mart	397 GREAT PLAIN AVE	6,152	
Needham Service Center	1417 HIGHLAND AVE	Great Plain Ave Gas	1111 GREAT PLAIN AVE	1,073	
Needham Service Center	1417 HIGHLAND AVE	Needham Center Fine Wines	1013 GREAT PLAIN AVE	671	
Needham Service Center	1417 HIGHLAND AVE	Tedeschi	168 GARDEN ST	347	SAME AS ABOVE
Needham Service Center	1417 HIGHLAND AVE	Sudbury Farms	1177 HIGHLAND AVE	1,642	
Needham Service Center	1417 HIGHLAND AVE	Needham Heights Auto Service	875 HIGHLAND AVE	4,294	
Needham Service Center	1417 HIGHLAND AVE	7-11	845 HIGHLAND AVE	4,455	
Needham Service Center	1417 HIGHLAND AVE	Speedway	207 HIGHLAND AVE	9,273	
Needham Service Center	1417 HIGHLAND AVE	Panella's Market & Deli	50 CENTRAL AVE	10,810	
Needham Center Fine Wines	1013 GREAT PLAIN AVE	Roche Brothers	377 CHESTNUT ST	2,453	
Needham Center Fine Wines	1013 GREAT PLAIN AVE	7-11	173 CHESTNUT ST	1,190	
Needham Center Fine Wines	1013 GREAT PLAIN AVE	Fernandes Mini Mart	397 GREAT PLAIN AVE	6,150	
Needham Center Fine Wines	1013 GREAT PLAIN AVE	Great Plain Ave Gas	1111 GREAT PLAIN AVE	702	
Needham Center Fine Wines	1013 GREAT PLAIN AVE	Tedeschi	168 GARDEN ST	764	
Needham Center Fine Wines	1013 GREAT PLAIN AVE	Needham Service Center	1417 HIGHLAND AVE	671	

InputName	InputAddress	NearName	NearAddress	DISTANCE Feet
Needham Center Fine Wines	1013 GREAT PLAIN AVE	Sudbury Farms	1177 HIGHLAND AVE	2,304
Needham Center Fine Wines	1013 GREAT PLAIN AVE	Needham Heights Auto Service	875 HIGHLAND AVE	4,945
Needham Center Fine Wines	1013 GREAT PLAIN AVE	7-11	845 HIGHLAND AVE	5,105
Needham Center Fine Wines	1013 GREAT PLAIN AVE	Speedway	207 HIGHLAND AVE	9,934
Needham Center Fine Wines	1013 GREAT PLAIN AVE	Panella's Market & Deli	50 CENTRAL AVE	11,478
Great Plain Ave Gas	1111 GREAT PLAIN AVE	Roche Brothers	377 CHESTNUT ST	2,503
Great Plain Ave Gas	1111 GREAT PLAIN AVE	7-11	173 CHESTNUT ST	1,338
Great Plain Ave Gas	1111 GREAT PLAIN AVE	Fernandes Mini Mart	397 GREAT PLAIN AVE	6,843
Great Plain Ave Gas	1111 GREAT PLAIN AVE	Needham Center Fine Wines	1013 GREAT PLAIN AVE	702
Great Plain Ave Gas	1111 GREAT PLAIN AVE	Tedeschi	168 GARDEN ST	902
Great Plain Ave Gas	1111 GREAT PLAIN AVE	Needham Service Center	1417 HIGHLAND AVE	1,073
Great Plain Ave Gas	1111 GREAT PLAIN AVE	Sudbury Farms	1177 HIGHLAND AVE	2,468
Great Plain Ave Gas	1111 GREAT PLAIN AVE	Needham Heights Auto Service	875 HIGHLAND AVE	4,994
Great Plain Ave Gas	1111 GREAT PLAIN AVE	7-11	845 HIGHLAND AVE	5,146
Great Plain Ave Gas	1111 GREAT PLAIN AVE	Speedway	207 HIGHLAND AVE	10,218
Great Plain Ave Gas	1111 GREAT PLAIN AVE	Panella's Market & Deli	50 CENTRAL AVE	11,585
7-11	173 CHESTNUT ST	Roche Brothers	377 CHESTNUT ST	1,263
7-11	173 CHESTNUT ST	Fernandes Mini Mart	397 GREAT PLAIN AVE	6,146
7-11	173 CHESTNUT ST	Great Plain Ave Gas	1111 GREAT PLAIN AVE	1,338
7-11	173 CHESTNUT ST	Needham Center Fine Wines	1013 GREAT PLAIN AVE	1,190
7-11	173 CHESTNUT ST	Tedeschi	168 GARDEN ST	1,931
7-11	173 CHESTNUT ST	Needham Service Center	1417 HIGHLAND AVE	1,856
7-11	173 CHESTNUT ST	Sudbury Farms	1177 HIGHLAND AVE	3,494
7-11	173 CHESTNUT ST	Needham Heights Auto Service	875 HIGHLAND AVE	6,133
7-11	173 CHESTNUT ST	7-11	845 HIGHLAND AVE	6,292
7-11	173 CHESTNUT ST	Speedway	207 HIGHLAND AVE	11,073
7-11	173 CHESTNUT ST	Panella's Market & Deli	50 CENTRAL AVE	12,666
Roche Brothers	377 CHESTNUT ST	7-11	173 CHESTNUT ST	1,263
Roche Brothers	377 CHESTNUT ST	Fernandes Mini Mart	397 GREAT PLAIN AVE	6,390
Roche Brothers	377 CHESTNUT ST	Great Plain Ave Gas	1111 GREAT PLAIN AVE	2,503
Roche Brothers	377 CHESTNUT ST	Needham Center Fine Wines	1013 GREAT PLAIN AVE	2,453
Roche Brothers	377 CHESTNUT ST	Tedeschi	168 GARDEN ST	3,187
Roche Brothers	377 CHESTNUT ST	Needham Service Center	1417 HIGHLAND AVE	3,117
Roche Brothers	377 CHESTNUT ST	Sudbury Farms	1177 HIGHLAND AVE	4,757
Roche Brothers	377 CHESTNUT ST	Needham Heights Auto Service	875 HIGHLAND AVE	7,394
Roche Brothers	377 CHESTNUT ST	7-11	845 HIGHLAND AVE	7,552
Roche Brothers	377 CHESTNUT ST	Speedway	207 HIGHLAND AVE	12,292
Roche Brothers	377 CHESTNUT ST	Panella's Market & Deli	50 CENTRAL AVE	13,928
Fernandes Mini Mart	397 GREAT PLAIN AVE	Roche Brothers	377 CHESTNUT ST	6,390
Fernandes Mini Mart	397 GREAT PLAIN AVE	7-11	173 CHESTNUT ST	6,146
Fernandes Mini Mart	397 GREAT PLAIN AVE	Great Plain Ave Gas	1111 GREAT PLAIN AVE	6,843
Fernandes Mini Mart	397 GREAT PLAIN AVE	Needham Center Fine Wines	1013 GREAT PLAIN AVE	6,150
Fernandes Mini Mart	397 GREAT PLAIN AVE	Tedeschi	168 GARDEN ST	6,498
Fernandes Mini Mart	397 GREAT PLAIN AVE	Needham Service Center	1417 HIGHLAND AVE	6,152
Fernandes Mini Mart	397 GREAT PLAIN AVE	Sudbury Farms	1177 HIGHLAND AVE	6,744
Fernandes Mini Mart	397 GREAT PLAIN AVE	Needham Heights Auto Service	875 HIGHLAND AVE	8,528
Fernandes Mini Mart	397 GREAT PLAIN AVE	7-11	845 HIGHLAND AVE	8,672
Fernandes Mini Mart	397 GREAT PLAIN AVE	Speedway	207 HIGHLAND AVE	10,529
Fernandes Mini Mart	397 GREAT PLAIN AVE	Panella's Market & Deli	50 CENTRAL AVE	13,281
Panella's Market & Deli	50 CENTRAL AVE	Roche Brothers	377 CHESTNUT ST	13,928
Panella's Market & Deli	50 CENTRAL AVE	7-11	173 CHESTNUT ST	12,666
Panella's Market & Deli	50 CENTRAL AVE	Fernandes Mini Mart	397 GREAT PLAIN AVE	13,281
Panella's Market & Deli	50 CENTRAL AVE	Great Plain Ave Gas	1111 GREAT PLAIN AVE	11,585
Panella's Market & Deli	50 CENTRAL AVE	Needham Center Fine Wines	1013 GREAT PLAIN AVE	11,478
Panella's Market & Deli	50 CENTRAL AVE	Tedeschi	168 GARDEN ST	10,769
Panella's Market & Deli	50 CENTRAL AVE	Needham Service Center	1417 HIGHLAND AVE	10,810
Panella's Market & Deli	50 CENTRAL AVE	Sudbury Farms	1177 HIGHLAND AVE	9,175
Panella's Market & Deli	50 CENTRAL AVE	Needham Heights Auto Service	875 HIGHLAND AVE	6,599
Panella's Market & Deli	50 CENTRAL AVE	7-11	845 HIGHLAND AVE	6,454
Panella's Market & Deli	50 CENTRAL AVE	Speedway	207 HIGHLAND AVE	3,168

Distances between Tobacco Retailers and Schools

Line ID	FromSchool	ToStore	Distance Feet	Street Number	Street Name	PARCEL_ID
64	Broadmeadow	Fernandes Mini Mart	2,118.01	397	GREAT PLAIN AVE	1990110006900000
66	Broadmeadow	Needham Service Center	7,523.51	1417	HIGHLAND AVE	1990510000400000
68	Broadmeadow	Needham Center Fine Wines	7,676.67	1013	GREAT PLAIN AVE	1990510001000000
63	Broadmeadow	Sudbury Farms	7,715.06	1177	HIGHLAND AVE	1992260005600000
65	Broadmeadow	Tedeschi	7,862.86	168	GARDEN ST	1990510002300000
69	Broadmeadow	7-11	7,897.71	173	CHESTNUT ST	1990470008400000
70	Broadmeadow	Roche Brothers	8,318.35	377	CHESTNUT ST	1990460006000000
67	Broadmeadow	Great Plain Ave Gas	8,373.89	1111	GREAT PLAIN AVE	1990510004300000
62	Broadmeadow	Needham Heights Auto Service	8,951.23	875	HIGHLAND AVE	1990690006800000
61	Broadmeadow	7-11	9,072.76	845	HIGHLAND AVE	1990690006600000
96	Broadmeadow	Speedway	9,721.97	207	HIGHLAND AVE	1990740003500000
88	Broadmeadow	The Depot Store	10,552.32	30	CHARLES ST	1990750002100000
80	Eliot	7-11	4,491.82	845	HIGHLAND AVE	1990690006600000
79	Eliot	Needham Heights Auto Service	4,656.94	875	HIGHLAND AVE	1990690006800000
81	Eliot	The Depot Store	4,713.09	30	CHARLES ST	1990750002100000
89	Eliot	Speedway	5,269.29	207	HIGHLAND AVE	1990740003500000
78	Eliot	Sudbury Farms	7,258.07	1177	HIGHLAND AVE	1992260005600000
77	Eliot	Tedeschi	8,704.34	168	GARDEN ST	1990510002300000
76	Eliot	Needham Service Center	8,848.38	1417	HIGHLAND AVE	1990510000400000
74	Eliot	Great Plain Ave Gas	9,375.77	1111	GREAT PLAIN AVE	1990510004300000
75	Eliot	Needham Center Fine Wines	9,464.27	1013	GREAT PLAIN AVE	1990510001000000
73	Eliot	7-11	10,626.22	173	CHESTNUT ST	1990470008400000
72	Eliot	Roche Brothers	11,863.89	377	CHESTNUT ST	1990460006000000
71	Eliot	Fernandes Mini Mart	12,878.61	397	GREAT PLAIN AVE	1990110006900000
29	HighRock	Roche Brothers	1,606.72	377	CHESTNUT ST	1990460006000000
28	HighRock	7-11	2,008.15	173	CHESTNUT ST	1990470008400000
25	HighRock	Great Plain Ave Gas	2,514.52	1111	GREAT PLAIN AVE	1990510004300000
27	HighRock	Needham Center Fine Wines	2,882.09	1013	GREAT PLAIN AVE	1990510001000000
24	HighRock	Tedeschi	3,407.37	168	GARDEN ST	1990510002300000
26	HighRock	Needham Service Center	3,503.14	1417	HIGHLAND AVE	1990510000400000
23	HighRock	Sudbury Farms	4,979.57	1177	HIGHLAND AVE	1992260005600000
22	HighRock	Needham Heights Auto Service	7,433.34	875	HIGHLAND AVE	1990690006800000
21	HighRock	7-11	7,577.58	845	HIGHLAND AVE	1990690006600000
30	HighRock	Fernandes Mini Mart	7,928.02	397	GREAT PLAIN AVE	1990110006900000
92	HighRock	Speedway	12,732.15	207	HIGHLAND AVE	1990740003500000
84	HighRock	The Depot Store	13,087.62	30	CHARLES ST	1990750002100000
33	HighSchool	Sudbury Farms	1,096.25	1177	HIGHLAND AVE	1992260005600000
35	HighSchool	Needham Service Center	2,113.72	1417	HIGHLAND AVE	1990510000400000
34	HighSchool	Tedeschi	2,246.57	168	GARDEN ST	1990510002300000
37	HighSchool	Needham Center Fine Wines	2,755.29	1013	GREAT PLAIN AVE	1990510001000000
32	HighSchool	Needham Heights Auto Service	2,828.39	875	HIGHLAND AVE	1990690006800000
31	HighSchool	7-11	2,990.74	845	HIGHLAND AVE	1990690006600000
36	HighSchool	Great Plain Ave Gas	3,144.80	1111	GREAT PLAIN AVE	1990510004300000
38	HighSchool	7-11	3,872.12	173	CHESTNUT ST	1990470008400000
39	HighSchool	Roche Brothers	5,094.28	377	CHESTNUT ST	1990460006000000
40	HighSchool	Fernandes Mini Mart	5,903.76	397	GREAT PLAIN AVE	1990110006900000
93	HighSchool	Speedway	7,201.82	207	HIGHLAND AVE	1990740003500000
85	HighSchool	The Depot Store	7,651.71	30	CHARLES ST	1990750002100000
1	Hillside	7-11	1,232.74	845	HIGHLAND AVE	1990690006600000
2	Hillside	Needham Heights Auto Service	1,303.01	875	HIGHLAND AVE	1990690006800000
3	Hillside	Sudbury Farms	3,286.78	1177	HIGHLAND AVE	1992260005600000
4	Hillside	Tedeschi	4,618.97	168	GARDEN ST	1990510002300000
5	Hillside	Needham Service Center	4,792.18	1417	HIGHLAND AVE	1990510000400000

Distances between Tobacco Retailers and Schools

Line ID	FromSchool	ToStore	Distance Feet	Street Number	Street Name	PARCEL_ID
6	Hillside	Great Plain Ave Gas	5,260.67	1111	GREAT PLAIN AVE	1990510004300000
7	Hillside	Needham Center Fine Wines	5,381.38	1013	GREAT PLAIN AVE	1990510001000000
90	Hillside	Speedway	6,386.66	207	HIGHLAND AVE	1990740003500000
82	Hillside	The Depot Store	6,392.34	30	CHARLES ST	1990750002100000
8	Hillside	7-11	6,526.14	173	CHESTNUT ST	1990470008400000
9	Hillside	Roche Brothers	7,754.34	377	CHESTNUT ST	1990460006000000
10	Hillside	Fernandes Mini Mart	9,656.93	397	GREAT PLAIN AVE	1990110006900000
43	Mitchell	Sudbury Farms	3,609.19	1177	HIGHLAND AVE	1992260005600000
42	Mitchell	Needham Heights Auto Service	4,055.25	875	HIGHLAND AVE	1990690006800000
41	Mitchell	7-11	4,164.51	845	HIGHLAND AVE	1990690006600000
45	Mitchell	Needham Service Center	4,389.97	1417	HIGHLAND AVE	1990510000400000
44	Mitchell	Tedeschi	4,616.53	168	GARDEN ST	1990510002300000
47	Mitchell	Needham Center Fine Wines	4,920.10	1013	GREAT PLAIN AVE	1990510001000000
50	Mitchell	Fernandes Mini Mart	4,920.83	397	GREAT PLAIN AVE	1990110006900000
46	Mitchell	Great Plain Ave Gas	5,462.83	1111	GREAT PLAIN AVE	1990510004300000
48	Mitchell	7-11	5,827.45	173	CHESTNUT ST	1990470008400000
94	Mitchell	Speedway	5,955.72	207	HIGHLAND AVE	1990740003500000
86	Mitchell	The Depot Store	6,624.00	30	CHARLES ST	1990750002100000
49	Mitchell	Roche Brothers	6,887.11	377	CHESTNUT ST	1990460006000000
16	Newman	Great Plain Ave Gas	4,224.78	1111	GREAT PLAIN AVE	1990510004300000
14	Newman	Tedeschi	4,767.47	168	GARDEN ST	1990510002300000
17	Newman	Needham Center Fine Wines	4,921.95	1013	GREAT PLAIN AVE	1990510001000000
18	Newman	7-11	5,029.82	173	CHESTNUT ST	1990470008400000
15	Newman	Needham Service Center	5,092.36	1417	HIGHLAND AVE	1990510000400000
19	Newman	Roche Brothers	5,430.28	377	CHESTNUT ST	1990460006000000
13	Newman	Sudbury Farms	5,542.05	1177	HIGHLAND AVE	1992260005600000
12	Newman	Needham Heights Auto Service	6,839.99	875	HIGHLAND AVE	1990690006800000
11	Newman	7-11	6,919.59	845	HIGHLAND AVE	1990690006600000
20	Newman	Fernandes Mini Mart	11,052.13	397	GREAT PLAIN AVE	1990110006900000
91	Newman	Speedway	12,490.62	207	HIGHLAND AVE	1990740003500000
83	Newman	The Depot Store	12,583.11	30	CHARLES ST	1990750002100000
59	Pollard	Fernandes Mini Mart	3,073.34	397	GREAT PLAIN AVE	1990110006900000
57	Pollard	7-11	3,077.79	173	CHESTNUT ST	1990470008400000
60	Pollard	Needham Center Fine Wines	3,153.16	1013	GREAT PLAIN AVE	1990510001000000
55	Pollard	Needham Service Center	3,283.60	1417	HIGHLAND AVE	1990510000400000
58	Pollard	Roche Brothers	3,478.65	377	CHESTNUT ST	1990460006000000
54	Pollard	Tedeschi	3,618.50	168	GARDEN ST	1990510002300000
56	Pollard	Great Plain Ave Gas	3,821.36	1111	GREAT PLAIN AVE	1990510004300000
53	Pollard	Sudbury Farms	4,310.77	1177	HIGHLAND AVE	1992260005600000
52	Pollard	Needham Heights Auto Service	6,653.22	875	HIGHLAND AVE	1990690006800000
51	Pollard	7-11	6,815.78	845	HIGHLAND AVE	1990690006600000
95	Pollard	Speedway	10,237.31	207	HIGHLAND AVE	1990740003500000
87	Pollard	The Depot Store	10,857.69	30	CHARLES ST	1990750002100000

Board of Health

Edward Cosgrove, PhD
Member

Stephen Epstein, MD, MPP
Vice Chair

Jane Fogg, MD, MPH
Chair

ARTICLE 1
Regulation Affecting Smoking and the Sale and Distribution of Tobacco Products in Needham

A. Statement of Purpose:

Whereas there exists conclusive evidence that tobacco smoking causes cancer, respiratory and cardiac diseases, negative birth outcomes, irritations to the eyes, nose and throat[1];

Whereas the U.S. Department of Health and Human Services has concluded that nicotine is as addictive as cocaine or heroin[2] and the Surgeon General found that nicotine exposure during adolescence, a critical window for brain development, may have lasting adverse consequences for brain development,[3] and that it is addiction to nicotine that keeps youth smoking past adolescence.[4]

Whereas a Federal District Court found that Phillip Morris, RJ Reynolds and other leading cigarette manufacturers "spent billions of dollars every year on their marketing activities in order to encourage young people to try and then continue purchasing their cigarette products in order to provide the replacement smokers they need to survive" and that these companies were likely to continue targeting underage smokers[5];

Whereas more than 80 percent of all adult smokers begin smoking before the age of 18, more than 90 percent do so before leaving their teens, and more than 3.5 million middle and high school students smoke;[6]

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[1] Center for Disease Control and Prevention, (CDC) (2012), *Health Effects of Cigarette Smoking Fact Sheet.* Retrieved from: http://www.cdc.gov/tobacco/data_statistice/fact_sheets/health_effects/effects_cig_smoking/index. htm.

[2] CDC (2010), *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease.* Retrieved from: http://www.cdc.gov/tobacco/data_statistics/sgr/2010/.

[3] U.S. Department of Health and Human Services. 2014. *The Health Consequences of Smoking – 50 Years of Progress: A Report of the Surgeon General.* Atlanta: U.S. National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, p. 122. Retrieved from: http://www.surgeongeneral.gov/library/reports/ 50-years-of-progress/full-report.pdf.

[4] Id. *at* Executive Summary p. 13. Retrieved from: http://www.surgeongeneral.gov/library/reports/50-years-of-progress/exec-summary.pdf

[5] United States v. Phillip Morris, Inc., RJ Reynolds Tobacco Co., et al., 449 F.Supp.2d 1 (D.D.C. 2006) at Par. 3301 and Pp. 1605-07.

[6] SAMHSA, Calculated based on data in 2011 National Survey on Drug Use and Health and U. S. Department of Health and Human services (HHA).

Whereas 18.1 percent of current smokers aged <18 years reported that they *usually* directly purchased their cigarettes from stores (i.e. convenience store, supermarket, or discount store) or gas stations, and among 11th grade males this rate was nearly 30 percent ;[7]

Whereas the Institute of Medicine (IOM) concludes that raising the minimum age of legal access to tobacco products to 21 will likely reduce tobacco initiation, particularly among adolescents 15 – 17, which would improve health across the lifespan and save lives[8].

Whereas the 2014 MetroWest Adolescent Health Survey (MHAWS) results show that 8% of Needham high school students used cigarettes on at least one day of the 30 days before the survey, compared with 5% of students in 2012. And whereas the 2014 MetroWest Adolescent Health Survey (MHAWS) results show that 19% of Needham high school students used cigarettes in their lifetime, compared with 17% of students in 2012.[9]

Whereas cigars and cigarillos, can be sold in a single "dose;" enjoy a relatively low tax as compared to cigarettes; are available in fruit, candy and alcohol flavors; and are popular among youth[10];

Whereas research shows that increased cigar prices significantly decreased the probability of male adolescent cigar use and a 10% increase in cigar prices would reduce use by 3.4%[11];

Whereas 59% of high school smokers in Massachusetts have tried flavor cigarettes or flavored cigars and 25.6% of them are current flavored tobacco product users; 95.1 % of 12 – 17 year olds who smoked cigars reported smoking cigar brands that were flavored;[12]

Whereas the Surgeon General found that exposure to tobacco marketing in stores and price discounting increase youth smoking;[13]

Whereas the federal Family Smoking Prevention and Tobacco Control Act (FSPTCA), enacted in 2009, prohibited candy- and fruit-flavored cigarettes,[14] largely because these flavored products were marketed to youth and young adults,[15] and younger smokers were more likely to have tried these products than older smokers[16], neither federal nor Massachusetts laws restrict sales of flavored non-cigarette tobacco products, such

[7] CDC (2013) Youth Risk Behavior, Surveillance Summaries (MMWR 2014: 63 (No SS-04)). Retrieved from: www.cdc.gov.
[8] IOM (Institute of Medicine) 2015. *Public Health Implications of Raising the Minimum Age of Legal Access to Tobacco Products.* Washington DC: The National Academies Press, 2015.
[9] MetroWest Adolescent Health Survey: Needham High School Reports 2012 and 2014.
[10] CDC (2009), *Youth Risk Behavior, Surveillance Summaries* (MMWR 2010: 59, 12, note 5). Retrieved from: http:www.cdc.gov/mmwr/pdf/ss/ss5905.pdf.
[11] Ringel, J., Wasserman, J., & Andreyeva, T. (2005) *Effects of Public Policy on Adolescents' Cigar Use: Evidence from the National Youth Tobacco Survey.* American Journal of Public Health, 95(6), 995-998, doi: 10.2105/AJPH.2003.030411 and cited in *Cigar, Cigarillo and Little Cigar Use among Canadian Youth: Are We Underestimating the Magnitude of this Problem?*, J. Prim. P. 2011, Aug: 32(3-4):161-70. Retrieved from: www.nebi.nim.gov/pubmed/21809109.
[12] Massachusetts Department of Public Health, 2015 Massachusetts Youth Health Survey (MYHS); Delneve CD et al., Tob Control, March 2014: Preference for flavored cigar brands among youth, young adults and adults in the USA.
[13] U.S. Department of Health and Human Services. 2012. *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General.* Atlanta: U.S. National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, p. 508-530, *www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf*.
[14] 21 U.S.C. § 387g.
[15] Carpenter CM, Wayne GF, Pauly JL, et al. 2005. "New Cigarette Brands with Flavors that Appeal to Youth: Tobacco Marketing Strategies." *Health Affairs*. 24(6): 1601–1610; Lewis M and Wackowski O. 2006. "Dealing with an Innovative Industry: A Look at Flavored Cigarettes Promoted by Mainstream Brands." *American Journal of Public Health*. 96(2): 244–251; Connolly GN. 2004. "Sweet and Spicy Flavours: New Brands for Minorities and Youth." *Tobacco Control*. 13(3): 211–212; U.S. Department of Health and Human Services. 2012. *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General.* Atlanta: U.S. National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, p. 537, *www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf*.
[16] U.S. Department of Health and Human Services. 2012. *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General.* Atlanta: U.S. National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, p. 539, *www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf*.

as cigars, cigarillos, smokeless tobacco, hookah tobacco, and electronic devices and the nicotine solutions used in these devices;

Whereas the U.S. Food and Drug Administration and the U.S. Surgeon General have stated that flavored tobacco products are considered to be "starter" products that help establish smoking habits that can lead to long-term addiction;[17]

Whereas the U.S. Surgeon General recognized in his 2014 report that a complementary strategy to assist in eradicating tobacco related death and disease is for local governments to ban categories of products from retail sale;[18]

Whereas the U.S. Centers for Disease Control and Prevention has reported that the current use of electronic cigarettes, a product sold in dozens of flavors that appeal to youth, among middle and high school students tripled from 2013 to 2014;[19]

Whereas 5.8% of Massachusetts youth currently use e-cigarettes and 15.9% have tried them[20] and in Needham 17% of Needham high school students currently use e-cigarettes and 29% of those students have tried e-cigarettes once in their lifetime, according to the 2014 MetroWest Adolescent Health Survey (MHAWS).[21]

Whereas the Massachusetts Department of Environmental Protection has classified liquid nicotine in any amount as an "acutely hazardous waste";[22]

Whereas in a lab analysis conducted by the FDA, electronic cigarette cartridges that were labeled as containing no nicotine actually had low levels of nicotine present in all cartridges tested, except for one[23];

Whereas according to the CDC's youth risk behavior surveillance system, the percentage of high school students in Massachusetts who reported the use of cigars within the past 30 days is 10.8% in 2013; [24]

Whereas data from the National Youth Tobacco Survey indicate that more than two-fifths of U.S. middle and high school smokers report using flavored little cigars or flavored cigarettes;[25]

Whereas the sale of tobacco products is incompatible with the mission of health care institutions because these products are detrimental to the public health and their presence in health care institutions undermine efforts to educate patients on the safe and effective use of medication, including cessation medication;

Whereas educational institutions sell tobacco products to a younger population, who is particularly at risk for becoming smokers and such sale of tobacco products is incompatible with the mission of educational institutions that educate a younger population about social, environmental and health risks and harms;

[17] Food and Drug Administration. 2011. *Fact Sheet: Flavored Tobacco Products*, www.fda.gov/downloads/TobaccoProducts/ProtectingKidsfromTobacco/FlavoredTobacco/UCM183214.pdf; U.S. Department of Health and Human Services. 2012. *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General*. Atlanta: U.S. National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, p. 539, www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf.
[18] *See* fn. 3 at p. 85.
[19] Centers for Disease Control & Prevention. 2015. "Tobacco Use Among Middle and High School Students — United States, 2011–2014," *Morbidity and Mortality Weekly Report (MMWR)* 64(14): 381–385;
[20] Massachusetts Department of Public Health, 2015 Massachusetts Youth Health Survey (MYHS)
[21] MetroWest Adolescent Health Survey: Needham High School Reports 2012 and 2014.
[22] 310 CMR 30.136
[23] Food and Drug Administration, *Summary of Results: Laboratory Analysis of Electronic Cigarettes Conducted by FDA*, available at: http://www.fda.gov/newsevents/publichealthfocus/ucm173146.htm.
[24] *See* fn. 7.
[25] King BA, Tynan MA, Dube SR, et al. 2013. "Flavored-Little-Cigar and Flavored-Cigarette Use Among U.S. Middle and High School Students." *Journal of Adolescent Health*. [Article in press], www.jahonline.org/article/S1054-139X%2813%2900415-1/abstract.

Whereas the Massachusetts Supreme Judicial Court has held that " . . . [t]he right to engage in business must yield to the paramount right of government to protect the public health by any rational means"[26].

Now, therefore it is the intention of the Needham Board of Health to regulate the sale of tobacco products.

B. **Authority:**

This regulation is promulgated pursuant to the authority granted to the Needham Board of Health by Massachusetts General Laws Chapter 111, Section 31 which states that "Boards of health may make reasonable health regulations".

C. **Definitions:**

For the purpose of this regulation, the following words shall have the following meanings:

Adult-only retail tobacco store: An establishment that is not required to possess a retail food permit whose primary purpose is to sell or offer for sale but not for resale, tobacco products and tobacco paraphernalia, in which the sale of other products is merely incidental, and in which the entry of persons under the minimum legal sales age is prohibited at all times, and maintains a valid permit for the retail sale of tobacco products as required to be issued by the Needham Board of Health.

Blunt Wrap: Any tobacco product manufactured or packaged as a wrap or as a hollow tube made wholly or in part from tobacco that is designed or intended to be filled by the consumer with loose tobacco or other fillers regardless of any content.

Business Agent: An individual who has been designated by the owner or operator of any establishment to be the manager or otherwise in charge of said establishment.

Characterizing flavor: A distinguishable taste or aroma, other than the taste or aroma of tobacco, menthol, mint or wintergreen, imparted or detectable either prior to or during consumption of a tobacco product or component part thereof, including, but not limited to, tastes or aromas relating to any fruit, chocolate, vanilla, honey, candy, cocoa, dessert, alcoholic beverage, herb or spice; provided, however, that no tobacco product shall be determined to have a characterizing flavor solely because of the provision of ingredient information or the use of additives or flavorings that do not contribute to the distinguishable taste or aroma of the product.

Cigar: Any roll of tobacco that is wrapped in leaf tobacco or in any substance containing tobacco with or without a tip or mouthpiece not otherwise defined as a cigarette under Massachusetts General Law, Chapter 64C, Section 1, Paragraph 1.

Component part: Any element of a tobacco product, including, but not limited to, the tobacco, filter and paper, but not including any constituent.

Constituent: Any ingredient, substance, chemical or compound, other than tobacco, water or reconstituted tobacco sheet, that is added by the manufacturer to a tobacco product during the processing, manufacturing or packaging of the tobacco product. Such term shall include a smoke constituent.

[26] Druzik et al v. Board of Health of Haverhill, 324 Mass.129 (1949).

Coupon: Any card, paper, note, form, statement, ticket or other issue distributed for commercial or promotional purposes to be later surrendered by the bearer so as to receive an article, service or accommodation without charge or at a discount price.

Distinguishable: Perceivable by either the sense of smell or taste.

Educational Institution: Any public or private college, school, professional school, scientific or technical institution, university or other institution furnishing a program of higher education.

Employee: Any individual who performs services for an employer.

Employer: Any individual, partnership, association, corporation, trust or other organized group of individuals that uses the services of one (1) or more employees.

Flavored tobacco product: Any tobacco product or component part thereof that contains a constituent that has or produces a characterizing flavor. A public statement, claim or indicia made or disseminated by the manufacturer of a tobacco product, or by any person authorized or permitted by the manufacturer to make or disseminate public statements concerning such tobacco product, that such tobacco product has or produces a characterizing flavor shall constitute presumptive evidence that the tobacco product is a flavored tobacco product.

Health Care Institution: An individual, partnership, association, corporation or trust or any person or group of persons that provides health care services and employs health care providers licensed, or subject to licensing, by the Massachusetts Department of Public Health under M.G.L. c. 112 or a retail establishment that provides pharmaceutical goods and services and is subject to the provisions of 247 CMR 6.00. Health care institutions include, but are not limited to, hospitals, clinics, health centers, pharmacies, drug stores, doctor offices, optician/optometrist offices and dentist offices.

Liquid Nicotine Container: A bottle or other vessel which contains nicotine in liquid or gel form, whether or not combined with another substance or substances, for use in a tobacco product, as defined herein. The term does not include a container containing nicotine in a cartridge that is sold, marketed, or intended for use in a tobacco product, as defined herein, if the cartridge is prefilled and sealed by the manufacturer and not intended to be open by the consumer or retailer.

Listed or non-discounted price: The higher of the price listed for a tobacco product on its package or the price listed on any related shelving, posting, advertising or display at the place where the tobacco product is sold or offered for sale plus all applicable taxes if such taxes are not included in the state price, and before the application of any discounts or coupons.

Minimum Legal Sales Age (MLSA): The age an individual must be before that individual can be sold a tobacco product in the municipality.

Non-Residential Roll-Your-Own (RYO) Machine: A mechanical device made available for use (including to an individual who produces cigars, cigarettes, smokeless tobacco, pipe tobacco, or roll-your-own tobacco solely for the individual's own personal consumption or use) that is capable of making cigarettes, cigars or other

tobacco products. RYO machines located in private homes used for solely personal consumption are not Non-Residential RYO machines.

Permit Holder: Any person engaged in the sale or distribution of tobacco products who applies for and receives a tobacco product sales permit or any person who is required to apply for a Tobacco Product Sales Permit pursuant to these regulations, or his or her business agent.

Person: Any individual, firm, partnership, association, corporation, company or organization of any kind, including but not limited to, an owner, operator, manager, proprietor or person in charge of any establishment, business or retail store.

Self-Service Display: Any display from which customers may select a tobacco product, as defined herein, without assistance from an employee or store personnel.

Schools: Public or private elementary or secondary schools.

Smoke Constituent: Any chemical or chemical compound in mainstream or sidestream tobacco smoke that either transfers from any component of the tobacco product to the smoke or that is formed by the combustion or heating of tobacco, additives or other component of the tobacco product.

Smoking Bar: An establishment that primarily is engaged in the retail sale of tobacco products for consumption by customers on the premises and is required by Mass. General Law Ch. 270, §22 to maintain a valid permit to operate a smoking bar issued by the Massachusetts Department of Revenue. "Smoking bar" shall include, but not be limited to, those establishments that are commonly known as "cigar bars" and "hookah bars".

Tobacco Product: Any product containing, made, or derived from tobacco or nicotine that is intended for human consumption, whether smoked, chewed, absorbed, dissolved, inhaled, snorted, sniffed, or ingested by any other means, including, but not limited to: cigarettes, cigars, little cigars, chewing tobacco, pipe tobacco, snuff; or electronic cigarettes, electronic cigars, electronic pipes, electronic hookah, liquid nicotine, "e-liquids" or other similar products, regardless of nicotine content, that rely on vaporization or aerosolization. "Tobacco product" includes any component or part of a tobacco product. "Tobacco product" also includes all nicotine delivery products. "Tobacco product" does not include any product that has been approved by the United States Food and Drug Administration either as a tobacco use cessation product or for other medical purposes and which is being marketed and sold or prescribed solely for the approved purpose.

Vending Machine: Any automated or mechanical self-service device, which upon insertion of money, tokens or any other form of payment, dispenses or makes cigarettes or any other tobacco products, as defined herein.

D. **Tobacco Sales to Persons Under the Minimum Legal Sales Age Prohibited:**

1. No person shall sell tobacco products or permit tobacco products, as defined herein, to be sold to a person under the minimum legal sales age; or not being the individual's parent or legal guardian, give tobacco products, as defined herein, to a person under the minimum legal sales age. The minimum legal sales age in Needham is 21 years.

2. Required Signage:

a. In conformance with and in addition to Massachusetts General Law, Chapter 270, Section 7, a copy of Massachusetts General Laws, Chapter 270, Section 6, shall be posted conspicuously by the owner or other person in charge thereof in the shop or other place used to sell tobacco products at retail. The notice shall be provided by the Massachusetts Department of Public Health and made available from the Needham Board of Health. The notice shall be at least 48 square inches and shall be posted conspicuously by the permit holder in the retail establishment or other place in such a manner so that it may be readily seen by a person standing at or approaching the cash register. The notice shall directly face the purchaser and shall not be obstructed from view or placed at a height of less than 4 feet or greater than 9 feet from the floor. The owner or other person in charge of a shop or other place used to sell tobacco products at retail shall conspicuously post any additional signs required by the Massachusetts Department of Public Health. The owner or other person in charge of a shop or other place used to sell hand rolled cigars must display a warning about cigar consumption in a sign at least 50 square inches pursuant to 940 CMR 22.06 (2) (e).

b. The owner or other person in charge of a shop or other place used to sell tobacco products, as defined herein, at retail shall conspicuously post signage provided by the Needham Board of Health that discloses current referral information about smoking cessation.

c. The owner or other person in charge of a shop or other place used to sell tobacco products that rely on vaporization or aerosolization, as defined herein as "tobacco products", at retail shall conspicuously post a sign stating that "The sale of tobacco products, including e-cigarettes, to someone under the minimum legal sales age of 21 years is prohibited." The notice shall be no smaller than 8.5 inches by 11 inches and shall be posted conspicuously in the retail establishment or other place in such a manner so that it may be readily seen by a person standing at or approaching the cash register. The notice shall directly face the purchaser and shall not be obstructed from view or placed at a height of less than four (4) feet or greater than nine (9) feet from the floor.

3. Identification: Each person selling or distributing tobacco products, as defined herein, shall verify the age of the purchaser by means of a valid government-issued photographic identification containing the bearer's date of birth that the purchaser is 21 years old or older. Verification is required for any person under the age of 27.

4. All retail sales of tobacco products, as defined herein, must be face-to-face between the seller and the buyer and occur at the permitted location.

5. No person or entity selling tobacco products shall allow anyone under twenty one (21) years of age to sell tobacco products.

E. **Tobacco Product Sales Permit:**

1. No person shall sell or otherwise distribute tobacco products, as defined herein, within the town of Needham without first obtaining a Tobacco Product Sales Permit issued annually by the Needham Board of Health. Only owners of establishments with a permanent, non-mobile location in Needham are eligible to apply for a permit and sell tobacco products, as defined herein, at the specified location in Needham**.**

2. As part of the Tobacco Product Sales Permit application process, the applicant will be provided with the Needham regulation. Each applicant is required to sign a statement declaring that the applicant has read said regulation and that the applicant is responsible for instructing any and all employees who will be responsible for tobacco product sales regarding federal, state and local laws regarding the sale of tobacco and this regulation.

3. As a condition for obtaining and/or renewing a Tobacco Sales Permit, the Needham Board of Health may require tobacco retailers and any employee involved in the act of sale of tobacco products to participate in training programs provided by or approved by the Board regarding compliance with the laws and regulations prohibiting the sale of tobacco products to minors and to individuals under the age of 21.

4. No Tobacco Sales Permit holder shall allow any employee to sell cigarettes or other tobacco products until such employee reads this regulation and state laws regarding the sale of tobacco products and signs a statement, a copy of which will be placed on file in the office of the employer, that the employee has read and understands the regulation and applicable state laws.

5. Each applicant who sells tobacco products is required to provide proof of a current Tobacco Retailer License issued by the Massachusetts Department of Revenue, when required by state law, before a Tobacco Product Sales Permit can be issued.

6. A separate permit, displayed conspicuously, is required for each retail establishment selling tobacco products, as defined herein. The fee for which shall be determined by the Needham Board of Health annually.

7. A Tobacco Product Sales Permit is non-transferable. A new owner of an establishment that wishes to sell tobacco products, as defined herein, must apply for a new permit Tobacco Product Sales Permit and one may only be issued at the Needham Board of Health's discretion. At the very least, no new permit will be issued unless and until all outstanding penalties incurred by the previous permit holder are satisfied in full.

8. Issuance of a Tobacco Product Sales Permit shall be conditioned on an applicant's consent to unannounced, periodic inspections of his/her retail establishment to ensure compliance with this regulation.

9. A Tobacco Product Sales Permit will not be renewed if the permit holder has failed to pay all fines issued and the time period to appeal the fines has expired and/or the permit holder has not satisfied any outstanding permit suspensions.

10. A Tobacco Product Sales Permit will not be renewed if the permit holder has sold a tobacco product to a person under the MLSA (§D.1) six times within the 36 month period of performance (which begins on the effective date of this regulation's amendment, July 1, 2017) and the time period to appeal has expired. The violator may request a hearing in accordance with subsection 4 of the Violations section.

11. Maximum Number of Tobacco Product Sales Permits.

a. At any given time, there shall be no more than twelve (12) Tobacco Product Sales Permits issued in Needham **(**reduced by the number of permits not renewed pursuant to subsection (b) below). No permit renewal will be denied based on the requirements of this subsection except any permit holder who has failed to renew his or her permit within thirty (30) days of expiration will be treated as a first-time permit applicant. New applicants for permits who are applying at a time when the maximum number of permits have been issued will be placed on a waiting list and may be eligible to apply for a permit on a

"first-come, first-served" basis as issued permits are either not renewed, revoked, or are returned to the Board of Health.

b. As of July 1, 2017**,** any permit not renewed because a retailer no longer sells tobacco products, as defined herein, or because a retailer closes the retail business, or because the ownership of the establishment with the Tobacco Product Sales Permit changes ownership, shall be returned to the Needham Board of Health and may, at the Board's discretion, be permanently retired by the Board of Health and the total allowable number of Tobacco Product Sales Permits under paragraph 11(a) shall be reduced by the number of the retired permits.

c. A Tobacco Product Sales Permit **may, at the Board of Health's discretion**, not be issued to any new applicant for a retail location within 500 feet of a public or private elementary or secondary school as measured by a straight line from the nearest point of the property line of the school to the nearest point of the property line of the site of the applicant's business premises. This provision does **not** apply to existing permit holders in good standing that are within 500 feet of a public or private elementary or secondary school.

d. A Tobacco Product Sales Permit **may, at the Board of Health's discretion**, not be issued to any new applicant for a retail location within 500 feet of an existing Tobacco Product Sales Permit holder as measured by a straight line from the nearest point of the proposed permit holder's property line to the nearest point of the property line of the site of the applicant's business premises. This provision does **not** apply to existing permit holders in good standing that currently located within an existing Tobacco Product Sales Permit holder.

Comment [TM1]: Need clarification here on whether this is a "shall not" or a "may, at BOH discretion, not".

e. Applicants who purchase an existing business that holds a valid Tobacco Product Sales Permit at the time of the sale of said business must apply within sixty (60) days of such sale for the permit held by the Seller if the Buyer intends to sell tobacco products, as defined herein, and permit issuance shall be subject to the conditions of this Section.

F. **Cigar Sales Regulated:**

1. No person shall sell or distribute or cause to be sold or distributed a single cigar.

2. No person shall sell or distribute or cause to be sold or distributed any original factory-wrapped package of two or more cigars, unless such package is priced for retail sale at $5.00 or more.

3. This Section shall not apply to:

a. The sale or distribution of any single cigar having a retail price of two dollars and fifty cents ($2.50) or more.
b. A person or entity engaged in the business of selling or distributing cigars for commercial purposes to another person or entity engaged in the business of selling or distributing cigars for commercial purposes with the intent to sell or distribute outside the boundaries of Needham**.**

4. The Needham Board of Health shall adjust, from time to time, the amounts specified in this Section to reflect changes in the applicable Consumer Price Index by amendment of this regulation.

G. **Sale of Flavored Tobacco Products Prohibited:**

No person shall sell or distribute or cause to be sold or distributed any flavored tobacco product, except in smoking bars and adult-only retail tobacco stores.

H. **Prohibition of the Sale of Blunt Wraps:**

No person or entity shall sell or distribute blunt wraps in Needham**.**

I. **Free Distribution and Coupon Redemption:** No person shall:

1. Distribute or cause to be distributed, any free samples of tobacco products, as defined herein;

2. Accept or redeem, offer to accept or redeem, or cause or hire any person to accept or redeem or offer to accept or redeem any coupon that provides any tobacco product, as defined herein, without charge or for less than the listed or non-discounted price; or

3. Sell a tobacco product, as defined herein, to consumers through any multi-pack discounts (e.g., "buy-two-get-one-free") or otherwise provide or distribute to consumers any tobacco product, as defined herein, without charge or for less than the listed or non-discounted price in exchange for the purchase of any other tobacco product.

4. Sections 2 and 3 shall not apply to products, such as cigarettes, for which there is a state law prohibiting them from being sold as loss leaders and for which a minimum retail price is required by state law.

J. **Out-of-Package Sales:**

1. The sale or distribution of tobacco products, as defined herein, in any form other than an original factory-wrapped package is prohibited, including the repackaging or dispensing of any tobacco product, as defined herein, for retail sale. No person may sell or cause to be sold or distribute or cause to be distributed any cigarette package that contains fewer than twenty (20) cigarettes, including single cigarettes.

2. A retailer of Liquid Nicotine Containers must comply with the provisions of 310 CMR 30.000, and must provide the Needham Board of Health with a written plan for disposal of said product, including disposal plans for any breakage, spillage or expiration of the product.

3. All retailers must comply with 940 CMR 21.05 which reads: “It shall be an unfair or deceptive act or practice for any person to sell or distribute nicotine in a liquid or gel substance in Massachusetts after March 15, 2016 unless the liquid or gel product is contained in a child-resistant package that, at a minimum, meets the standard for special packaging as set forth in 15 U.S. C.§§1471 through 1476 and 16 CFR §1700 et. Seq.”

K. **Self-Service Displays:**

All self-service displays of tobacco products, as defined herein, are prohibited. All humidors including, but not limited to, walk-in humidors must be locked.

L. **Vending Machines:**

All vending machines containing tobacco products, as defined herein, are prohibited.

M. **Non-Residential Roll-Your-Own Machines:**

All Non-Residential Roll-Your-Own machines are prohibited.

N. **Prohibition of the Sale of Tobacco Products by Health Care Institutions:**

No health care institution located in Needham shall sell or cause to be sold tobacco products, as defined herein. No retail establishment that operates or has a health care institution within it, such as a pharmacy, optician/optometrist or drug store, shall sell or cause to be sold tobacco products, as defined herein.

O. **Prohibition of the Sale of Tobacco Products by Educational Institutions:**

No educational institution located in Needham shall sell or cause to be sold tobacco products, as defined herein. This includes all educational institutions as well as any retail establishments that operate on the property of an educational institution.

P. **Incorporation of Attorney General Regulation 940 CMR 21.00:**

The sale or distribution of tobacco products, as defined herein, must comply with those provisions found at 940 CMR 21.00 ("Sale and Distribution of Cigarettes, Smokeless Tobacco Products, and Electronic Smoking Devices in Massachusetts").

Q. **PROHIBITION ON SMOKING IN PUBLIC PLACES AND WORKPLACES:**

No person shall smoke or use an e-cigarette nor shall any person having control of the premises upon which smoking is prohibited by this regulation or by M.G.L. c. 270, §22, or the business agent or designee of such person, permit a person to smoke or use an e-cigarette in any of the following places as defined herein: restaurants and all outdoor areas of restaurants, bars, taverns, and any other outdoor place where food and/or beverages, and/or non-alcoholic beverages are sold, served, or otherwise consumed or carried, health care facilities, municipal buildings, municipal vehicles, public places, public transportation, retail stores, town-owned parks and playgrounds, town-owned athletic fields, town-owned property, conservation land, nursing homes, hotels, motels, inns, bed and breakfast, lodging homes, any establishment that is required to possess a valid Tobacco Sales Permit from the Needham Board of Health (including, but not limited to, smoke shops, tobacconists, retail tobacco stores) and workplaces except as otherwise provided in § Q.2 of this regulation. It shall be the responsibility of the employer to provide a smoke-free environment for all employees working in an enclosed workplace as well as those workplaces listed. Additionally, no person shall smoke in any place in

which a sign conforming to the requirements of Section Q.1 of this regulation is posted. No person shall remove a sign posted under the authority § Q.1 of this regulation.

1. Every person having control of premises upon which smoking is prohibited by and under the authority of this regulation shall conspicuously display upon the premises "No Smoking" signs provided by the Massachusetts Department of Public Health and available from the Needham Board of Health or the international "No Smoking" symbol (consisting of a pictorial representation of a burning cigarette enclosed in a circle with a bar across it) and comparable in size to the sign provided by the Massachusetts Department of Public Health and available from the Needham Board of Health.

2. Notwithstanding any other provision of these regulations, smoking may be permitted in the following places and/or under the following circumstances consistent with all applicable state laws:

   a. Private residences except those portions used as a public place, food service establishment, child care, adult care, or health care office during the hours when operating as such.
   b. Hotel, motel, inn and bed and breakfast rooms rented to guests at smoke free (100%) at all times. A room so designated shall have signs posted indicating that no smoking is allowed**.**
   c. Private clubs if all employees are members. When a private club is open to the general public, that portion of said establishment open to the general public must be smokefree, separately enclosed and shall have self-closing doors. Premises occupied by a membership association, if the premises is owned, or under a written lease for a term of not less than 90 consecutive days, by an association during the time of the permitted activity if the premises are not located in a public building. Smoking may be permitted in a distinct part of the premises of a membership association, provided that this part (a) is physically separated from any area open to the public or occupied by a non-member who is not a guest. The separation shall be sufficient to prevent any migration of smoke into the public areas. Any doors separating the areas shall be self-closing; (b) is occupied solely by those persons specified in 105 CMR 661.100(b). The membership association shall adopt and effectively implement a policy that ensures only such persons are permitted to enter the part of the premises where smoking is permitted; and (c) there are no signs inviting or encouraging the public or non-members who are not guests to enter. No smoking shall be permitted in an enclosed indoor space of a membership association during the time the space is:

      1) open to the public. A membership association shall be regarded as open to the public when it has signs or advertising inviting or encouraging non-members to the premises or takes other action that may reasonably be regarded as inviting or allowing non-members to enter the premises.; or
      2) occupied by a non-member who is not an invited guest of a member or an employee of the association. A non-member shall be regarded as a guest if entering the premises (a) accompanied by a member, provided the member remains on the premises while the guest is present, and (b) signing a guest register that clearly specifies the name and address of the guest and the inviting member;
      3) rented from the association for a fee or other agreement that compensates the association for the use of such space; OR
      4) occupied by a contract employee, temporary employee or independent contractor.
      5) Smoking may be permitted in an enclosed indoor space of a membership association at all times, if the space is restricted by the association to admittance only of its members, the invited guest of a

member, and the employees of the membership association. A person shall not be regarded as a member if entering the premises under terms of a membership that differ in duration, cost or privileges from the terms of a full membership in the association. A person who is a contract employee, temporary employee, or independent contractor shall be considered an employee of a membership association under this subsection. A person who is a member of an affiliated chapter or branch of a membership association that is fraternal in nature operating under the lodge system, and is visiting the affiliated association, shall be an invited guest for the purpose of this association.

Nothing shall prohibit an establishment from being completely smokefree.

R. **Smoking Bars:**

Smoking bars are prohibited in the Town of Needham.

S. **Violations:**

1. It shall be the responsibility of the establishment, permit holder and/or his or her business agent to ensure compliance with all sections of this regulation. The violator shall receive:

a. In the case of a first violation, a fine of three hundred dollars ($300.00) and the Tobacco Product Sales Permit shall be suspended for seven (7) consecutive business days.
b. In the case of a second violation within 36 months of the date of the first violation, a fine of three hundred dollars ($300.00) and the Tobacco Product Sales Permit shall be suspended for fourteen (14) consecutive business days.
c. In the case of a third violation within 36 months of the date of the first violation, a fine of three hundred dollars ($300.00) and the Tobacco Product Sales Permit shall be suspended for thirty (30) consecutive business days.
d. In the case of a fourth violation within 36 months of the date of the first violation, a fine of three hundred dollars ($300.00) and the Tobacco Product Sales Permit shall be suspended for ninety (90) consecutive business days.
e. In the case of a fifth violation or repeated, egregious violations of this regulation within a 36 month period, the Board of Health shall hold a hearing in accordance with subsection 4 of this section and shall permanently revoke a Tobacco Product Sales Permit.

Comment [TM2]: Latest revisions would no longer wipe clean the slate as of the date that this new regulation goes into effect.

2. Refusal to cooperate with inspections pursuant to this regulation shall result in the suspension of the Tobacco Product Sales Permit for thirty (30) consecutive business days.

3. In addition to the monetary fines set above, any permit holder who engages in the sale or distribution of tobacco products while his or her permit is suspended shall be subject to the suspension of all Board of Health issued permits for thirty (30) consecutive business days.

4. The Needham Board of Health shall provide notice of the intent to suspend or revoke a Tobacco Product Sales Permit, which notice shall contain the reasons therefor and establish a time and date for a hearing which date shall be no earlier than seven (7) days after the date of said notice. The permit holder or its business agent shall have an opportunity to be heard at such hearing and shall be notified of the Board of Health's decision and

the reasons therefor in writing. After a hearing, the Needham Board of Health shall suspend or revoke the Tobacco Product Sales Permit if the Board of Health finds that a violation of this regulation occurred. For purposes of such suspensions or revocations, the Board shall make the determination notwithstanding any separate criminal or non-criminal proceedings brought in court hereunder or under the Massachusetts General Laws for the same offense. All tobacco products, as defined herein, shall be removed from the retail establishment upon suspension or revocation of the Tobacco Product Sales Permit. Failure to remove all tobacco products, as defined herein, shall constitute a separate violation of this regulation.

T. **Non-Criminal Disposition:**

Whoever violates any provision of this regulation may be penalized by the non-criminal method of disposition as provided in Massachusetts General Laws, Chapter 40, § 21D or by filing a criminal complaint at the appropriate venue.

U. **Separate Violations:** Each day any violation exists shall be deemed to be a separate offense.

V. **Enforcement:**

Enforcement of this regulation shall be by the Needham Board of Health, its Director of Health & Human Services, and its designated agents.

Any resident who desires to register a complaint pursuant to the regulation may do so by contacting the Needham Board of Health or its designated agent(s) and the Board shall investigate.

W. **Severability:**

If any provision of this regulation is declared invalid or unenforceable, the other provisions shall not be affected thereby but shall continue in full force and effect.

X. **Effective Date:**

Public meetings about this regulation occurred in November and December 2016, and also during January, February, March, and April 2017. Public hearings occurred in May and June 2017. This regulation was approved by a [unanimous] vote of the Needham Board of Health on XYZ, 2017, and shall take effect on August 1, 2017. A notice and summary of the regulation was posted by the Needham Town Clerk, was posted on the Needham Public Health Division's website, and was published in a newspaper in circulation in the Town of Needham. Copies of this regulation have also been filed with the Needham Town Clerk and the Massachusetts Department of Environmental Protection.

The original Needham Board of Health smoking and tobacco regulation was enacted in September 1991. It has been amended extensively over the years, most notably in 2005 with the enactment of the Tobacco 21 policy, which was phased-in over a three year period. This regulation was amended again in 2009 with the implementation of a prohibition on the sale of tobacco products in pharmacies. A ban on flavored tobacco was incorporated in 2015.

Memorandum

To: Needham Board of Health
From: Tara Gurge, Assistant Public Health Director
Helenka Lepkowski Opstrum, Public Health Intern
Krista Jade Gon, Health Communications Intern
CC: Timothy McDonald, Director of Health & Human Services
Date: June 14, 2017
Re: Proposed Verizon Wireless Small Antenna Installation

Verizon Wireless has proposed installing 12 small cell antennas on utility poles in Needham's public right of way in order to improve capacity and coverage of Verizon Wireless service in the area. Verizon Wireless has selected the 12 locations because the current signal strength in these areas is below Verizon Wireless' network requirements.

The Board of Selectmen held a public hearing on May 30, 2017 to discuss the small cell installation. At the meeting and through emails, residents communicated their concerns about the perceived health effects of radiofrequency (RF) emission and exposure from the small cell technology. This memo outlines health safety information and scientific studies regarding cell phone antennas radiofrequency effects on humans.

The additions of small cell antennas are meant to complement the LTE macro-network sites to improve cell phone service in areas that have high network use. The US Federal Communication Commission (FCC) [1] and the Massachusetts Department of Public Health (105 CMR 122.000) [2] set radiofrequency exposure limits that cellular communication companies have to follow. Verizon Wireless has submitted a report by a third-party radiation safety specialist that determined all 12 small unit antennas are estimated to have RF emissions less than 45% of the Maximum Permissible Exposure.[3] Currently, Needham has approximately 67 FCC registered antenna towers, and there may be more antennas which are not registered.[4]

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[1] http://transition.fcc.gov/cgb/consumerfacts/rfexposure.pdf
[2] http://www.mass.gov/eohhs/docs/dph/regs/105cmr122.pdf
[3] Haes, Donald L. RE: Proposed installations of radio base station antennas an associated equipment for the Verizon Wireless Small Cell Personal Wireless Services facilities to be located on 12 different utility poles in Needham, MA. 1 April 2017.
[4] *FCC Registered Cell Phone and Antenna Towers in Needham, Massachusetts*. N.p., n.d. Web. 30 May 2017.

Summary of Research Findings

Radiofrequency waves are utilized for communication technology with cell phones and cell phone towers. Radiofrequency, microwave, television and radio, heat, and visible light waves are all forms of non-ionizing radiation and are classified at the low frequency end of the electromagnetic spectrum.[5] One concern is that damage to DNA from radiation can lead to cancer, but this has only been associated with ionizing radiation (x-rays and some UV radiation). RF waves do not damage the DNA inside cells since there is not enough energy to ionize the cell molecules. However, at high levels, RF waves can produce a thermal effect. High levels of RF waves absorbed by the body can produce heat in body tissues and cause burns.

Research surrounding health effects from RF waves in humans is ongoing. Current research studies are summarized in the appendix section. Biological outcomes were not consistent across participants and locations and none of them definitively concluded that exposure to radiofrequency radiation causes adverse health effects. There are many challenges to conducting this type of research.

Epidemiological studies on RF exposure to cellular antennas are increasingly hard to conduct since humans go in and out of contact with RF waves with increasing frequency. Personal cellular devices and personal wireless connection technology are now mainstream devices used on a daily basis. It is difficult to make a causal connection from a disease outcome to one specific exposure since there are also genetic, environmental, and behavioral factors interacting.

Future Trends

According to a 2016 Market status report, over 14 million small cells have been shipped around the world with 12 million for residential use.[6] Data traffic from smart phones alone is projected to be five times greater in North America by 2022.[7] By 2022, one out of every four mobile users in North America will have a 5G subscription. The use of small cell technology is expected to increase in the coming years as a way to keep up with consumer demand for fast, consistent wireless services.[8] We anticipate more small cell developments in Needham in the coming years as mobile providers expand 5G coverage.

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[5] Microwaves, Radio Waves, and Other Types of Radiofrequency Radiation. American Cancer Society. Available from https://www.cancer.org/cancer/cancer-causes/radiation-exposure/radiofrequency-radiation.html#additional_resources

[6] Small Cell Forum. Small cell deployments: Market status report. Mobile Experts LLC, 2016.

[7] Ericsson, Ericsson Mobility Report: On the Pulse of the Networked Society, 2016. Available from https://www.ericsson.com/assets/local/mobility-report/documents/2016/ericsson-mobility-report-november-2016.pdf

[8] https://www.verizonwireless.com/archive/mobile-living/inside/goosehollow/small-cell-technology/

Resources for Local Rights and Town Small Cell Development Plans:

- The Federal Communications Act of 1996 says health concerns are not a valid reason for a municipality to deny zoning for a cell tower or antenna. Property values and aesthetics, however, do qualify, according to the act.[9]
- The FCC is accepting comments to a proposal, "Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment."[10] This regulation would pre-empt state and local laws that limit broadband deployment.
- St. Paul, MN created an information memo on small cell technology, the specific federal regulations and state and local rights. [11]
- City of Gaithersburg, MD has outlined a Small Cell Development Plan.[12]
- San Francisco, CA Department of Public Health developed a Radio Frequency Program to ensure human RF exposure is within regulated limits.[13]
- Mobile Manufacturers Forum Mobile Phone Base Stations EMF/ Health Fact Pack includes "how a cellular system works" and community integration of new technology. [14]

Conclusion

There is no significant, conclusive evidence that exposure to mobile phone base stations' RF non-ionizing radiation is detrimental to human health.

Pending Questions & Further Information

- The percent Maximum Permissible Exposure from the radiation safety specialist report by Donald Haes was computed with 6' above ground level (AGL) and 16' AGL. To confirm, the 6' and 16' AGL represent the height at which one could come in contact with the radiation, not the height of the proposed antennas?
    - Height of contact-theory: The 6' and 16' AGL levels representing the height at which one could come into contact with the radiation. 16' is a comparison for a two-story structure. If a person is on the second floor, they are closer to the antenna than a person who is on the ground floor, thus the person on the second floor would have a higher level of exposure.

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[9] Fischler, Marcelle. A pushback against cell towers. The New York Times. 2010. Available from http://www.nytimes.com/2010/08/29/realestate/29Lizo.html

[10] https://www.federalregister.gov/documents/2017/05/11/2017-09541/accelerating-wireline-broadband-deployment-by-removing-barriers-to-infrastructure-investment

[11] League of Minnesota Cities. Information Memo. Cell Towers, Small Cell Technologies & Distributed Antenna Systems. Available from http://www.lmc.org/media/document/1/celltowerssmallcelltechanddas.pdf?inline=true

[12] http://www.gaithersburgmd.gov/government/city-projects/small-cell-facilities

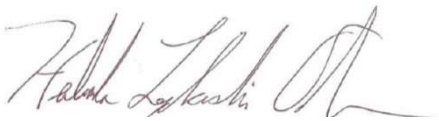
[13] https://www.sfdph.org/dph/EH/RadioFrequency/

[14] https://ehtrust.org/wp-content/uploads/MMF_Mobile_Phone_Base_Stations.pdf

- Can Verizon Wireless provide specifications for the small cell units? Are there vertical radiation patterns for the omni-directional antenna?
- Omni-directional antennas radiate at 360°. Can Verizon Wireless provide more specific radiation patterns for the omni-directional antennas beyond Appendix A from the radiation safety specialist report? What is the distance covered by each small-cell unit?
- In response to anticipated future needs, we recommend that the Town of Needham develop guidelines or best practices for future Small Cell Development. This document would outline relevant regulations and building procedures, articulate Needham guidance and preferred siting choices, and increase the information available to all residents.

Sincerely,

Tara Gurge
Assistant Public Health Director
Public Health Department



Helenka Lepkowski Opstrum
Public Health Intern
Public Health Department

Krista Jade Gon
Health Communications Intern
Public Health Department

-APPENDIX-

Resources

- A 2004 study evaluated comprehensive epidemiologic studies on the effects of RF emission from radio, television, microwave and cellular phone transmitters on human health. [15] The studies reviewed did not show a consistent causal link between RF exposure and adverse health outcomes. However, an association may still exist because there were study limitations. The authors also highlighted how the advancement in communication technology has often outpaced scientific studies on long-term health effects on RF population exposure and more research needs to be completed, especially with children.
- A two-part cross-sectional German study in 2006 investigated whether low-level RF-EMFs emitted from mobile phone base stations causes' health disturbances. Analyzing standardized health questionnaires from 3,526 urban residents on mental health, physical health and other complaints, researchers found "RF-EMFs were not associated with adverse health effects."[16]
- A 2007 workgroup report by the Gradient Corporation in Cambridge, Massachusetts and researchers from the WHO found studies that evaluated potential health effects of RF. Overall, "the accumulated evidence does not establish the existence of adverse short- or long-term health effects from the signals produced by base station and local wireless networks. In fact, for similar RF exposure intensities (watts per square meter), the body absorbs about 5 times more of the RF energy from FM radio and television frequencies (around 100 MHz) than from base station frequencies (around 1–2 GHz). It is reassuring to note that radio and TV broadcast stations have been in operation for > 50 years, and health statistics have not demonstrated adverse health consequences."
- The World Health Organization (WHO) conducted a systematic search of all peer-reviewed papers published before March 2009. In total, 134 publications were identified and found no association between any health outcomes and exposure to radiofrequency electromagnetic field from mobile phone base stations (antennas) at typical daily environmental levels. The evidence that no relationship exists between MPBS exposure and acute symptom development can be considered strong according to the GRADE approach because it is based on randomized trials applying controlled exposure conditions in a laboratory.[17]
- A 2010 paper reviewed studies that looked at biological effects of short and long-term radiofrequency radiation exposure, including people living or working

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[15] ICNIRP (International Commission for Non-Ionizing Radiation Protection) Standing Committee on Epidemiology:, Ahlbom A, Green A, Kheifets L, Savitz D, Swerdlow A. Epidemiology of Health Effects of Radiofrequency Exposure. *Environmental Health Perspectives*. 2004;112(17): 1741-1754. doi:10.1289/ehp.7306.

[16] Berg-Beckhoff G, Blettner M, Kowall B*, et al* Mobile phone base stations and adverse health effects: phase 2 of a cross-sectional study with measured radio frequency electromagnetic fields Occupational and Environmental Medicine 2009;66:124-130.

[17] http://www.who.int/bulletin/volumes/88/12/09-071852/en/

near cell phone stations. The study cited many human and animal experiments with exposure to short-term, low-intensity RF radiation resulted in changes to the immune and reproductive systems. Repeated long-term exposure studies are limited but there is some evidence that prolonged exposure produces different biological effects than short-term exposure. However, researchers could not conclude that long-term exposure had permanent adverse health effects in humans. They recommended that long-term exposure RF guidelines need to be based on long-term studies, not short-term studies. [18]

- Researchers from the Swiss Tropical and Public Health Institute in conjunction with University of Basel conducted a systematic review in 2010 on health effects of exposure to radiofrequency from mobile phone base stations (MPBS) which have a higher maximum power transmission than small cell antennas. The study analyzed 17 articles, 5 randomized human laboratory trials and 12 epidemiological studies. 14 of the 17 articles collected self-reported health data and "did not detect any association between MPBS radiation and the development of acute symptoms during or shortly after exposure." Researchers concluded that lack of association between MPBS exposure (up to 10 volts/m) and acute symptoms development was strongly uncorrelated. Overall, they found there is "insufficient data to draw firm conclusions about health effects from long-term low-level exposure."[19]
- One 2010 study found no association between risk of early childhood cancers and measured mother's exposures to mobile phone base station radio frequencies during pregnancy. The United Kingdom Mobile Telecommunications and Health Research (MTHR*) identified 1397 cases of cancer in children aged 0-4 from across the United Kingdom between 1999-2001. There were four controls based on sex and date of birth. Exposures were based on both calculations and field measurements for the areas located within 700 meters of the base stations.[20]
- In 2011, the International Agency for Research on Cancer (IARC), under the World Health Organization, classified radiofrequency electromagnetic fields as possibly carcinogenic to humans (Group 2B) based on limited evidence in humans and experimental animal studies.[21]
- A 2012 UK report, conducted by the independent Advisory Group on Non-ionizing Radiation, reviewed existing studies on radiofrequency electromagnetic

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[18] Levitt B and Lai H. Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays. Environmental Reviews 2010;18(NA): 369-395. Available from https://doi.org/10.1139/A10-018

[19] Valberg, P. A., van Deventer, T. E., & Repacholi, M. H. (2007). Workgroup Report: Base Stations and Wireless Networks—Radiofrequency (RF) Exposures and Health Consequences. *Environmental Health Perspectives*, *115*(3), 416–424. http://doi.org/10.1289/ehp.9633

[20] Elliott Paul, Toledano Mireille B, Bennett J, Beale L, de Hoogh K, Best N et al. Mobile phone base stations and early childhood cancers: case-control study BMJ 2010; 340 :c3077

[21] Baan, Robert Et al. Carcinogenicity of radiofrequency electromagnetic fields. The Lancet Oncology, 2011;12(7): 624-626. DOI: http://dx.doi.org/10.1016/S1470-2045(11)70147-4

fields.[22] Exposure to RF fields below the internationally accepted levels has not been correlated with negative health outcomes. Though short-term studies do not show conclusive evidence of harm to humans, there is a lack of data studying exposure to radiofrequency fields longer than 15 years.

- A recent 2016 study self-proclaimed "the most comprehensive analysis of potential gene expression changes in the rodent brain in response to RF field exposure conducted to date" analyzed mouse brain regions after exposure to 1.9 GHz radiofrequency fields and found "within the exposure conditions and limitations of this study, no convincing evidence of consistent changes in gene expression was found in response to 1.9 GHz RF field exposure."[23]
- In contrast, a similar mouse study in 2017 exposed mice to 835 MHz RF-EMF at a specific absorption rate (SAR) of 4.0 W/kg for 5 hours/day during 12 weeks. Researchers found that prolonged exposure to radiofrequency electromagnetic fields (RF-EMF) demyelinated neurons potentially causing neurological or neurobehavioral disorders.[24]

[22] Health Protection Agency UK. 2012. Health Effects from Radiofrequency Electromagnetic Fields Available from http://www.ices-emfsafety.org/wp-content/uploads/2014/11/AGNIR_report_2012.pdf

[23] James P. McNamee, Pascale V. Bellier, Anne T. M. Konkle, Reuben Thomas,Siriwat Wasoontarajaroen, Eric Lemay & Greg B. Gajda (2016): Analysis of gene expression in mouse brain regions after exposure to 1.9 GHz radiofrequency fields, International Journal of Radiation Biology, DOI: 10.3109/09553002.2016.1159353

[24] Kim JH, Huh YH, Kim HR (2016) Induction of Autophagy in the Striatum and Hypothalamus of Mice after 835 MHz Radiofrequency Exposure. PLoS ONE 11(4): e0153308. https://doi.org/10.1371/journal.pone.0153308

Definitions

Non-Ionizing Radiation:

Cell phone tower radiation is classified as non-ionizing based on its long wavelength and slower frequency than x-rays or gamma rays that cause ionizing radiation.[25] Below is the electromegnetic spectrum divided into non-ionzing and ionizing radiation for comparison.

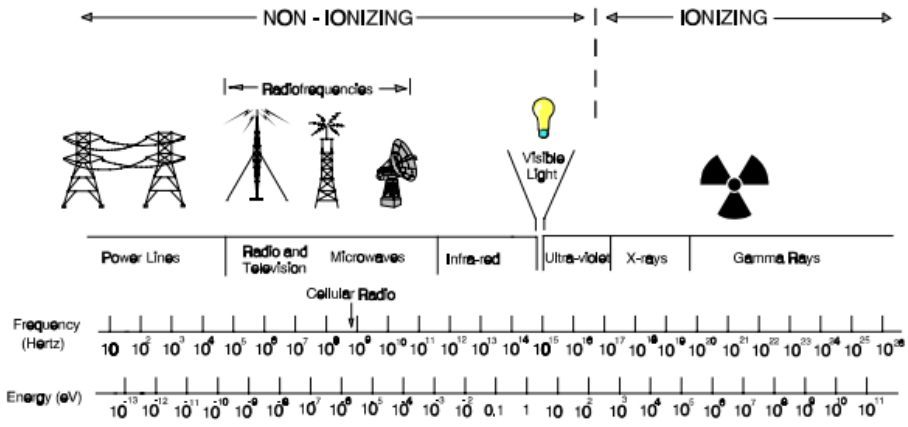

FIGURE 2. ***The Electromagnetic Spectrum***

The Electromagnetic Spectrum

Mobile Phone Base Stations:

"The mobile phone base station is the antenna and transmitting equipment which both transmits and receives the signal to and from the cell phones. The base station antennas are typically mounted 30 to 90 feet above the ground. The typical public exposure to radio frequency energy from a base station is much less than from the cell phone. This is because of the distance from the body that a cell phone is used versus the distance to the cell base station antenna."[26]

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[25] USA. Federal Communications Commission. Engineering and Technology. *Questions and answers about biological effects and potential hazards of radiofrequency electromagnetic fields*. By Robert F. Cleveland and Jerry L. Ulcek. 4th ed. Washington D.C.: Standards Development Branch, Allocations and Standards Division, Office of Engineering and Technology, Federal Communications Commission, 1997. Print. Bulletin 56.

[26] https://www.sfdph.org/dph/EH/RadioFrequency/

Memorandum

To: Needham Board of Health
From: Tara Gurge, Assistant Public Health Director
Helenka Lepkowski Opstrum, Public Health Intern
Krista Jade Gon, Health Communications Intern
CC: Timothy McDonald, Director of Health & Human Services
Date: June 14, 2017
Re: Proposed Verizon Wireless Small Antenna Installation

Verizon Wireless has proposed installing 12 small cell antennas on utility poles in Needham's public right of way in order to improve capacity and coverage of Verizon Wireless service in the area. Verizon Wireless has selected the 12 locations because the current signal strength in these areas is below Verizon Wireless' network requirements.

The Board of Selectmen held a public hearing on May 30, 2017 to discuss the small cell installation. At the meeting and through emails, residents communicated their concerns about the perceived health effects of radiofrequency (RF) emission and exposure from the small cell technology. This memo outlines health safety information and scientific studies regarding cell phone antennas radiofrequency effects on humans.

The additions of small cell antennas are meant to complement the LTE macro-network sites to improve cell phone service in areas that have high network use. The US Federal Communication Commission (FCC) [1] and the Massachusetts Department of Public Health (105 CMR 122.000) [2] set radiofrequency exposure limits that cellular communication companies have to follow. Verizon Wireless has submitted a report by a third-party radiation safety specialist that determined all 12 small unit antennas are estimated to have RF emissions less than 45% of the Maximum Permissible Exposure.[3] Currently, Needham has approximately 67 FCC registered antenna towers, and there may be more antennas which are not registered.[4]

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[1] http://transition.fcc.gov/cgb/consumerfacts/rfexposure.pdf
[2] http://www.mass.gov/eohhs/docs/dph/regs/105cmr122.pdf
[3] Haes, Donald L. RE: Proposed installations of radio base station antennas an associated equipment for the Verizon Wireless Small Cell Personal Wireless Services facilities to be located on 12 different utility poles in Needham, MA. 1 April 2017.
[4] *FCC Registered Cell Phone and Antenna Towers in Needham, Massachusetts*. N.p., n.d. Web. 30 May 2017.

Summary of Research Findings

Radiofrequency waves are utilized for communication technology with cell phones and cell phone towers. Radiofrequency, microwave, television and radio, heat, and visible light waves are all forms of non-ionizing radiation and are classified at the low frequency end of the electromagnetic spectrum.[5] One concern is that damage to DNA from radiation can lead to cancer, but this has only been associated with ionizing radiation (x-rays and some UV radiation). RF waves do not damage the DNA inside cells since there is not enough energy to ionize the cell molecules. However, at high levels, RF waves can produce a thermal effect. High levels of RF waves absorbed by the body can produce heat in body tissues and cause burns.

Research surrounding health effects from RF waves in humans is ongoing. Current research studies are summarized in the appendix section. Biological outcomes were not consistent across participants and locations and none of them definitively concluded that exposure to radiofrequency radiation causes adverse health effects. There are many challenges to conducting this type of research.

Epidemiological studies on RF exposure to cellular antennas are increasingly hard to conduct since humans go in and out of contact with RF waves with increasing frequency. Personal cellular devices and personal wireless connection technology are now mainstream devices used on a daily basis. It is difficult to make a causal connection from a disease outcome to one specific exposure since there are also genetic, environmental, and behavioral factors interacting.

Future Trends

According to a 2016 Market status report, over 14 million small cells have been shipped around the world with 12 million for residential use.[6] Data traffic from smart phones alone is projected to be five times greater in North America by 2022.[7] By 2022, one out of every four mobile users in North America will have a 5G subscription. The use of small cell technology is expected to increase in the coming years as a way to keep up with consumer demand for fast, consistent wireless services.[8] We anticipate more small cell developments in Needham in the coming years as mobile providers expand 5G coverage.

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[5] Microwaves, Radio Waves, and Other Types of Radiofrequency Radiation. American Cancer Society. Available from https://www.cancer.org/cancer/cancer-causes/radiation-exposure/radiofrequency-radiation.html#additional_resources

[6] Small Cell Forum. Small cell deployments: Market status report. Mobile Experts LLC, 2016.

[7] Ericsson, Ericsson Mobility Report: On the Pulse of the Networked Society, 2016. Available from https://www.ericsson.com/assets/local/mobility-report/documents/2016/ericsson-mobility-report-november-2016.pdf

[8] https://www.verizonwireless.com/archive/mobile-living/inside/goosehollow/small-cell-technology/

Resources for Local Rights and Town Small Cell Development Plans:

- The Federal Communications Act of 1996 says health concerns are not a valid reason for a municipality to deny zoning for a cell tower or antenna. Property values and aesthetics, however, do qualify, according to the act.[9]
- The FCC is accepting comments to a proposal, "Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment."[10] This regulation would pre-empt state and local laws that limit broadband deployment.
- St. Paul, MN created an information memo on small cell technology, the specific federal regulations and state and local rights. [11]
- City of Gaithersburg, MD has outlined a Small Cell Development Plan.[12]
- San Francisco, CA Department of Public Health developed a Radio Frequency Program to ensure human RF exposure is within regulated limits.[13]
- Mobile Manufacturers Forum Mobile Phone Base Stations EMF/ Health Fact Pack includes "how a cellular system works" and community integration of new technology. [14]

Conclusion

There is no significant, conclusive evidence that exposure to mobile phone base stations' RF non-ionizing radiation is detrimental to human health.

Pending Questions & Further Information

- The percent Maximum Permissible Exposure from the radiation safety specialist report by Donald Haes was computed with 6' above ground level (AGL) and 16' AGL. To confirm, the 6' and 16' AGL represent the height at which one could come in contact with the radiation, not the height of the proposed antennas?
    - Height of contact-theory: The 6' and 16' AGL levels representing the height at which one could come into contact with the radiation. 16' is a comparison for a two-story structure. If a person is on the second floor, they are closer to the antenna than a person who is on the ground floor, thus the person on the second floor would have a higher level of exposure.

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[9] Fischler, Marcelle. A pushback against cell towers. The New York Times. 2010. Available from http://www.nytimes.com/2010/08/29/realestate/29Lizo.html

[10] https://www.federalregister.gov/documents/2017/05/11/2017-09541/accelerating-wireline-broadband-deployment-by-removing-barriers-to-infrastructure-investment

[11] League of Minnesota Cities. Information Memo. Cell Towers, Small Cell Technologies & Distributed Antenna Systems. Available from http://www.lmc.org/media/document/1/celltowerssmallcelltechanddas.pdf?inline=true

[12] http://www.gaithersburgmd.gov/government/city-projects/small-cell-facilities

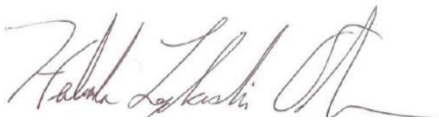
[13] https://www.sfdph.org/dph/EH/RadioFrequency/

[14] https://ehtrust.org/wp-content/uploads/MMF_Mobile_Phone_Base_Stations.pdf

- Can Verizon Wireless provide specifications for the small cell units? Are there vertical radiation patterns for the omni-directional antenna?
- Omni-directional antennas radiate at 360°. Can Verizon Wireless provide more specific radiation patterns for the omni-directional antennas beyond Appendix A from the radiation safety specialist report? What is the distance covered by each small-cell unit?
- In response to anticipated future needs, we recommend that the Town of Needham develop guidelines or best practices for future Small Cell Development. This document would outline relevant regulations and building procedures, articulate Needham guidance and preferred siting choices, and increase the information available to all residents.

Sincerely,

Tara Gurge
Assistant Public Health Director
Public Health Department



Helenka Lepkowski Opstrum
Public Health Intern
Public Health Department

Krista Jade Gon
Health Communications Intern
Public Health Department

-APPENDIX-

Resources

- A 2004 study evaluated comprehensive epidemiologic studies on the effects of RF emission from radio, television, microwave and cellular phone transmitters on human health. [15] The studies reviewed did not show a consistent causal link between RF exposure and adverse health outcomes. However, an association may still exist because there were study limitations. The authors also highlighted how the advancement in communication technology has often outpaced scientific studies on long-term health effects on RF population exposure and more research needs to be completed, especially with children.
- A two-part cross-sectional German study in 2006 investigated whether low-level RF-EMFs emitted from mobile phone base stations causes' health disturbances. Analyzing standardized health questionnaires from 3,526 urban residents on mental health, physical health and other complaints, researchers found "RF-EMFs were not associated with adverse health effects."[16]
- A 2007 workgroup report by the Gradient Corporation in Cambridge, Massachusetts and researchers from the WHO found studies that evaluated potential health effects of RF. Overall, "the accumulated evidence does not establish the existence of adverse short- or long-term health effects from the signals produced by base station and local wireless networks. In fact, for similar RF exposure intensities (watts per square meter), the body absorbs about 5 times more of the RF energy from FM radio and television frequencies (around 100 MHz) than from base station frequencies (around 1–2 GHz). It is reassuring to note that radio and TV broadcast stations have been in operation for > 50 years, and health statistics have not demonstrated adverse health consequences."
- The World Health Organization (WHO) conducted a systematic search of all peer-reviewed papers published before March 2009. In total, 134 publications were identified and found no association between any health outcomes and exposure to radiofrequency electromagnetic field from mobile phone base stations (antennas) at typical daily environmental levels. The evidence that no relationship exists between MPBS exposure and acute symptom development can be considered strong according to the GRADE approach because it is based on randomized trials applying controlled exposure conditions in a laboratory.[17]
- A 2010 paper reviewed studies that looked at biological effects of short and long-term radiofrequency radiation exposure, including people living or working

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[15] ICNIRP (International Commission for Non-Ionizing Radiation Protection) Standing Committee on Epidemiology:, Ahlbom A, Green A, Kheifets L, Savitz D, Swerdlow A. Epidemiology of Health Effects of Radiofrequency Exposure. *Environmental Health Perspectives*. 2004;112(17): 1741-1754. doi:10.1289/ehp.7306.

[16] Berg-Beckhoff G, Blettner M, Kowall B*, et al* Mobile phone base stations and adverse health effects: phase 2 of a cross-sectional study with measured radio frequency electromagnetic fields Occupational and Environmental Medicine 2009;66:124-130.

[17] http://www.who.int/bulletin/volumes/88/12/09-071852/en/

near cell phone stations. The study cited many human and animal experiments with exposure to short-term, low-intensity RF radiation resulted in changes to the immune and reproductive systems. Repeated long-term exposure studies are limited but there is some evidence that prolonged exposure produces different biological effects than short-term exposure. However, researchers could not conclude that long-term exposure had permanent adverse health effects in humans. They recommended that long-term exposure RF guidelines need to be based on long-term studies, not short-term studies. [18]

- Researchers from the Swiss Tropical and Public Health Institute in conjunction with University of Basel conducted a systematic review in 2010 on health effects of exposure to radiofrequency from mobile phone base stations (MPBS) which have a higher maximum power transmission than small cell antennas. The study analyzed 17 articles, 5 randomized human laboratory trials and 12 epidemiological studies. 14 of the 17 articles collected self-reported health data and "did not detect any association between MPBS radiation and the development of acute symptoms during or shortly after exposure." Researchers concluded that lack of association between MPBS exposure (up to 10 volts/m) and acute symptoms development was strongly uncorrelated. Overall, they found there is "insufficient data to draw firm conclusions about health effects from long-term low-level exposure."[19]
- One 2010 study found no association between risk of early childhood cancers and measured mother's exposures to mobile phone base station radio frequencies during pregnancy. The United Kingdom Mobile Telecommunications and Health Research (MTHR*) identified 1397 cases of cancer in children aged 0-4 from across the United Kingdom between 1999-2001. There were four controls based on sex and date of birth. Exposures were based on both calculations and field measurements for the areas located within 700 meters of the base stations.[20]
- In 2011, the International Agency for Research on Cancer (IARC), under the World Health Organization, classified radiofrequency electromagnetic fields as possibly carcinogenic to humans (Group 2B) based on limited evidence in humans and experimental animal studies.[21]
- A 2012 UK report, conducted by the independent Advisory Group on Non-ionizing Radiation, reviewed existing studies on radiofrequency electromagnetic

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[18] Levitt B and Lai H. Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays. Environmental Reviews 2010;18(NA): 369-395. Available from https://doi.org/10.1139/A10-018

[19] Valberg, P. A., van Deventer, T. E., & Repacholi, M. H. (2007). Workgroup Report: Base Stations and Wireless Networks—Radiofrequency (RF) Exposures and Health Consequences. *Environmental Health Perspectives*, *115*(3), 416–424. http://doi.org/10.1289/ehp.9633

[20] Elliott Paul, Toledano Mireille B, Bennett J, Beale L, de Hoogh K, Best N et al. Mobile phone base stations and early childhood cancers: case-control study BMJ 2010; 340 :c3077

[21] Baan, Robert Et al. Carcinogenicity of radiofrequency electromagnetic fields. The Lancet Oncology, 2011;12(7): 624-626. DOI: http://dx.doi.org/10.1016/S1470-2045(11)70147-4

fields.[22] Exposure to RF fields below the internationally accepted levels has not been correlated with negative health outcomes. Though short-term studies do not show conclusive evidence of harm to humans, there is a lack of data studying exposure to radiofrequency fields longer than 15 years.

- A recent 2016 study self-proclaimed "the most comprehensive analysis of potential gene expression changes in the rodent brain in response to RF field exposure conducted to date" analyzed mouse brain regions after exposure to 1.9 GHz radiofrequency fields and found "within the exposure conditions and limitations of this study, no convincing evidence of consistent changes in gene expression was found in response to 1.9 GHz RF field exposure."[23]
- In contrast, a similar mouse study in 2017 exposed mice to 835 MHz RF-EMF at a specific absorption rate (SAR) of 4.0 W/kg for 5 hours/day during 12 weeks. Researchers found that prolonged exposure to radiofrequency electromagnetic fields (RF-EMF) demyelinated neurons potentially causing neurological or neurobehavioral disorders.[24]

[22] Health Protection Agency UK. 2012. Health Effects from Radiofrequency Electromagnetic Fields Available from http://www.ices-emfsafety.org/wp-content/uploads/2014/11/AGNIR_report_2012.pdf

[23] James P. McNamee, Pascale V. Bellier, Anne T. M. Konkle, Reuben Thomas,Siriwat Wasoontarajaroen, Eric Lemay & Greg B. Gajda (2016): Analysis of gene expression in mouse brain regions after exposure to 1.9 GHz radiofrequency fields, International Journal of Radiation Biology, DOI: 10.3109/09553002.2016.1159353

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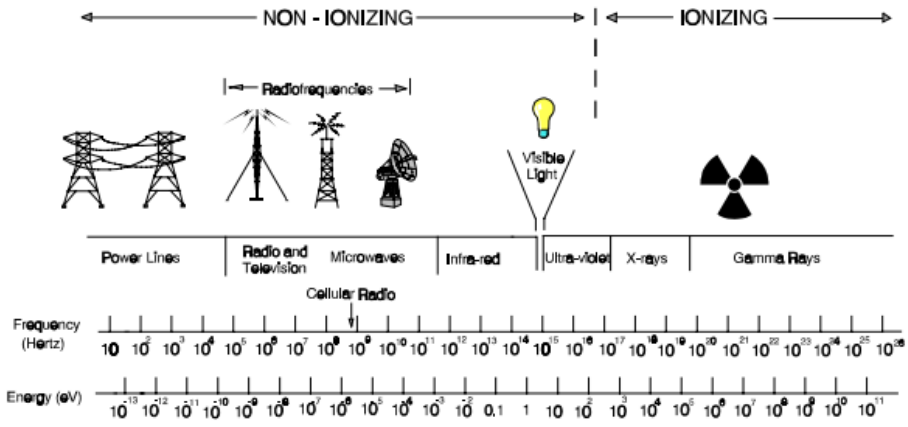

FIGURE 2. ***The Electromagnetic Spectrum***

The Electromagnetic Spectrum

Mobile Phone Base Stations:

"The mobile phone base station is the antenna and transmitting equipment which both transmits and receives the signal to and from the cell phones. The base station antennas are typically mounted 30 to 90 feet above the ground. The typical public exposure to radio frequency energy from a base station is much less than from the cell phone. This is because of the distance from the body that a cell phone is used versus the distance to the cell base station antenna."[26]

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[25] USA. Federal Communications Commission. Engineering and Technology. *Questions and answers about biological effects and potential hazards of radiofrequency electromagnetic fields*. By Robert F. Cleveland and Jerry L. Ulcek. 4th ed. Washington D.C.: Standards Development Branch, Allocations and Standards Division, Office of Engineering and Technology, Federal Communications Commission, 1997. Print. Bulletin 56.

[26] https://www.sfdph.org/dph/EH/RadioFrequency/

BOARD OF SELECTMEN
May 30, 2017
Needham Town Hall
Agenda

Note: Agenda subject to revision, start times are approximate and agenda items may be discussed at earlier or later times.

	6:45	Informal Meeting with Citizens *One or more members of the Board of Selectmen will be available between 6:45 and 7:00 p.m. for informal discussion with citizens. While not required, citizens are encouraged to call the Selectmen's Office at (781) 455-7500 extension 204 in advance to arrange for an appointment. This enables the Board to better assure opportunities for participation and respond to citizen concerns.*
1.	**7:00**	Change of Manager - Residence Inn • David Laurent, Proposed Manager
2.	**7:00**	Change of License Category - Hearth Pizzeria • Roy Cramer, Attorney • Ivan Millan Pulecio, Owner/Manager
3.	**7:00**	New Alcohol License - TDRG Needham Inc. d/b/a Cook Needham • Paul Turano, Owner/Manager
4.	**7:00**	Change of Manager – RFK Kitchen • Francesco Melandri, Owner • Brian Benton, Proposed Manager
5.	**7:00**	Continuation Public Hearing - Village Club • Robert R. Giumetti, Jr., Manager
6.	**8:00**	Public Hearing: Eversource Energy - Dartmouth Avenue • Maureen Carroll, Eversource Representative
7.	**8:00**	Public Hearing: Comcast- Greendale Avenue • Manuel Furtado, Comcast Representative
8.	**8:00**	Public Hearing- Verizon Wireless • Joshua Lanzetta, McLance Middleton
9.	**8:25**	Department of Public Works: Permission to Encroach into Existing Sewer and Drain Easement – 103 Brookside Road • Richard P. Merson, Director of Public Works • Anthony DelGaizo, Town Engineer
10.	**8:30**	Approval of Sale of Bonds and Notes • David Davison, Assistant Town Manager/Director of Finance • Evelyn Poness, Treasurer
11.	**8:35**	Town Manager • Town Manager Update
12.	**8:45**	Board Discussion • Committee Reports

Board of Selectmen
TOWN OF NEEDHAM
AGENDA FACT SHEET

MEETING DATE: 05/30/2017

Agenda Item	Public Hearing- Verizon Wireless
Presenter(s)	Joshua Lanzetta, McLane Middleton

1. BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED

Cellco Partnership d/b/a Verizon Wireless requests permission to install twelve (12) separate wireless small cell antennas ("antennas") and supporting equipment on existing electrical distribution poles ("utility poles") in the Town of Needham. The antennas are camouflaged so that they will be indistinguishable from typical electric transformers commonly seen on utility poles in Needham and municipalities throughout the Commonwealth, and their installation will remedy the existing wireless coverage and capacity gaps that Verizon Wireless has identified in its wireless network in the Needham area. The following are the public ways or parts of ways along which the cell antennas above referred to may be installed: 1) install one (1) antenna on Verizon Site Name: Needham MA SC01, Utility Pole Number 168-1 located near 20 Great Plain Terrace, Needham; 2) install one (1) antenna on Verizon Site Name: Needham MA SC06, Utility Pole #7 located near 609 Webster Street, Needham; 3) install one (1) antenna on Verizon Site Name: Needham MA SC10, Utility Pole #33/30 located near 270 Hunnewell Street, Needham; 4) install one (1) antenna on Verizon Site Name: Needham SC03 MA, Utility Pole #14 located near 97 Melrose Avenue, Needham; 5) install one (1) antenna on Verizon Site Name: Needham SC04 MA, Utility Pole #27-0 located near 7 Stevens Road, Needham; 6) install one (1) antenna on Verizon Site Name: Needham SC05 MA, Utility Pole #146/25 located near 189 Harris Avenue, Needham; 7) install one (1) antenna on Verizon Site Name: Needham SC07 MA, Utility Pole #67 located near 443 Great Plain Avenue, Needham; 8) install one (1) antenna on Verizon Site Name: Needham SC09 MA, Utility Pole #97/51 located near Dedham Avenue/South Street, Needham; 9) install one (1) antenna on Verizon Site Name: Needham SC16 MA, Utility Pole #7-101 located near Central Avenue, Needham; 10) install one (1) antenna on Verizon Site Name: Needham SC19 MA, Utility Pole #116-1 located near 1250 Great Plain Avenue, Needham; 11) install one (1) antenna on Verizon Site Name: Needham SC21 MA, Utility Pole #72-3 located near 33 Chestnut Place, Needham; and 12) install one (1) antenna on Verizon Site Name: Needham W SC03 MA, Utility Pole #25 located near, 1437 Great Plain Avenue, Needham.

2. VOTE REQUIRED BY BOARD OF SELECTMEN

Suggested Motions:

1) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham MA SC01, Utility*

Pole Number 168-1 located near 20 Great Plain Terrace, Needham.

2) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham MA SC06, Utility Pole #7 located near 609 Webster Street, Needham.*

3) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham MA SC10, Utility Pole #33/30 located near 270 Hunnewell Street, Needham.*

4) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham SC03 MA, Utility Pole #14 located near 97 Melrose Avenue, Needham.*

5) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham SC04 MA, Utility Pole #27-0 located near 7 Stevens Road, Needham.*

6) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham SC05 MA, Utility Pole #146/25 located near 189 Harris Avenue, Needham.*

7) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham SC07 MA, Utility Pole #67 located near 443 Great Plain Avenue, Needham.*

8) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham SC09 MA, Utility Pole #97/51 located near Dedham Avenue/South Street, Needham.*

9) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham SC16 MA, Utility Pole #7-101 located near Central Avenue, Needham.*

10) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham SC19 MA, Utility Pole #116-1 located near 1250 Great Plain Avenue, Needham.*

Board of Selectmen
TOWN OF NEEDHAM
AGENDA FACT SHEET

11) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham SC21 MA, Utility Pole #72-3 located near 33 Chestnut Place, Needham.*

12) *Move that the Board of Selectmen approve and sign a petition from Cellco Partnership d/b/a Verizon Wireless to install a wireless small cell antenna and supporting equipment at Verizon Site Name: Needham W SC03 MA, Utility Pole #25 located near, 1437 Great Plain Avenue, Needham.*

3.	**BACK UP INFORMATION ATTACHED**

(Describe backup below)

a. Letter of Application
b. Supplement to GOL Application to Install Wireless Antenna and Equipment on Existing Utility Poles in the Public Right of Way
c. Petition
d. Order
e. Petition Plans
f. Notice Sent to Abutters
g. List of Abutters

**Please note that a full application is on file in the Office of the Town Manager.*

Attachment

JOSHUA P. LANZETTA
Direct Dial: 603.628.1362
Email: joshua.lanzetta@mclane.com
Admitted in NH and CO
900 Elm Street, P.O. Box 326
Manchester, NH 03105-0326
T 603.625.6464
F 603.625.5650

MCLANE MIDDLETON

April 7, 2017

OK to process
T. Ryder Asst DPW Director
5/19/17
OK R.P. Merrikin DPW Director 5/19/17

VIA OVERNIGHT DELIVERY

Town of Needham
Board of Selectmen
1471 Highland Avenue, First Floor
Needham, MA 02492
Attn: Matthew Borrelli, Chairman

Re: Grant of Location Application to Install Wireless Antennas and Equipment on Existing Utility Poles in the Public Right of Way

Applicant: Cellco Partnership d/b/a Verizon Wireless ("VzW")

Dear Chairman Borrelli:

The purpose of this letter is to submit twelve (12) Grant of Location Petitions to install wireless communications equipment on separate and existing utility poles in Needham's public right of way in accordance with Chapter 166, Section 22 of the Massachusetts General Laws.

I. APPLICATION MATERIALS

Enclosed please find one (1) Petition, one (1) Order, and one (1) 11" x 17" plan-set for each utility pole listed in the table below. Also, please find one (1) Safety Report, and one (1) Federal Communications Commission ("FCC") license addressing the Cloud Radio Access Network ("CRAN").

	VZW SITE NAME	UTILITY POLE NUMBER	APPROXIMATE ADDRESS
1.	Needham MA SC01	168-1	20 Great Plain Terrace
2.	Needham MA SC06	7	609 Webster Street
3.	Needham MA SC10	33/30	270 Hunnewell Street
4.	Needham SC03 MA	14	97 Melrose Avenue
5.	Needham SC04 MA	27-0	7 Stevens Road

6.	Needham SC05 MA	146/25	189 ~~200~~ Harris Avenue
7.	Needham SC07 MA	67	443 Great Plain Avenue
8.	Needham SC09 MA	97/51	Dedham Avenue & South Street
9.	Needham SC16 MA	7-101	Central Avenue
10.	Needham SC19 MA	116-1	1250 Great Plain Avenue
11.	Needham SC21 MA	72-3	33 Chestnut Place
12.	Needham W SC03 MA	25	1437 Great Plain Avenue

II. PROJECT NARRATIVE & CRAN TECHNOLOGY

Wireless communications technology comprises the fastest growing segment of the communications industry. In 2017, rapidly developing technology, combined with insatiable consumer demand, has created a void in wireless infrastructure that service providers, such as Verizon, seek to remedy. In response to Needham's existing coverage gap, and given the FCC's recent 5G imperative, Verizon seeks to invest in wireless infrastructure to improve Needham's wireless network.

In the last year, Verizon rapidly introduced CRAN technology throughout the Commonwealth. This stealth antenna technology provides a pinpointed and camouflaged approach to the continued deployment of Verizon's LTE, AWS, and burgeoning 5G networks in Massachusetts. In essence, CRAN systems mount innocuous transformer-style antennas to existing utility poles. This covert—and site specific installation—allows Verizon to dramatically increase network capacity by accessing fiberoptic infrastructure connected to offsite and centrally located processing stations. CRAN's combination of targeted antennas and centralized processing provides enormous benefits to municipalities such as Needham, where network capacity demands are weighed against municipal aesthetics.

Each unit consists of a 12'0" x 38.7" cylindrical gray "Small Cell" antenna, designed to resemble common electric transformers seen throughout the United States. All proposed equipment 1) complies with applicable FCC radio frequency emissions standards and regulations, 2) requires minimal maintenance, and 3) does not impact utility, school, traffic or other municipal resources. Here, Verizon proposes mounting these units to the utility poles listed in Section I above.

Additionally, as stated herein, this proposal is part of Verizon's regional initiative to improve voice and data coverage in Massachusetts while developing 5G technology throughout greater

New England. To this end, Verizon secured master licensing agreements with National Grid and Eversource expediting the licensing and attachment of CRAN antennas to existing utility poles throughout the Commonwealth, including the Town of Needham.

III. MUNICIPAL REVIEW OF CRAN AND SMALL CELL TECHNOLOGY

Under Massachusetts law, the grant of location process enables municipalities to oversee infrastructure development in the Commonwealth's public ways. M.G.L.A. 166 § 22 (2016). This process balances the goal of maintaining useable and navigable public ways with the Commonwealth's continued need for infrastructure development and directly intersects with federal telecommunications laws. M.G.L.A. 166 § 21 (2016). Generally, federal telecommunications law seeks to expedite wireless infrastructure development by limiting local zoning regulation of wireless facilities. 47 U.S.C. § 332(A) (1996). As such, when considering Grant of Location petitions for telecommunications facilities, Select Boards must consider 1) that Massachusetts and the federal government specifically seek to encourage expedited development of wireless communications infrastructure; 2) the TCA prohibits municipalities from taking action that prohibits or delays such development; and 3) municipalities must issue an order granting location to such projects if such development does not disrupt the continued use of the public way.

IV. CONCLUSION

For the aforementioned reasons, Verizon respectfully requests that the Board of Selectmen execute the Grant of Location Orders submitted herein. Please contact me with questions at 603-628-3162 or joshua.lanzetta@mclane.com.

Sincerely,

Joshua P. Lanzetta /mb

Joshua P. Lanzetta

JPL

Enclosures/

Attachment

JOSHUA P. LANZETTA
Direct Dial: 603.628.1362
Email: joshua.lanzetta@mclane.com
Admitted in NH and CO
900 Elm Street, P.O. Box 326
Manchester, NH 03105-0326
T 603.625.6464
F 603.625.5650

MCLANE MIDDLETON

April 17, 2017

Town of Needham
Board of Selectmen
Attn: Matthew Borrelli, Chairman
1471 Highland Avenue, First Floor
Needham, MA 02492

Re: Supplement to Grant of Location Application to Install Wireless Antennas and Equipment on Existing Utility Poles in the Public Right of Way

Applicant: Cellco Partnership d/b/a Verizon Wireless

Dear Chairman Borrelli:

The purpose of this letter is to supplement grant of location materials submitted by Cellco Partnership d/b/a Verizon Wireless ("VzW") on April 7, 2017.

Accordingly, enclosed please find:

1. One (1) Radio Frequency Affidavit.

Please contact me with questions at 603-628-1362 or joshua.lanzetta@mclane.com.

Sincerely,

Joshua P. Lanzetta /mk

Joshua P. Lanzetta

JPL

Enclosure/

verizon

AFFIDAVIT OF RADIO FREQUENCY ENGINEER

The undersigned, in support of the applications to install a wireless communications facility consisting of one antenna and associated radio equipment on twelve utility poles located in the Town of Needham, Massachusetts, states the following:

1. My name is Keith Vellante. I have a Bachelor of Science degree in Electrical Engineering from the University of New Hampshire and I am employed as a Radio Frequency (RF) Engineer for C Squared Systems, LLC. C Squared Systems has entered into a contract with Verizon Wireless to provide RF consulting services on behalf of Verizon Wireless. I have reviewed the proposed sites with the Radio Frequency Engineer responsible for the Verizon Wireless network design in the area of Massachusetts that includes the Town of Needham, MA.
2. Verizon Wireless is a federally licensed provider of wireless communications services with a national footprint.
3. The proposed facilities are located within areas where Verizon Wireless has identified a need to install a wireless telecommunications facility in order to provide reliable wireless service. The search area for each proposed facility was determined by the fact that wireless service needs significant improvement throughout the surrounding areas and stretches of roadway in the immediate proximity of each proposed location. Furthermore, it was determined that the areas served by each facility would interact well with those of existing and planned facilities in the surrounding area.

   The following table provides details of each proposed facility:

Site Name:	Site Address:	Utility Pole Number:	Latitude:	Longitude:	Elevation (AMSL):	Antenna Height (AGL):
Needham MA SC01	20 Great Plain Terrace	168-1	42.2808	-71.2208	164'	35.5'
Needham SC03 MA	97 Melrose Avenue	14	42.2839	-71.2244	173'	41'
Needham SC04 MA	7 Stevens Road	27-0	42.2802	-71.2257	169'	41'
Needham SC05 MA	200 Harris Avenue	146/25	42.2771	-71.2254	161'	24'
Needham MA SC06	609 Webster Street	7	42.2864	-71.2302	184'	26.6'
Needham SC07 MA	443 Great Plain Avenue	67	42.2769	-71.2167	159'	28.3'
Needham SC09 MA	Corner of Dedham Avenue & South Street	97/51	42.2688	-71.2201	95'	39'
Needham MA SC10	270 Hunnewell Street	33/30	42.2993	-71.2403	160'	24.1'
Needham SC16 MA	842 Central Avenue	7-101	42.2917	-71.2499	110'	41'
Needham SC19 MA	1250 Great Plain Avenue	116-1	42.2803	-71.2454	140'	24.6'
Needham SC21 MA	33 Chestnut Place	72-3	42.2760	-71.2387	155'	36.5'
Needham W SC03 MA	1437 Great Plain Avenue	25	42.2834	-71.2524	140'	40.5'

4. A conventional Verizon Wireless LTE macro-site consists (in part) of RRH's (Remote Radio Heads) located near the antennas on a tower, rooftop, or other support structure, which are connected via fiber optic cables to a BBU (Baseband Unit) located on site in an equipment shelter or other weatherproof enclosure. The BBU performs network signal processing between the RRH's at the site, and Verizon's LTE core network.
5. C-RAN (Cloud Radio Access Network) nodes and small cells also utilize RRH's at each site; however a centralized BBU capable of supporting RRH's at multiple sites is implemented to gain certain efficiencies, both from a network and environmental standpoint. The proposed locations are twelve of the multiple C-RAN nodes and small cells planned to address capacity and coverage deficiencies in Needham and the surrounding area.
6. C-RAN and small cell deployments are intended to complement, not replace, the conventional LTE macro-network sites, and are typically used as a capacity solution targeting isolated areas of heavy network usage, a.k.a. "hot spots." In doing so, the C-RAN nodes and small cells serve to offload the demand on the existing sites serving these "hot spots." This not only improves service to the specifically targeted area, but also improves overall system performance elsewhere in the network.

7. The purpose of the proposed facilities is to provide adequate service capacity and coverage improvement to areas of Needham, where Verizon Wireless does not currently provide acceptable LTE service. These areas include, but are not limited to, Great Plain Avenue, Harris Avenue, Webster Street, Route 135 (Dedham Avenue/West Street), Hunnewell Street, Central Avenue, Chestnut Street, the Needham High School, the Pollard Middle School, and the roadways, neighborhoods, and business/retail/community areas immediately surrounding each small cell location.

8. To find a site that provides acceptable capacity and coverage improvement, the Verizon Wireless RF Design Group utilizes computer modeling to define a search area. The search area is designed such that a site located within the area and at a given height would have a high probability of completing the capacity and coverage objectives in the target areas. The RF Design Group develops the network by working off existing sites from which to build out the network.

9. Verizon Wireless' search of these areas and subsequent analysis determined that installing the proposed facilities on the subject utility poles would be the most appropriate solution to meet its network capacity and coverage objectives.

10. I have reviewed the proposed installations to be placed on the subject utility poles as well as the other existing and planned antenna site locations used in Verizon Wireless' system in and around the surrounding areas. I have analyzed the potential benefits these sites would represent to Verizon Wireless' network and its users. I employ computer simulations, which incorporate the results of field tests of existing facilities, to determine existing radio frequency (RF) coverage for Verizon Wireless' system. These simulations model characteristics such as antenna types, antenna height, output power, terrain, ground elevations and RF propagation effects of the frequency utilized.

11. The following table provides details of the surrounding Verizon Wireless macro-site telecommunications facilities used to generate the RF maps attached hereto as an exhibit to Verizon Wireless' application.

Site Name:	Latitude:	Longitude:	Street Address:	City, State:	Structure Type:	Antenna Height (AGL):	Status:
W Rox Georgetown	42.2655	-71.1520	5050 Washington Street	Boston, MA	Rooftop	46	On-Air
W Roxbury 2	42.2791	-71.1822	225 Rivermoor Street	Boston, MA	Monopole	75	On-Air
West Roxbury North	42.3026	-71.1635	50-56 Broadlawn Park	Boston, MA	Rooftop	55.3	On-Air
Dedham	42.2313	-71.1830	55 Ariadne Road	Dedham, MA	Rooftop	88	On-Air
Dedham 2	42.2550	-71.2094	200 West Street	Dedham, MA	Monopole	42	On-Air
Dedham 3	42.2559	-71.1667	5 Incinerator Road	Dedham, MA	Smokestack	105	On-Air
Dover Relo	42.2472	-71.2805	2 Dedham Street	Dover, MA	Monopole	113	On-Air
Needham	42.3033	-71.2177	141 Cabot Street	Needham, MA	Lattice	152	On-Air
Needham 2	42.2800	-71.2333	858 Great Plain Avenue	Needham, MA	Steeple	68	On-Air
Needham 5	42.2760	-71.2653	1555 Central Avenue	Needham, MA	Lattice	110	On-Air
Needham Heights	42.2911	-71.2364	460 Hillside Avenue	Needham, MA	Rooftop	49	On-Air
Brookline	42.3195	-71.1826	345 Boylston Street	Newton, MA	Rooftop	48	On-Air
Needham Cutler	42.2950	-71.2033	1 Wells Avenue	Newton, MA	Rooftop	73.3	On-Air
Newton 3	42.3284	-71.2553	2227 Washington Street	Newton, MA	Rooftop	44	On-Air
Newton 4	42.3184	-71.2109	56 Ramsdell Street	Newton, MA	Rooftop	28	On-Air
Newton Ctr Rep	42.3285	-71.1955	1320 Centre Street	Newton, MA	Rooftop	48	On-Air
Newton Waban	42.3265	-71.2311	1643 Beacon Street	Newton, MA	Rooftop	55	On-Air
Wellesley	42.2931	-71.2985	106 Central Street	Wellesley, MA	Monopole	70	On-Air
Wellesley 2	42.3175	-71.2307	20 William Street	Wellesley, MA	Rooftop	58	On-Air
Wellesley Hills	42.3102	-71.2761	332 Washington Street	Wellesley, MA	Rooftop	50	On-Air
Wellesley Hills 2	42.3090	-71.2637	125 Oakland Street	Wellesley, MA	Rooftop	68.7	On-Air
Westwood 3	42.2289	-71.2155	213 Fox Hill Street	Westwood, MA	Water Tank	76	On-Air

12. The signal propagation plots included as attachments were produced using deciBel Planner™, a Windows-based RF propagation computer modeling program and network planning tool. The software takes into account the topographical features of an area, land cover, antenna models, antenna heights, RF transmitting power and receiver thresholds to predict coverage and other related RF parameters used in site design and network expansion.

13. The RF map titled "Needham MA Small Cells – Existing 700 MHz LTE Sector Footprints" attached hereto depicts the areas primarily served by the sectors (a.k.a. signal "footprints") of the existing "On-Air" Verizon Wireless macro sites in the area, which are shown by a unique color for each particular sector of interest. For clarity, all other sectors of less interest with respect to the proposed small cells are shown in grey. As demand for wireless voice and data services continues to grow, Verizon Wireless manages the footprint of each sector so that it can support the demand within the area it is primarily serving. In addition to improving coverage to the immediate area, the proposed sites are also needed to serve existing and anticipated demand in the vicinity and thereby offload some of the burden experienced by the surrounding sites. In that way, those sites will be able to more adequately serve the demand for service in the areas nearer to those surrounding sites. Please note that the outer parts of each sector footprint include areas that presently have signal strength below the targeted value required for reliable service to Verizon Wireless' customers. The fact that low-level signal is capable of reaching these areas does not mean that these areas experience adequate coverage. These unreliable areas of low signal level impose a significant capacity burden on the sites primarily serving the area.

14. The RF map titled "Needham MA Small Cells – Existing 700 MHz LTE Coverage" attached hereto shows the coverage provided to areas of Needham from the "On-Air" Verizon Wireless macro sites in the area. The green shaded areas represent the minimum desired level of coverage for this area, whereas the orange shaded areas represent a slightly lower signal strength. The deficient areas of coverage are defined by the unshaded or "white" areas. Areas of deficient service are characterized by poor service quality, low data throughput, and the substantial likelihood of unreliable service. As can be seen from the coverage plot, the surrounding network of Verizon Wireless sites, due in large part to the distances between the existing sites and the intervening topography, are unable to provide sufficient LTE coverage to areas of Needham. In addition to providing adequate service capacity, the proposed small cells will improve coverage to key roadways immediately surrounding each small cell location.

15. The "Needham MA Small Cells – Area Terrain Map" details the terrain features around the proposed small cells. These terrain features play a key role in dictating both the unique coverage areas served from a given location, and the coverage gaps within the network. This map is included to provide a visual representation of the terrain variations that must be considered when determining the appropriate location and design of a proposed wireless facility.

16. As shown in the aforementioned plots, the proposed facilities are located in areas of deficient service throughout Needham, making them suitable to provide a dominant server and capacity relief to these "hot spots" of network usage. The proposed facilities will offload the sectors currently serving the area, in turn improving the overall system performance within their respective service areas.

17. I have concluded that the proposed facilities will satisfy the present capacity and coverage needs that motivated Verizon Wireless to establish search rings in this vicinity. Any reduction in the proposed antenna configuration and/or equipment would limit optimal performance of these sites, which would substantially limit each site's effectiveness.

18. Verizon Wireless certifies that the proposed facilities will not cause interference to any lawfully operating emergency communication system, television, telephone, or radio in the surrounding area. The FCC has licensed Verizon Wireless to transmit and receive in the Upper C Block of the 700 MHz band, B Block of the Cellular (850 MHz) band, the F, C3, and C4 Blocks of the PCS (1900 MHz) band, and the A and B Blocks of the AWS (2100 MHz) band of the RF spectrum. As a condition of the FCC licenses, Verizon Wireless is prohibited from interfering with other licensed devices that are being operated in a lawful manner. Furthermore, no emergency communication system, television, telephone, or radio is licensed to operate on these frequencies, and therefore interference is highly unlikely.

19. Pursuant to its Federal Communications Commission (FCC) licenses, Verizon Wireless is required to ensure that all radio equipment operating at the proposed communications facilities and the resulting radio frequency exposure levels are compliant with FCC requirements as well as federal and state health and safety standards.

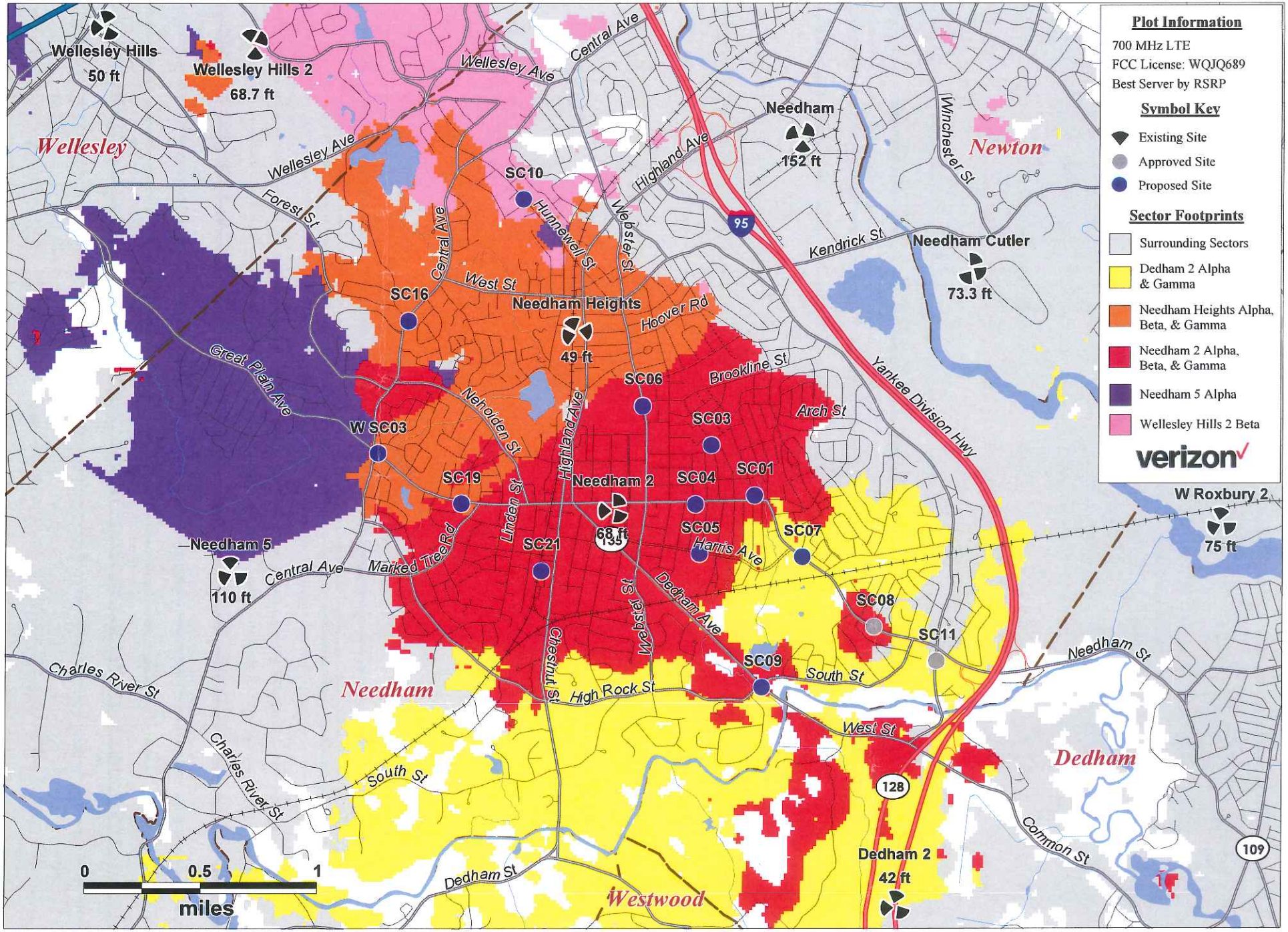
20. Providing wireless communication services is a benefit to the residents of the Town of Needham, as well as to mobile customers traveling throughout the area. The proposed facilities are well suited to meet Verizon Wireless' network requirements for the intended areas. The absence of a wireless telecommunications facility at or near these immediate locations will result in the continued existence of inadequate network capacity and coverage gaps in this area. Without the proposed facilities, Verizon Wireless will be unable to provide reliable wireless communication services in this area of Needham; therefore, Verizon Wireless respectfully requests that the Town of Needham act favorably upon the proposed facilities.

Signed and sworn under the pains and penalties of perjury April 13, 2017.

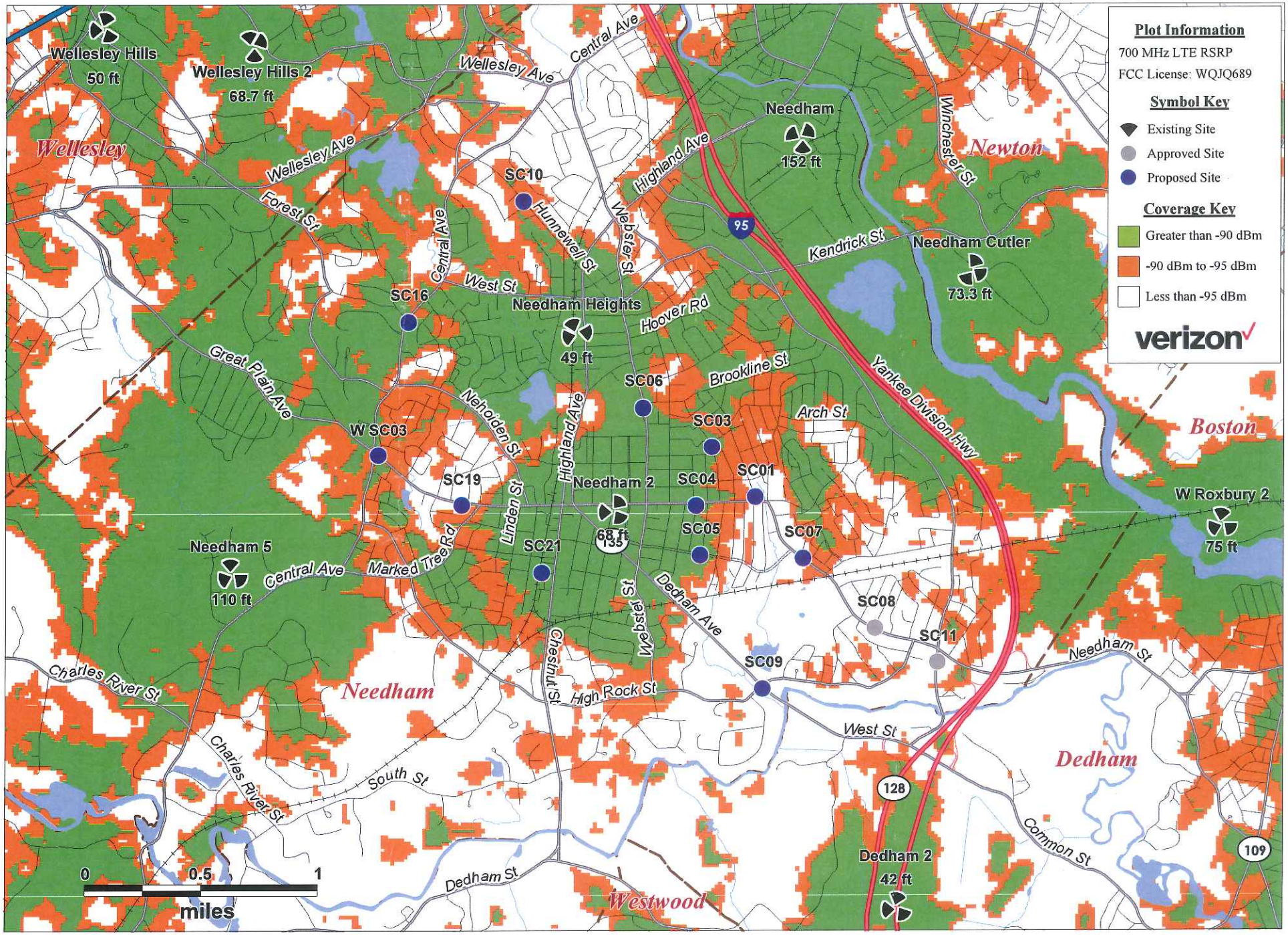
Keith Vellante

Keith Vellante
Radio Frequency (RF) Engineer
C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032

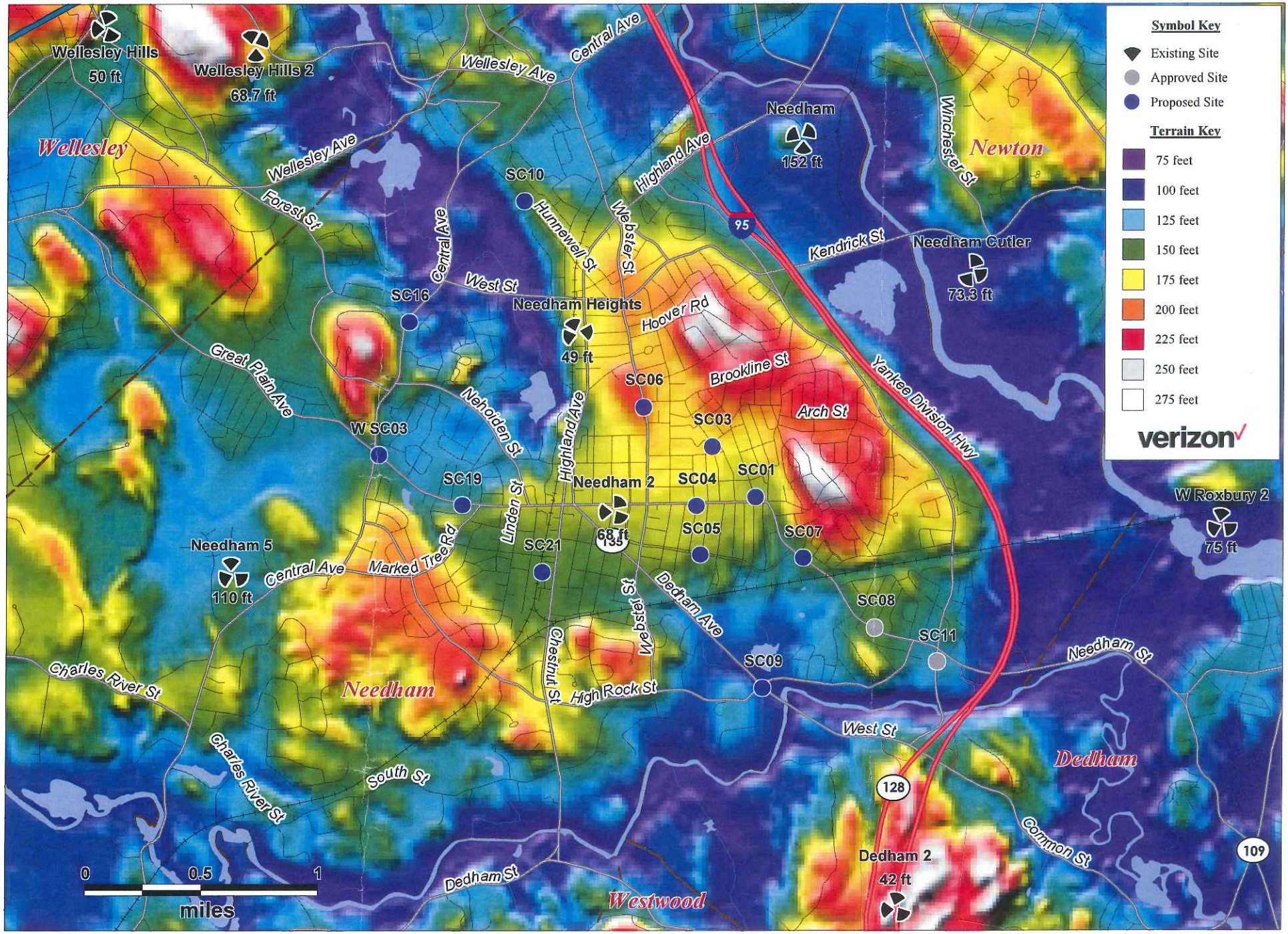
Needham MA Small Cells - Existing 700 MHz LTE Sector Footprints



Needham MA Small Cells - Existing 700 MHz LTE Coverage



Needham MA Small Cells - Area Terrain Map



PETITION FOR POLE AND WIRE LOCATIONS
UNDER MGL c. 166, §§ 22 and 25A

April 7, 2017

Board of Selectmen
Town of Needham, Massachusetts
1471 Highland Avenue
Needham, Massachusetts 02492

Cellco Partnership, d/b/a Verizon Wireless ("Verizon"), hereby requests permission to locate small cell wireless antennas, and all necessary sustaining and protecting fixtures, on an existing utility pole, located on a public way near **20 Great Plain Terrace in Needham, Massachusetts**, and as more particularly shown on plans titled **Needham MA SC01**, dated **November 1, 2016**, and attached hereto as Exhibit A.

Verizon requests after requisite notice and hearing, that it be granted location and permission to erect and maintain equipment on said utility pole, including, but not limited to:

- Antennas;
- Radio Units;
- Meters;
- Mounting brackets;
- Groundbars;
- Conduits;
- Cables;
- Disconnects; and
- All other necessary sustaining and protecting fixtures.

CELLCO PARTNERSHIP, D/B/A VERIZON WIRELESS

____

Joshua P. Lanzetta, *Esq.*
Attorney for Cellco Partnership d/b/a Verizon Wireless

106588\11991608

OK to proceed per
5/4/17

ORDER FOR POLE AND WIRE LOCATIONS
UNDER MGL c. 166, §§ 22 and 25A

In the Town of Needham, Massachusetts,
Notice supplied and public hearing held, as provided by law,

IT IS HEREBY ORDERED:

That Cellco Partnership d/b/a Verizon Wireless ("Verizon") is granted location and permission to install and maintain wireless equipment and all sustaining and protecting fixtures on an existing utility pole located on a public way near **20 Great Plain Terrace in Needham, Massachusetts**, as requested by Verizon's Petition for Pole and Wire Locations Under MGL c. 166, §§ 22 and 25A, dated **[DATE]**.

All construction under this order shall be in accordance plans titled **Needham MA SC01,** dated **November 1, 2016.**

All equipment shown on the aforementioned plans may be attached to said utility pole, including, but not limited to:

- Antennas;
- Radio Units;
- Meters;
- Mounting brackets;
- Groundbars;
- Conduits;
- Cables;
- Disconnects; and
- All other necessary sustaining and protecting fixtures.

I hereby certify that this order was adopted at a meeting of the Board of Selectmen of the Town of Needham, Massachusetts, held on the _____ day of _____, 2017.

Town Clerk
Town of Needham, Massachusetts
1471 Highland Avenue
Needham, Massachusetts 02492

Received and entered in the records of location orders of the Town of Needham, at Book _____, Page _____.

Attest:_____
Town Clerk
Town of Needham, Massachusetts

SITE NAME:

NEEDHAM_MA_SC01

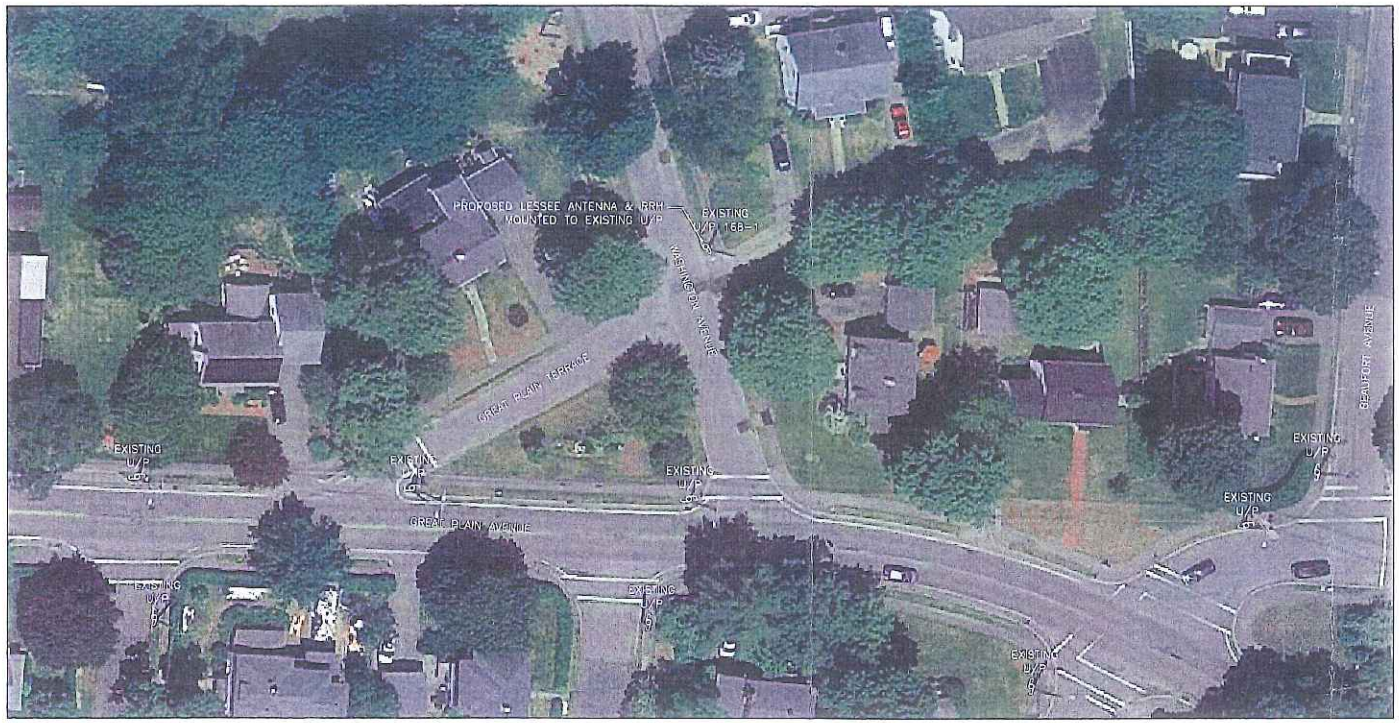
LOCATION CODE:

385193

SITE ADDRESS:

UTILITY POLE NO.: 168-1
20 GREAT PLAIN TERRACE
NEEDHAM, MA 02492

LEASE EXHIBIT



APPROX. NORTH

1 KEY PLAN
SCALE: 1" = 50'

50 0 50 100 200
GRAPHIC SCALE: 1:50 (IN FEET)

POLE COORDINATES	LATITUDE (NAD83)	LONGITUDE (NAD83)
	42° 16' 50.82" N	71° 13' 14.75" W
GROUND ELEVATION	164' A.M.S.L. (NAVD88)	

PREPARED BY:

NEXIUS
TRANSFORM YOUR BUSINESS...THROUGH WIRELESS

A&E OFFICE:
7A LYBERTY WAY
WESTFORD, MA 01886
1 (972) 755-1882

COMMONWEALTH OF MASSACHUSETTS
RONALD J. JACKSON
STRUCTURAL
No. 27127
REGISTERED
PROFESSIONAL ENGINEER

DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

REV	DATE	DESCRIPTION	BY
A	06/14/16	FOR REVIEW	JM
B	10/04/16	ADDED CLEARANCE	JM
C	10/06/16	700 RRH	JM
D	11/01/16	REVISED PER ZC	PN
E	03/28/17	REVISED PER COMMENTS	KT

SITE INFO:

SITE NAME:
NEEDHAM_MA_SC01

SITE ADDRESS:

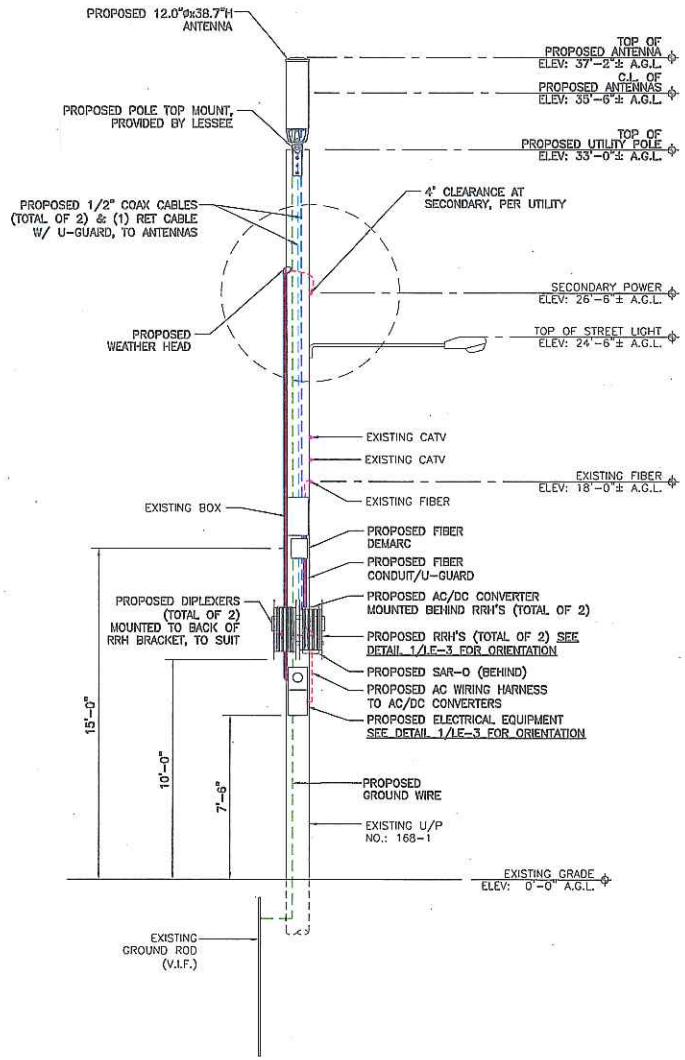
U/P NO.: 168-1
20 GREAT PLAIN TERRACE
NEEDHAM, MA 02492

CHECKED BY:	DATE:
KB	06/14/16

PROJECT NUMBER:
2015135137

SHEET NUMBER:

LE-1



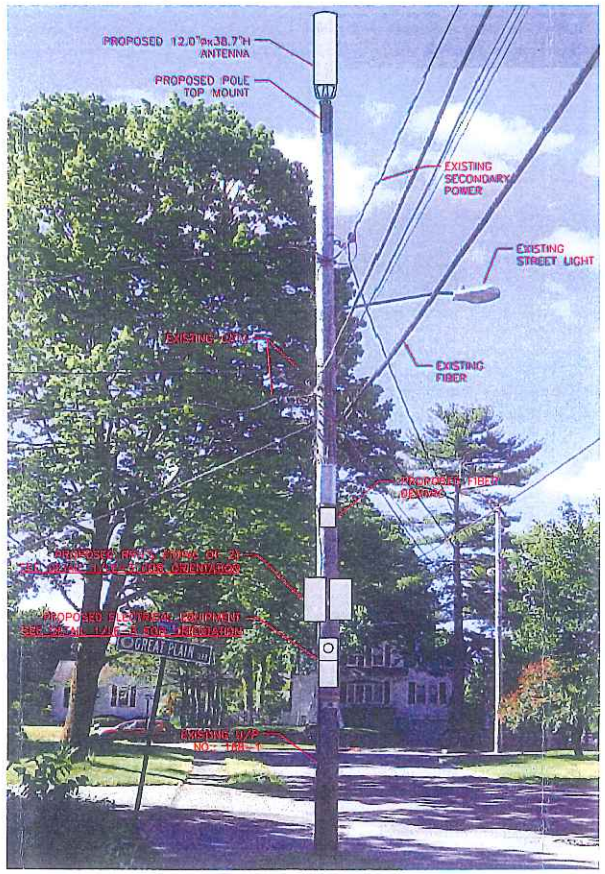
1 ELEVATION
3/16" = 1'-0"

0 2'-8" 5'-4" 10'-8"
GRAPHIC SCALE: 3/16"=1'-0"

1. NOTE ON STRUCTURAL ASSESSMENT OF UTILITY POLE
BEFORE ISSUANCE OF ATTCHEMENT LICENCE, UTILITY POLE OWNER HAS COMPLETED INDUSTRY-STANDRAD STRUCTURAL ANALYSIS TO CONFIRM THAT POLE HAS STRUCTURAL CAPACITY TO SUPPORT THE ATTACHMENTS PROPOSED, BASED ON STANDARDS SPECIFIED IN: (1) NATIONAL ELECTRIC SAFETY CODE (LATEST EDITION): AND (2) NSI 05.1-2008 SPECIFICATIONS AND DIMENSIONS FOR WOOD POLES (LATEST EDITION).

LEASE EXHIBIT

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN



2 PHOTO DETAIL
N.T.S.

LEASE EXHIBIT

PREPARED BY:
NEXIUS
TRANSFORM YOUR BUSINESS...THROUGH WIRELESS
A&E OFFICE:
7A LYBERTY WAY
WESTFORD, MA 01886
1 (972) 755-1882

COMMONWEALTH OF MASSACHUSETTS
RONALD J. JACKSON
STRUCTURAL
No. 27127
REGISTERED
PROFESSIONAL ENGINEER
Ronald J. Jackson

SUBMITTALS

REV	DATE	DESCRIPTION	BY
A	05/14/16	FOR REVIEW	JM
B	10/04/16	ADDED CLEARANCE	JM
C	10/05/16	700 RRH	JM
D	11/01/16	REVISED PER ZC	PN
E	03/28/17	REVISED PER COMMENTS	KT

SITE INFO:

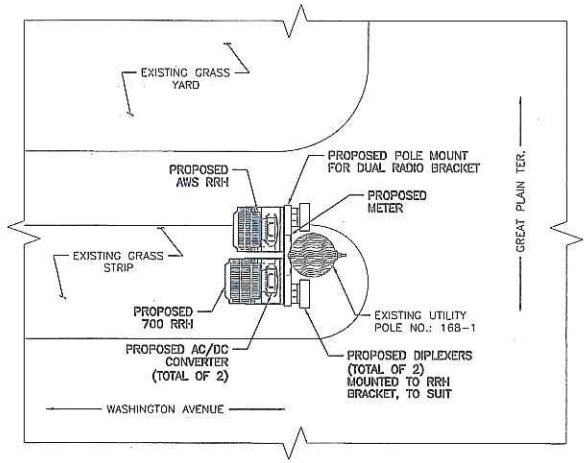
SITE NAME:
NEEDHAM_MA_SC01

SITE ADDRESS:
U/P NO.: 168-1
20 GREAT PLAIN TERRACE
NEEDHAM, MA 02492

CHECKED BY:	DATE:
KB	06/14/16

PROJECT NUMBER:
2015135137

SHEET NUMBER:
LE-2

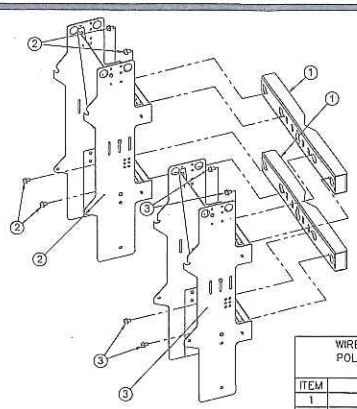


APPROX. NORTH

1 RRH ORIENTATION PLAN
3/8" = 1'-0"

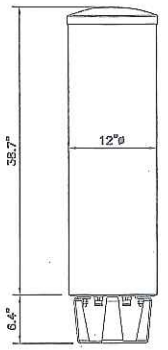
0 1'-4" 2'-8" 5'-4"

GRAPHIC SCALE: 3/8"=1'-0"



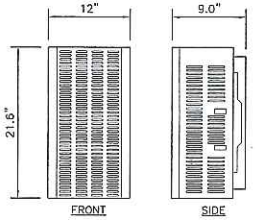
WIRELESS CONSTRUCTION, INC. POLE/WALL MOUNT FOR DUAL RADIO BRACKET		
ITEM	DESCRIPTION	QTY.
1	DOUBLE MOUNT	2
2	700MHZ RRH RACK W/ SUPPLIED HARDWARE	1
3	AWS RRH RACK W/ SUPPLIED HARDWARE	1

2 RRH MOUNTING BRACKET SPEC.
N.T.S.

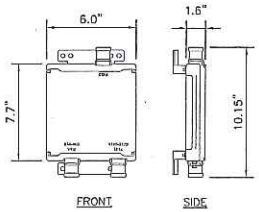


ANTENNA SPECIFICATIONS	
COMMSCOPE – NHH360QM-DG-2XR	
DIMENSIONS	12"ø x 38.7"
WEIGHT	33.7 LBS

3 ANTENNA SPEC.
N.T.S.

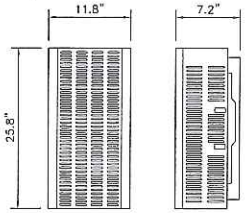


700 RRH
WEIGHT: 57.2 LBS.



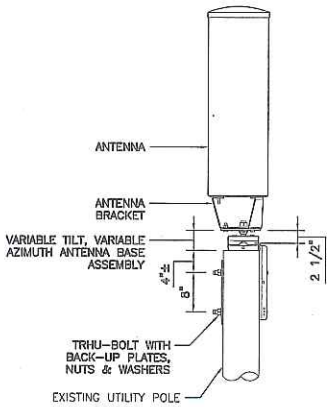
WEIGHT: 4.4 LBS.

4 DIPLEXER SPEC.
N.T.S.

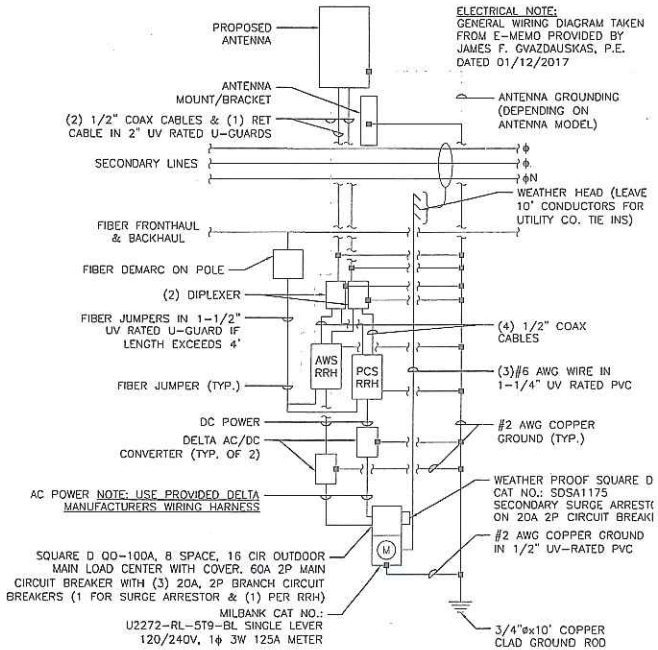


AWS RRH
WEIGHT: 56.8 LBS.

5 RRH SPEC.
N.T.S.



6 ANTENNA MOUNTING DETAIL
N.T.S.



7 GENERAL WIRING DIAGRAM
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REV	DATE	DESCRIPTION	BY
A	08/14/16	FOR REVIEW	JM
B	10/04/16	ADDED CLEARANCE	JM
C	10/06/16	700 RRH	JM
D	11/01/16	REVISED PER ZO	FH
E	03/28/17	REVISED PER COMMENTS	KT

SITE INFO:

SITE NAME:
NEEDHAM_MA_SC01

SITE ADDRESS:
U/P NO.: 168-1
20 GREAT PLAIN TERRACE
NEEDHAM, MA 02492

CHECKED BY:	DATE:
KB	06/14/16

PROJECT NUMBER:
2015135137

SHEET NUMBER:
LE-3

NOTICE

To the Record

You are hereby notified that a public hearing will be held at the **Needham Town Hall, 1471 Highland Avenue, at 8:00 p.m. on May 30, 2017** upon petition of Cellco Partnership d/b/a Verizon Wireless dated **April 7, 2017** to install one (1) separate wireless small cell antenna ("antenna") and supporting equipment on existing electrical distribution poles ("utility poles") in the Town of Needham. The antenna is camouflaged so that it will be indistinguishable from typical electric transformers commonly seen on utility poles in Needham and municipalities throughout the Commonwealth, and its installation will remedy the existing wireless coverage and capacity gaps that Verizon Wireless has identified in its wireless network in the Needham area. The following is the public way or parts of way along which the cell antenna above referred to may be installed: 1) install one (1) antenna on Verizon Site Name Needham MA SC01, Utility Pole Number 168-1 on Great Plain Terrace, located near 20 Great Plain Terrace, Needham.

A public hearing is required and abutters should be notified.

If you have any questions regarding this petition, please contact Joshua Lanzetta of McLane Middleton, at 603-628-1362.

Marianne B. Cooley
Daniel P. Matthews
John A. Bulian
Maurice P. Handel
Matthew D. Borrelli

BOARD OF SELECTMEN

Dated: May 22, 2017

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Great Plain Terrace

Workgroup Report: Base Stations and Wireless Networks—Radiofrequency (RF) Exposures and Health Consequences

Peter A. Valberg,[1] T. Emilie van Deventer,[2] and Michael H. Repacholi[2,]*

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Radiofrequency (RF) waves have long been used for different types of information exchange via the airwaves—wireless Morse code, radio, television, and wireless telephony (i.e., construction and operation of telephones or telephonic systems). Increasingly larger numbers of people rely on mobile telephone technology, and health concerns about the associated RF exposure have been raised, particularly because the mobile phone handset operates in close proximity to the human body, and also because large numbers of base station antennas are required to provide widespread availability of service to large populations. The World Health Organization convened an expert workshop to discuss the current state of cellular-telephone health issues, and this article brings together several of the key points that were addressed. The possibility of RF health effects has been investigated in epidemiology studies of cellular telephone users and workers in RF occupations, in experiments with animals exposed to cell-phone RF, and via biophysical consideration of cell-phone RF electric-field intensity and the effect of RF modulation schemes. As summarized here, these separate avenues of scientific investigation provide little support for adverse health effects arising from RF exposure at levels below current international standards. Moreover, radio and television broadcast waves have exposed populations to RF for > 50 years with little evidence of deleterious health consequences. Despite unavoidable uncertainty, current scientific data are consistent with the conclusion that public exposures to permissible RF levels from mobile telephony and base stations are not likely to adversely affect human health. *Key words:* adverse health effects, cell telephones, electromagnetic waves, mechanisms, mobile telephony, nonionizing, RF modulation. *Environ Health Perspect* 115:416–424 (2007). doi:10.1289/ehp.9633 available via *http://dx.doi.org/* [Online 6 November 2006]

A vast number of communication networks interconnect societies worldwide, and cellular wireless technology networks make up an increasing fraction of this number. The presence of radiofrequency (RF) waves from wireless technologies has become ubiquitous. Mobile telephony (construction and operation of telephones or telephonic systems) is relied on by > 1.4 billion people, or around 20% of the world's population. Given that the public is frequently reminded that we are all surrounded by ever-present electromagnetic fields (EMFs), which some call "electro-smog," it is not surprising that some individuals and groups express concern about possible health effects from low-level, chronic exposure to a variety of RF sources. To help address this concern, the World Health Organization (WHO) convened a "Workshop on Base Stations and Wireless Networks" as part of its "International EMF Project" to discuss the state of the science in RF health effects. In this article we provide a summary of several key points addressed at the workshop.

RF waves have long been used for different types of wireless broadcast, such as for wireless Morse code, radio, television, and so on. The radio-wave spectrum spans the frequency range from about 0.5 MHz in the AM radio band up to about 30,000 MHz in the radar band. RF-emitting devices have become commonplace in homes, offices, and schools. Table 1 lists examples of RF sources contributing to the radio-wave background in almost every modern-day location. The actual RF level from each source depends on the details of the exposure location (i.e., distance from the antenna), but the last column lists whether the source is more ubiquitous and universal (U) or more limited and local (L); a "+" indicates that this source would typically contribute a significant fraction of ambient RF background levels. Even for individuals in the vicinity of transmitting antennas, surveys of RF levels report results that are far below the applicable exposure guidelines both in the United States (Burch et al. 2006; Tell and Mantiply 1980) and in Europe (Foster K, in press).

In addition to the increasing prevalence of cellular telephones, there has been continuing expansion of wireless Internet access, such as WiFi, into homes, schools, workplaces, and public areas. "WiFi" is an abbreviation for "Wireless Fidelity," and is used generically when referring to any type of wireless technology that supports local, over-the-air computer communication via a wireless local-area network (WLAN). Typically, the transmission frequency is approximately 2.4 GHz, and WiFi provides data-transmission rates in the range of 1–50 Mbps (megabytes per second). "WiMAX" is a long-range version of WiFi. Cellular wireless technology is now capable of delivering voice, text, images, music, and other data to consumers everywhere, and it relies on an extensive network of fixed antennas, or base stations, for relaying information using RF signals. The number of base stations required increases with greater mobile phone use (requiring extensive micro-cell or pico-cell distributed antenna systems in urban areas), with market competition (enabling more operators to provide services), and with new technological capabilities (e.g., 3G). 3G (or 3-G) is short for "third-generation" mobile telephone technology. The services associated with 3G provide the ability to transfer both voice data (a telephone call) and nonvoice data (e.g., downloading information, exchanging email, and instant messaging).

The public, regulators, and scientists have questioned whether there are possible health consequences of this mushrooming mobile phone technology, particularly because the handset operates in close proximity to the human body and because large numbers of base station antennas are required. Although the RF levels produced by base stations at consumer locations are much lower than those from use of the phone handset, the more continuous exposure from base stations has produced a greater public concern.

RF Exposure Levels

The total electromagnetic energy available, in terms of effective radiated power from an RF source (or antenna), varies widely according to source type, as shown in Table 2. The visible-light example (light bulb) is provided for comparison, but its energy output is primarily in the infrared and visible portion of the

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electromagnetic spectrum. Among RF sources, cellular telephone base stations are at the low end when considering the strength of the source of RF power.

Radiofrequency exposure is typically quantified as RF energy flux per unit area, for example, watts of RF energy crossing a square meter of area (W/m^2). Alternatively, the intensity of radiowaves can be given in terms of electric field intensity, where the units are volts per meter (V/m). These two metrics are mathematically related to each other when considering locations many wavelengths distant from the antenna (or the RF source). That is, the energy flux per unit area (S) is proportional to the square of the electric field intensity (E):

$$S\,(W/m^2) = [E(V/m)]^2/[377(V^2/W)]. \quad [1]$$

For example, RF energy of 1 W/m^2 is equal to 19.4 V/m, and 10 W/m^2 is equal to 61.4 V/m (because of the squared dependence between S and E).

The relevant RF energy flux (in terms of potential health impacts) is at exposure points where people may intercept the RF energy, and is measured in power per square meter of surface area. A comparison of energy fluxes in this regard is given in Table 3, which compares both RF and non-RF sources. It can be seen that more energetic electromagnetic waves (visible light, infrared waves) are normally present at energy flux levels more intense than the maximum allowable RF intensities in the cell telephone band. In fact, our body surfaces radiate sufficient infrared energy that they are easily seen by "night vision" cameras. Because of their warm temperature, our bodies also emit RF energy in the microwave band (~ 30–300 GHz) at about 0.003 W/m^2.

Table 3 also illustrates that the amount of electromagnetic energy that is present due to cellular telephones and cellular base stations is quite small in comparison to both electromagnetic energy sources generally and RF sources in particular.

Within the home and office environment, a variety of other sources of RF energy are used. Table 4 lists frequency ranges and maximum output powers from typical device classes in home and office environments (Kühn et al. 2006). The peak output power represents the maximum peak output of the investigated device classes. The International Commission on Non-Ionizing Radiation Protection (ICNIRP 1998) identified allowable public exposure levels for electric field (E-field) over these frequencies ranging from approximately 30 V/m to 60 V/m.

Spot measurement data often show that, where a particular RF source is the focus of concern, other, less visually obvious sources may give greater contributions to exposure. The data also show that exposures vary greatly, even at similar distances from base stations, illustrating the dramatic effect of the local environment on RF signals through physical processes such as reflection, diffraction, and mutual interference of signal elements traveling through multiple, different paths (Ardoino et al. 2004; Mann et al. 2006).

For assessing occupation RF exposure in the context of base station antennas, a "compliance boundary" can be used, defined so that for personnel outside the boundary, RF levels are low enough to be in compliance with relevant safety standards. The size and shape of a given compliance boundary varies with frequency, with type of antenna, and with antenna power output. For a typical base-station antenna running at 25 W, the compliance boundary has the shape of a cylinder with a diameter of 3 m, and a height corresponding to the antenna height plus about 0.5 m. The height is centered on the antenna, and the cylinder wall begins about 0.1 m behind the radiative front of the antenna and extends to about 2.9 m in front of the antenna. This virtual space encloses the volume where the RF signal may be in excess of ICNIRP occupational standards, but for all distances outside this cylinder, RF levels are low enough to be considered safe (Mild et al. 2006). By comparison, in occupations such as "plastic sealers," RF levels can be considerably higher than in the close vicinity of base antennas (Wilen et al. 2004).

Both measurement surveys and theoretical predictions show that RF levels from base stations and wireless technologies generally decrease with distance from the device (with focused antenna arrays, maximum ground level RF is 50–300 m from the antenna base). That is, the greater the distance from the antenna, the lower the RF. Under conditions typical for public exposure to base stations and for wireless consumer devices, the RF energy fluxes are > 100-fold below international RF guidelines for public locations. However, in very close proximity to base-station antenna elements under occupational conditions (i.e., when performing maintenance on an operating antenna), or immediately adjacent to wireless local area network (LAN) and Bluetooth transmitters, there is the possibility that RF absorption limits for the general public may be exceeded (Kühn et al. 2006). Thus, there is a need to ensure that, under normal operating conditions, these devices comply with the international limits. In the case of nonoccupational exposure to RF from base stations, the most common circumstance is that the contribution of base stations to a person's total RF exposure is minimal. ("Bluetooth" is a term generally designating digital wireless communication among personal-computer-associated

Table 1. Typical RF sources contributing to modern-day radio-wave background.

RF Source	Frequency (MHz)	Exposure potential
AM commercial radio	0.5–1.7	U+
Ionosphere research programs (e.g., HAARP)	2.8–10	L
FM commercial radio	88–108	U+
VHF commercial television (analog)[a]	54–88, 174–216	U+
UHF commercial television (analog and digital)	512–700	U+
Maritime mobile, radiolocation, radio-navigation (e.g., LORAN)	0.003–0.30	L
Radar (aviation, marine, police)	10,000–33,000	L
Millimeter-wavelength radar (meteorological, military)	~ 100,000	L
Satellite transmissions (global positioning, military)	220–400	U
Satellite transmissions (television)	4,000–6,000	U
Amateur (ham) radio operators, international short-wave broadcasts	~ 50	U
Cellular telephones, analog	806–890	U
Cellular telephones, GSM (Asia, Europe)	890–960	U
Cellular telephones, digital	1,850–1,990	U
Dispatch radio: (pagers, aviation, marine, fire, emergency, police)	900–950	U
Fixed microwave links (computers, television, telephone, military)	~ > 30,000	L
Cordless telephones, baby monitors, wireless toys, wireless telemetry	27–60, 900, 2,400, 5,800	L
Computer monitors, wireless computer connectivity, RF identification tags (e.g., Bluetooth, WiFi)	~ 1,900, ~ 2,500, ~ 5,700	L
Remote controls, light dimmer controls, door-openers, surveillance devices	Broadband	L
Microwave ovens, diathermy machines	2,450	L+
Industrial scientific and medical (ISM) band data links	~ 2,400, ~ 5,400	L
RF noise (lightning, solar flares, fluorescent fixtures, neon lights, spark ignition, power-line corona discharge)	Broadband	U

Abbreviations: +, those sources, among the ones listed, that typically contribute to the major fraction of total ambient RF exposure; GSM, global system for mobile communications; HAARP, high-frequency active auroral research program; LORAN, long-range radio navigation; L, localized RF sources; U, ubiquitous RF sources.
[a]The VHF band is split into two parts, with FM radio in the middle.

Table 2. Approximate radiated-power emission strength for sources of electromagnetic waves.

Source	Energy (W)
Cellular telephone handset	~ 0.6
Single light bulb (visible and infrared waves)	100
Single ham radio antenna	1,000
Array of cellular phone base station antennas	1,200
Typical AM radio station transmitter	50,000
Typical FM radio station transmitter	100,000
Typical UHF TV transmitter	1,000,000

devices—i.e., "digital enhanced cordless telecommunication" between laptops, personal computers, personal digital assistants, cell phones, printers, digital cameras, etc. The name "Bluetooth" refers to the 10th-century king of Denmark, King Harold Bluetooth, whose diplomacy led warring parties to negotiate with each other. The inventors of the Bluetooth technology thought this a fitting name for a technology that allowed different devices to talk to each other.)

Mechanisms for RF Effects, and Role of RF Modulation

Cellular telephone radio waves transmit information that is encoded into electromagnetic waves by means of "modulation," which refers to the patterns of change in the frequency and/or amplitude of the RF carrier wave. As cellular telephone technology has advanced, the modulation patterns have become increasingly complex, and the question arises as to whether a high-frequency modulated RF wave might have greater potential for health effects than a pure sinusoidal RF wave. The applicability of fundamental physics to all systems, and particularly to biology, permits one to conclude that modulation is unlikely to lead to unexpected RF interactions with ions, molecules, cells, and organisms—i.e., interactions substantially different from unmodulated RF (Valberg 2006).

Modulation introduces a spread of frequencies into the RF signal, but the frequency bandwidth of the net RF signal generally remains a small fraction of the central, carrier frequency. This means that the most representative frequency range for modulated electromagnetic waves is that of the (high-frequency) RF carrier, not the (low-frequency) modulation pattern. Even though the power of the RF signal may vary in step with the modulation frequency, the transmitted RF spectrum contains no electromagnetic waves at the modulation frequency. Characteristics of the bandwidth, carrier wave, and modulation depth for some typical RF sources are summarized in Table 5.

As Table 5 illustrates, parameters of potential biological significance include the frequency content of the signal (ratio of modulation frequency to carrier wave frequency), the ratio of peak-to-average RF wave amplitude, the central frequency of the RF (carrier wave), and the modulation frequency (typically ~ 0–10 kHz).

Tumorigenicity studies in laboratory animals provide some insight as to the biological effects of RF modulation and of RF exposure generally. Elder recently reviewed 36 publications that reported tumorigenicity assays in rodent species, after RF exposure in the frequency range applicable to mobile telephony [Elder JA, personal communication; [these studies are in the WHO EMF Database (WHO 2006a)]]. Table 6 summarizes the results of Elder's compilation of the animal tumorigenicity literature, grouped by type of RF modulation and with each result at a different frequency, different modulation, or different power level counted as a separate "test," resulting in 68 separate tests in the 36 publications. The species were primarily mouse and rat, and the RF frequencies ranged from 435 MHz to 9,400 MHz. Table 6 also lists the modulation types tested by the investigators.

Table 6 reveals a preponderance of null results, and Elder observed that the more recent, better-designed studies were overall negative. For the seven positive outcomes, the authors of the studies were not able to conclude that any given positive result fully met criteria of validity such as dose response, consistency, and reproducibility. It should be noted that, when testing at a $p < 0.05$ significance level, for 68 tests, about three to four positive results would be expected by chance alone. These data do not tend to support the idea that modulated RF is more potent than non-modulated RF, because three results reaching $p < 0.05$ appeared in 15 tests of nonmodulated RF (CW only), i.e., 20%, whereas the remaining 4 results reaching $p < 0.05$ appeared in 63 tests of modulated RF, i.e., 6%. Overall, the weight of evidence in animals exposed for extended periods, up to lifetime exposures of 2 years, at a variety of frequencies and modulations, suggests that exposure to modulated RF does not increase risk of tumor development (Elder JA, personal communication; Dasenbrock 2005).

Mechanistic considerations are central to examination of the role of modulation in biological effects of RF because living organisms rely on the same physical laws that govern all systems (Durney and Christensen 2000).

Table 3. Incident energy from a broad spectrum of sources of electromagnetic energy.

Source	Energy flux (W/m^2)	Electric field (V/m)
Sunlight at noon[a]	1,370	
1 m from a 1,500-W electrical heater unit[b]	480	
On black body surface at 37°C (λ_{max} ~ 10 μm)[c]	520	
Microwave oven, RF leakage standard	50	140
1 m from a 100-W light bulb[d]	8	
Cell telephone (2 GHz) public guideline[e]	10	61
Cell telephone (850 MHz) public guideline[e]	4.3	40
RF levels near cellular base antenna (calculated)	0.05	4.3
Average urban RF levels, TV and radio[f]		0.4–0.7
Average urban RF levels, cellular telephony[f]		0.1–0.3

[a]The average amount of solar energy reaching the earth's atmosphere is defined as the solar constant = 1,370 W/m^2. [b]Assuming that a reflector behind a 1-m-long heating element directs the 1,500 W of energy into the half-cylinder in front of the heater, the surface area at 1-m radius is 3.14 m^2, so 1,500 W divided by 3.14 m^2 is 477 W/m^2. [c]Wien's Law states that the wavelength, λ, at which most power is radiated by a body at temperature T is $\lambda = 2898/T = \lambda$ (μm), where T is degrees Kelvin and the wavelength is given in micrometers. The Stefan-Boltzmann Law states that the energy flux from a black body at temperature T is given approximately by Φ, where $\Phi = \sigma T^4$ W/m^2, where σ is the Stefan-Boltzmann constant (5.67×10^{-8} W/[m^{2}K^4]). [d]Assume spherical radiation, at 1 m, the surface area is $4\pi r^2 = 12.6$ m^2. Hence, 100 W/12.6 m^2 ≈ 8 W/m^2. [e]ICNIRP reference level for general public exposure (ICNIRP 1998). [f]Anglesio et al. (2001).

Table 4. Sources and levels for indoor RF-communications technologies.

Technology	RF range (MHz)	Peak output power (mW)	Max E-field at 20 cm (V/m)
Digital enhanced cordless telecommunications	1,880–1,900	250	11.5
Wireless peripherals interconnection (Bluetooth)	2,402–2,480	100	3.1
Wireless LAN (IEEE 802.11b/g)	2,400–2,484	100	3.9
Wireless LAN (IEEE 802.11a/h)	5,250–5,350, 5,470–5,725	200	3.9
Wireless personal computer peripherals	27–2,400	10	< 1.5
Baby surveillance devices	27–2,400	500	8.5
Cellular telephone base station RF in proximity of residences[a]	900–1,800	—	0.1–1.0

Abbreviations: IEEE, Institute of Electrical and Electronic Engineers, Inc.; Max, maximum.
[a]Typical E-field levels in proximity to cellular telephone base stations (< 200 m) (Coray et al. 2002).

Table 5. Modulation characteristics of RF fields in different applications.

Technology	Typical modulation	Ratio, BW/CW frequency	Peak/avgerage amplitude	Examples [CW frequency (GHz)]
AM broadcasting	Amplitude	Very small << 1	~ 2	AM radio (~ 0.001)
FM radio and television	Frequency	Very small << 1	~ 1	FM radio (~ 0.1)
Mobile communications	Pulse and frequency	Very small << 1	~ 10	UMTS, TETRA, GSM, TDMA, CDMA, (~ 0.4–2)
Radar	Pulse	Modest < 1	100	Airport radar (~ 4)
Ultra-wideband, spread spectrum	Short pulse	Large ~ 1	100	Military applications (~ 2–20)

Abbreviations: BW, bandwidth; CW, carrier wave. Adapted from Foster and Repacholi (2004).

Physics forms the basis of chemistry, which forms the basis of biology, which forms the basis of medicine. Hence, even though moving up this progression is marked by an increase in complexity, each successive layer must obey the fundamental laws found to be valid for the layer below. The most fundamental level rests on the laws of physics, which have been exhaustively validated by experimentation and through internal consistency. The principles behind radiofrequency waves—namely, Maxwell's laws of electromagnetism—are accepted to be invariant in time and space, and their accuracy in describing the interactions between electromagnetic fields and matter underlies the functioning of virtually all technology. No exceptions have been found despite constant challenges. Likewise, physics has been found to be valid in complex systems, encompassing chemistry, biology, technology, and medicine (Polk and Postow 1996). Simple conservation laws (e.g., energy, motion, charge, momentum) are universally applicable, and biology is no exception.

Any biological interaction mechanisms capable of detecting the difference between a modulated RF signal and an nonmodulated RF signal must be either be *a*) fast enough to respond to and detect changes in the central RF frequency, or *b*) sensitive to the RF power changes occurring at the modulation frequency. For *a*), scientists have not been able to identify biological structures capable of the necessary high-frequency RF tuning or bandwidth discrimination. For *b*), being sensitive to the power changes in the signal would require a biological structure that is nonlinear at low power levels (i.e., that can "rectify" the RF), which has not as yet been identified by biologists or anatomists. If "rectification" by biological structures were to occur, it remains difficult to envision how a tiny amount of modulated RF power, occurring at "nonthermal" levels below existing exposure RF standards, would lead to deleterious effects on biological systems. Living systems have considerable thermal output, overall thermal inertia, and efficient thermal regulation. Those nonthermal mechanisms that rely on nonlinear responses (e.g., breakdown of the cell membrane) have high RF–electric-field thresholds. RF levels capable of electroporation would in themselves produce hazardous tissue heating (Adair et al. 1997).

For RF energy to change physiological function, initiate dysfunction, or cause the onset of disease in humans or animals there must exist a mechanism by which the physical forces exerted by electric and magnetic fields on charged particles alter molecules, chemical reactions, cell membranes, or biological structures (Parkinson 1985). RF is a physical not a chemical agent, and the biological plausibility of initiating a process that leads to adverse health effects must be assessed with this in mind. The initial physical step is illustrated in the following causal chain by which RF interaction effects could occur:

RF ⇒ Matter (physics) ⇒
Molecules (chemistry) ⇒
Organisms (biology) ⇒ Disease

This process is illustrated in more detail in Figure 1. Biological processes in living organisms include many interactions among electric charges (on ions, molecules, proteins, and membranes). Hence, it is clearly possible that exposure to RF, the electromagnetic fields of which can exert forces on fixed and moving charges, might have the potential to modulate biological function. For RF to cause or exacerbate disease in humans, the RF electric fields would have to trigger an initial transduction step, and then also begin a cascade of sequential steps that leads to a disease outcome. As Figure 1 illustrates, the causal chain would begin with human exposure to RF. To complete the first step, RF would interact with biological molecules (or structures) in such a way as to alter their size, shape, charge, chemical state, or energy. In this initial "transduction" step, some absorption of RF energy must occur or there can be no effect.

Figure 1 shows that, for observable biological (and possibly health adverse) effects to follow transduction, sequential events at the molecular, cellular, and tissue level are required. Each step can lead to a variety of possible end points, and only certain outcomes lead farther down the causal chain. The outcome "Progress toward disease" in the upper right corner (Figure 1) is only one of many possible outcomes, and it requires specific triggering of intermediate steps. There are multiple points in the causal chain where the signal produced by a weak preceding step might be within normal variations and, therefore, may well have no further functional consequences beyond this point in the causal chain.

For low levels of RF (nonthermal levels) the first, mechanistic or transduction step in the multistep pathway has eluded intensive scientific search (Veyret 2006). Even the well-known "hearing effect" for pulsed high-level microwaves (Aran et al. 2004; Elder and Chou 2003) is based on small thermal fluctuations, even though the time-averaged thermal input is nil. Because the health and viability of the human body depends in a fundamental way on the normal structure and function of large molecules (e.g., proteins,

Table 6. Modulation schemes tested for tumorigenicity in animal models (Elder, personal communication [all the studies are in the WHO EMF Database (WHO 2006a)]).

MHz, central frequency	Type of modulation tested	No. of tests made	Effect on tumor incidence	
			Increase	No increase
800–9,400	CW	15	3	12
915	AM	5	0	5
836–903	FM	4	0	4
435, 2,450	PW	3	1	2
848, 1,763	CDMA	5	0	5
849	DAMPS	1	0	1
836	FDMA	1	0	1
900–902	GSM	22	3	19
836–1,500	TDMA	9	0	9
1,616	Iridium	2	0	2
5,680	UWB	1	0	1
Total no. of tests		68	7	61

Abbreviations: AM, amplitude modulated; CDMA, code division multiple access; CW, carrier wave (unmodulated RF); DAMPS, digital advance mobile phone system; FDMA, frequency division multiple access; FM, frequency modulated; GSM, global standard for mobile; PW, pulsed wave; TDMA, time division multiple access; UWB, ultra-wide band. Iridium is satellite telephony.

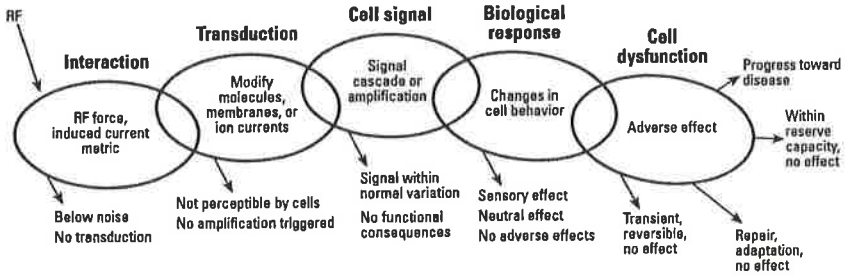

Figure 1. The causal chain leading from an exposure to disease has multiple steps, each of which may or may not trigger the next step. For RF interactions with molecules, cell structures, or tissues, the transduction mechanism is a crucial first link in the causal chain. By definition, the electric and magnetic fields in RF waves can exert force on electrically charged particles.

nucleic acids, carbohydrates, and lipids), any proposed RF mechanism must predict how RF could interfere with or modify the normal synthesis, function, or degradation of these molecules. The RF interaction mechanism(s) would then predict thresholds of exposure effectiveness in terms amplitudes, frequencies, time of onset, intermittency of exposure, homogeneity/heterogeneity of amplitudes and frequencies, exposure duration, transients, polarization, and so on. Moreover, mechanistic understanding would address the possibility that children may react to RF more effectively than adults. However, our current understanding does not bear out this hypothesis (Christ and Kuster 2005).

The magnitudes of endogenous forces that are known to act at the cellular level to modify protein structures have been measured and can serve as a basis for comparison to forces produced by RF fields (Titushkin and Cho 2006; Valberg 2006). Thus, the mechanistic constraints on having observable, force-generated effects on biological systems can be appreciated by ranking electric field forces from RF signals relative to forces normally generated (or sensed) by molecules in living systems. Using the electric field strength in tissue corresponding to a specific absorption rate (SAR) of 2 W/kg, which is the maximum level allowed for cell telephones (averaged over 10 g of tissue), we can estimate the associated internal electric field to be ~ 45 V/m at 1 GHz. In evaluating possible bioeffects of this electric field, a useful unit of force is the piconewton, which is one-trillionth (10^{-12}) of a newton (N) of force. The weight of 1 cm^3 of water (mass = 1 g) is ~ 0.01 N. The mass of a human cell, approximately 10 μm in size would be 10^{-9} g, and would weigh (in air) approximately 10^{-11} N, or 10 pN. Considering a protein molecule that has 100 unbalanced electric charges (+ or –), we can calculate the maximum force of 45 V/m on this molecule to be ~ 0.0007 piconewtons (pN). This is > 10,000-fold smaller than the smallest forces known to modify protein molecule function. For example, the electric force on a 100-fold-charged protein molecule embedded in the cell membrane would be about 160 pN, because of the electric field from the normal resting cell-membrane potential (~ 70 mV over 7 nm). That is, typical cell membrane voltages result in robust electric-field forces on cell-membrane proteins, which are known to modify function, such as open and close ion channels. Forces 10,000 times smaller can be expected to be without effect.

Examination of the magnitude of the possible biophysical interactions (thermal, photon, force) of electromagnetic fields with living matter shows that, under modulated RF exposure conditions allowed by the current safety limits, there does not appear to be an overlooked hazard specific to RF modulation, with the possible exception of RF in the form of very short, high-intensity pulses, which are far more energetic than any pulses encountered in cellular telephone technology (Adair 2003; Challis 2005; Foster and Repacholi 2004; National Council for Radiation Protection 2003). For RF levels below the established standards (modulated or not), scientific research has not identified reproducible and plausible mechanisms by which biological effects can be caused in living systems. Because of the safety factors built into guideline levels, even RF somewhat exceeding permissible levels would yield amounts of thermal energy absorbed that are within the adaptive capacity of the body, and would not be likely to lead to disease (Ebert et al. 2005).

Consideration of the possible mechanisms by which mobile-telephony RF can interact with the body does not reveal a means by which modulated RF, specifically, could lead to adverse effects.

Lines of Evidence on Possible RF Health Effects

Cancer. Most cellular studies indicate an absence of effects on DNA, and generally biological data, including results from animal studies, do not demonstrate an increased risk of cancer from exposure to RF fields (Vijayalaxmi and Obe 2004). Reassuringly, with respect to base station RF fields per se, the levels of exposure are very low compared with those at which biological effects of any kind have been observed. However, because some biological experiments continue to suggest new possibilities for RF interactions, more scientific research is called for. It has been pointed out that, if one were proposing new chemicals for commerce or new pharmaceuticals, the quality of most available RF studies would not be acceptable for registration with the responsible authorities (Dasenbrock 2005).

The ongoing INTERPHONE collaboration is a multicenter, comprehensive study on mobile phones and cancer. It is coordinated by the International Agency on Research on Cancer (IARC), a specialized cancer agency of the WHO, and researchers in 13 countries are taking part using a common protocol. The INTERPHONE protocol is a population-based, case–control study correlating head and neck tumors with mobile-phone use by persons 30–59 years of age who reside in the study regions. Exposure assessment is reliable because it is based on individual records of cell phone use. Because of pooling of data from all participating centers, the study is statistically powerful.

For example, the risk of acoustic neuroma in relation to mobile phone use has been assessed via six population-based, shared-protocol, case–control studies in four Nordic countries and the United Kingdom. The authors concluded that there was no association of risk with duration of use, lifetime cumulative hours of use, or number of calls, for phone use overall or for analogue or digital phones separately (Schoemaker et al. 2005). Recent results from INTERPHONE have reported lack of brain tumor or acoustic neuroma risk in Japan (Takebayashi et al. 2006), Germany (Berg et al. 2006; Schuz et al. 2006), and in a meta-analysis of five Northern European countries (Lahkola et al. 2007).

There have also been other studies of mobile telephone users, particularly on brain tumors (and less often on other cancers and on symptoms). Results of these studies to date give no consistent or convincing evidence of a causal relation between RF exposure and any adverse health effect (Ahlbom 2006; Ahlbom et al. 2004; Lonn et al. 2005). A 4-year British survey released in 2006 showed no link between regular, long-term use of cell phones and the most common type of brain tumor, glioma (Hepworth et al. 2006). A German study did find an elevated risk of glioma in long-term users, but the increase was not statistically significant. The authors concluded that no overall increased risk of glioma or meningioma was observed among these cellular phone users (Schuz et al. 2006).

Another approach that has been used is to compare temporal trends in disease rates with temporal trends in prevalence of cell phone use. For example, trends in acoustic neuroma incidence in England and Wales were found not to lag behind trends in cell phone use in a correlated fashion (Nelson et al. 2006). Because increases in acoustic neuroma incidence predate or parallel rates of cell phone use, they likely reflect changes in reporting and diagnosis, and the temporal trends go counter to what would be expected if RF exposure played a role.

Several epidemiologic studies of potential cancer risk have used proximity to commercial broadcast transmission towers as the measure of RF exposure. However, individual RF exposures are not necessarily related to distance. None of these epidemiologic studies has provided sound evidence that RF exposure from the transmitters increased the risk of cancer or any other health effect [see summary by Jauchem (2003)]. The reporting of cancer "clusters" around RF broadcast transmitters and mobile phone base stations has heightened concern among the general public, but given the random nature of the distribution of cancers in the population it is not surprising statistically that such clusters should appear. Also, given the ubiquity of base stations, one would expect that a base station being near existing cancer clusters is a likely occurrence. Hence, reliable scientific evidence on how the distribution of cancer

and other diseases in the population might be related to environmental factors (e.g., cellular telephone RF exposures) can best be obtained through carefully planned and executed epidemiologic studies such as INTERPHONE.

Noncancer health effects. Some changes have been reported in relation to cardiovascular function, but these findings have been in operators of broadcasting stations (Vangelova et al. 2006). From the weight of evidence and the very low exposure levels associated with base stations, there is no clear evidence of any adverse effect from such exposures (Feychting 2005; Feychting et al. 2005).

Potential neurologic and behavioral effects. Laboratory studies with volunteers have investigated whether low-level exposure to RF fields associated with mobile phones can affect brain function and behavior. Reported reactions to assumed RF exposure include a wide variety of nonspecific symptoms. Most commonly reported symptoms are sleeplessness, fatigue, dizziness, digestive disturbances, and concentration difficulties. By and large, well-controlled and -conducted double-blind studies have shown that symptoms are not correlated with RF exposure. There are also some indications that these symptoms may be caused by preexisting conditions such as stress reactions resulting from worrying about perceived RF health effects rather than the RF exposure per se. To date, only subtle and transient effects have been reported, and any implications for health remain unclear and unlikely (Cosquer et al. 2005). Exposures used in these studies are similar to those to the head from mobile phone use, rather than to the much lower RF levels associated with general public exposure from base stations.

Reviews of the evidence on electromagnetic hypersensitivity have been conducted (Fox 2006). An extensive systematic search identified relevant blind or double-blind provocation studies of individuals potentially hypersensitive to the presence of EMF. A meta-analysis found no evidence of an improved ability to detect EMF in "hypersensitive" participants. That is, it was concluded that weak electromagnetic fields are not likely to be causative factors for neurological symptoms (Rubin et al. 2005, 2006a, 2006b). An investigation into possible differences in blood cells between patients reporting EMF hypersensitivity and normal patients did not find any differences in lymphocyte response to RF from GSM mobile telephones (Markova et al. 2005). Other investigators have likewise concluded that "based on the limited studies available, there is no valid evidence for an association between impaired well-being and exposure to mobile phone radiation" (Seitz et al. 2005).

However, it is important to recognize the plight of people suffering from "hypersensitivity reactions." The WHO recently issued a fact sheet about people reporting nonspecific symptoms that they relate to RF fields from base stations and other EMF devices. Details can be found at WHO (2005). Moreover, E. Fox in the United Kingdom is continuing to analyze possible electromagnetic hypersensitivity reactions, and a report on the findings has been published (Eltiti et al. 2007).

Summary on RF health effects. The accumulated evidence does not establish the existence of adverse short- or long-term health effects from the signals produced by base station and local wireless networks. In fact, for similar RF exposure intensities (watts per square meter), the body absorbs about 5 times more of the RF energy from FM radio and television frequencies (around 100 MHz) than from base station frequencies (around 1–2 GHz). It is reassuring to note that radio and TV broadcast stations have been in operation for > 50 years, and health statistics have not demonstrated adverse health consequences.

Development of national and international RF guidelines. The heath-effect guidelines of ICNIRP in the mobile telephony frequency spectrum range from about 40–60 V/m (4.3–10 W/m^2) (ICNIRP 1998). The ICNIRP guidelines have been widely accepted (> 30 countries worldwide) and, for example, are consistent with Health Canada (1999), U.S. [American National Standards Institute/Institute of Electrical and Electronics Engineers (2006), Federal Communications Commission (2006)], UK [National Radiation Protection Board/Health Protection Agency (NRPB/HPA 2004a, 2004b)], and Australian [Australian Radiation Protection and Nuclear Safety Agency (ARPANSA 2002)] standards. However, some countries and regions have adopted more stringent guidelines without specifically justifying them on the basis of available scientific evidence. In contrast to the ICNIRP levels, the following are some examples of these more restrictive guidelines, in the mobile telephone frequency range (Baumann 2006; Vecchia 2006):

- ICNIRP Guidelines: 40–60 V/m or 4.3–10 W/m^2
- "Italian Exposure Limit": 6 V/m
- "Paris Charter": 2 V/m, 24-hr average, indoors
- "Salzburg Protection Value": 1 W/m^2
- "Swiss Regulation": 4–5 V/m at full power.

The issues that most often drive more localized RF guidelines are not established health risk per se, but rather risk perceptions (Siegrist et al. 2005). In this regard, the "Precautionary Principle" is often invoked—"better safe than sorry"—part of which involves taking "protective measures without having to wait until the reality or seriousness of those risks becomes apparent." One expression of how "protective measures" might be applied to RF levels is:

> The proposed [RF] standard also recommends that it is generally sensible to minimize exposure which is unnecessary or incidental to achievement of service objectives or process requirements, provided this does not introduce other risks and it can be readily achieved at modest expense. (ARPANSA 2001)

The term "modest expense" implies some type of cost–benefit analysis. Appropriate application of the Precautionary Principle requires that the policies be tailored such that the time, effort, expense, and risk of any "protective measures" be commensurate with what the society expends on other public risks of similar magnitude. However, if scientific research is not able to establish "apparent risks" in a quantitative way, making such a calculation is problematic.

If a basis for precautionary limits cannot be provided, then the danger behind promoting arbitrary limits and superfluous safety factors is that reliance on logical, science-based policy will be undermined in favor of unreasoned, fear-based, poorly thought out actions. Such actions, rather than providing reassurance, will likely trigger concerns, amplify unwarranted anxieties, and likely divert scarce resources into areas yielding little or no public health benefit (Barnett et al. 2006; Wiedemann and Schutz 2005). Despite unavoidable uncertainty and other limitations of the scientific method, science remains our best source of knowledge about how the world works and how we can rely on natural laws to understand interactions between the environment and living things.

Despite reassuring scientific evidence, some people perceive risks from mobile telephony RF exposure as likely and possibly severe. Several reasons for public fear have been proposed, including media announcements of new and unconfirmed scientific studies, leading to a feeling of uncertainty and a perception that there may be unknown or undiscovered hazards. Risk perception cannot be understood as a monolithic concept; rather, communicating "risk" is a unique challenge because it focuses on three major elements that are difficult to convey to a lay public: complexity, uncertainty, and ambiguity (Renn 2004, 2006).

The first barrier to easy risk communication is complexity. In everyday life, people perceive causal connections to be simple. In most scientific assessments of risk, causal connections are highly complex. Causes and effects are not obvious, and there are many intervening variables that obscure possible relationships. Often facility with quantitative methods is required, and appreciation of the fact that "the devil is in the details." Even though most scientists agree that health impacts of mobile telephony RF are unlikely (but not impossible), a lay audience will often assume that complexity is used to "pull the wool over their eyes."

The second barrier to explaining risk is uncertainty. Most risks have a hypothetical component, and we cannot say with certainty that *x* exposure will cause (has caused) adverse outcome *y*. For example, science can rarely make definitive statements about what has "caused" a particular disease like cancer. The best we can do is to calculate probabilities linked to different causal pathways. In terms of risk communication, conveying the different types of uncertainty to a lay audience poses major challenges. People misunderstand uncertainties as being an indicator for bad science or sloppy risk assessment. In the face of uncertainty, a lay audience will typically resort to the simplistic strategy: "Better safe than sorry."

The third component of risk that is difficult to communicate is ambiguity. Ambiguity refers to the existence of divergent or contested interpretations and perspectives on the severity associated with a potential health threat. Not only can scientific interpretations have an ambiguous component, but ambiguity also emerges with regard to selection of appropriate values, priorities, assumptions, ethics, distributions of risk, and quality of life parameters to be applied. In the face of "duelling experts," a lay audience will often assume that the correct interpretation is midway between the two perspectives offered, because a lay audience has limited ability to recognize fringe positions.

To deal with these problems in risk communication, the public needs to be provided access to accurate information and education on scientific consensus positions. First, the solution to complexity is not a simple prohibition of a given technology. Rather, it must be recognized that scientific inquiry can test for harmful effects, but it can never prove that something is safe. This asymmetrical relationship is difficult to communicate, but one approach is to encourage people to realize that absolute safety is not a requirement that they can or do impose on any societal activity (e.g., public transportation, food supply, medical procedures, prescription drugs). Second, science deals with uncertainty by incorporating safety factors. That is, safety guidelines are not bright boundary lines between "good" and "bad," but rather they incorporate an adequate margin of safety so that even exceeding the exposure guideline would not lead one to anticipate ill effects. Third, in dealing with ambiguity, lay audiences need to be educated that the scientific consensus does not necessarily lie midway between the opinions they are offered. Hypothetical risks need to be recognized at such, and in a scientific, secular world, explanation patterns that are counterfactual, paranormal, and metaphysical are not valid. Although the natural human ability to sympathize with the victims of disease is to be admired, the associated desire to pin the blame for inexplicable diseases on a nearby environmental factor is misguided. That is, when individuals contract diseases, and when we have little idea as to what specifically caused the disease in question, that ignorance somehow sounds like evidence in favor of focusing on "unknown" risks such as RF or EMF. But this lack of knowledge is not evidence.

Perhaps the most important element of risk communication is to assure audiences that RF standards have been and continue to be under ongoing scrutiny. Large numbers of scientists, medical doctors, and public health professionals of disparate orientations and areas of expertise sift existing data and contribute new data in an ongoing risk assessment effort. The vast majority of human cancers are likely caused by unavoidable environmental exposures (e.g., viruses, diet, lifestyle, sunlight, background ionizing radiation) or to processes inherent to life itself (e.g., genetic instability, copying errors in DNA, endogenous hormones, creation of mutagens and free radical molecules by metabolism of food, production of reactive chemicals for microbicidal defense) (Gotay 2005; Henderson et al. 1991; McKean-Cowdin et al. 2000; Wogan et al. 2004). In scientific risk assessment, one compares the ability of the exposure of interest to increase risk above these baseline, natural processes.

Summary Potential for Health Effects from Wireless Technologies

As outlined above, our best scientific understanding indicates that there are no health consequences of base-station RF exposure, and no adverse effects are foreseen at the RF levels typical of cellular telephone technology. This viewpoint is not only consistent with the conclusions of the WHO workshop on "Base Stations and Wireless Networks," but it is also consistent with numerous other public health reviews on the safety of wireless technologies, although most public health agencies continue to favor "additional research." Some of these blue-ribbon, consensus-group conclusions are mentioned below.

ICNIRP (1998) has developed guidelines to protect human health from exposure to EMF across the RF spectrum. These ICNIRP guidelines have been adopted by > 30 countries. Certain countries have instituted standards limiting emissions from cellular telephone base stations that are significantly below recommended ICNIRP limits. Such additional restrictions are not based on any known health effects, but rather tend to be either a precautionary measure or an "as low as reasonably achievable" (ALARA) measure that requires base station transmissions to be no more than required for providing a good service.

Several groups in Great Britain have evaluated potential health effects of RF. The Advisory Group on Non-Ionizing Radiation (2003) updated the year 2000 report of the Independent Expert Group on Mobile Phones (2000) and concluded that "exposures due to living near to base stations are extremely low, and the overall evidence indicates that they are unlikely to pose a risk to health." (Advisory Group on Non-Ionizing Radiation 2003).

The UK Health Protection Agency (formerly the National Radiation Protection Board) (NRPB/HPA 2004a) also has concluded that RF energy can potentially cause health effects only if people are exposed to RF levels significantly exceeding international limits. That is, they recommended that exposure to EMFs (0–300 GHz) in the UK be based on the 1998 guidelines issued by ICNIRP (NRPB/HPA 2004a).

In a specific review of cellular telephone technology (NRPB/HPA 2004b), the agency proposed that even though "there is a lack of hard information showing that the mobile phone systems in use are damaging to health," they continued to endorse a "precautionary approach" to the use of mobile phone technologies.

The Health Council of the Netherlands (Health Council 2002) has prepared a report on the potential risks of EM fields from mobile telephones. The report concluded that "the EM field of a mobile telephone does not constitute a health hazard, according to the present state of scientific knowledge." Moreover, the review committee concluded that "the scientific information concerning non-thermal effects discussed in this report provides no reason to apply the precautionary principle and lower the SAR limits for partial body exposure" (Health Council 2002). A 2005 Health Council update concluded that "the Committee therefore disagrees ... that a connection has been found between living in the proximity of a base station and the occurrence of cancer" (Health Council 2005).

ARPANSA prepared a fact sheet titled "What about base stations and telecommunication towers–are there any health effects?" ARPANSA concluded that "the weight of national and international scientific opinion is that there is no substantiated evidence that RF emissions associated with living near a mobile phone base station or telecommunications tower poses a health risk" (ARPANSA 2003a). ARPANSA also evaluated the potential for risk to children and concluded that "the balance of evidence does not indicate a risk to the health of people, including children, living in the vicinity of base stations where the exposure levels are only small fractions of the ARPANSA Standard" (ARPANSA 2003b).

The Royal Society of Canada has an "Expert Panel on Potential Health Risks of

Radiofrequency Fields from Wireless Telecommunication Devices," and their most recent update (2004) notes that "all of the authoritative reviews completed within the last two years have concluded that there is no clear evidence of adverse health effects associated with RF fields" (Royal Society of Canada 2004).

The advice of the U.S. Health Physics Society (a professional society of specialists in radiation safety) is that there is no reason to believe that cellular base station towers could constitute a potential health hazard to nearby residents or students (Health Physics Society 2006).

At present, the only established effects that can result from excessive exposure to RF energy are related to tissue heating. Although RF energy can be absorbed by living organisms to some degree at any frequency, available data do not demonstrate adverse health consequences at exposure levels below internationally accepted limits, which do not allow significant heating. In summary, none of the recent research or reviews of research have concluded that permissible RF exposure levels from mobile phones and their base stations lead to adverse health consequences.

Although scientists generally assign low priority to conducting research on base stations or other wireless technologies having such weak RF signals, some gaps in knowledge still exist (Repacholi 1998). Research recommended to fill these gaps can be found in the WHO RF research agenda (WHO 2006b).

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April 1, 2017

RE: Proposed installations of radio base station antennas and associated equipment for the Verizon Wireless Small Cell Personal Wireless Services facilities to be located on 12 different utility poles in Needham, MA.

PURPOSE

I have reviewed the information pertinent to the Verizon Wireless proposed installation of a total of 12 small cell (SC) personal wireless services (PWS) facilities at 12 different locations within Needham, MA. To determine regulatory compliance, theoretical calculations of maximal radio-frequency (RF) fields have been prepared for each site. The physical conditions are that Verizon Wireless proposes to install PWS omni-directional canister type antennas on 12 different utility poles. The antenna arrangement will include a single canister antenna on the utility pole along with two remote radio head (RRH) units. The mounting centerline height of the antennas varies according to the physical attributes of the individual host pole. This report provides written proof that the proposed facilities would comply with the all regulatory RF exposure guidelines.

This report considers the contributions of the Verizon Wireless PWS transmitters operating at their proposed capacity. The calculated values of RF fields are presented as a percent of current Maximum Permissible Exposures (%MPE) as adopted by the Federal Communications Commission (FCC),[i,ii] and those established by the Massachusetts Department of Public Health (MDPH).[iii]

SUMMARY

Theoretical RF field calculations data indicate the summation of the proposed Verizon Wireless RF contributions would be within the established RF exposure guidelines at each proposed site; see Figures 4A – 4L. This report provides written proof that the proposed facilities would comply with the FCC and MDPH RF exposure guidelines, including residential areas and in the surrounding neighborhoods.

Based on the theoretical RF fields I have calculated, it is my expert opinion that these facilities would comply with all regulatory guidelines for RF exposure to members of the public.

Note: The analyses, conclusions and professional opinions are based upon the precise parameters and conditions of **these specific 12 utility poles within Needham, MA**. Utilization of these analyses, conclusions and professional opinions for any personal wireless services installation, existing or proposed, other than the aforementioned has not been sanctioned by the author, and therefore should not be accepted as evidence of regulatory compliance.

EXPOSURE LIMITS AND GUIDELINES

RF exposure guidelines enforced by the FCC were established by the American National Standards Institute (ANSI) [iv] and the National Council on Radiation Protection and Measurement (NCRP).[v] The RF exposure guidelines are listed for RF workers and members of the public. The applicable FCC RF exposure guidelines for the public are listed in Table 1, and depicted in Figure 1. All listed values are intended to be averaged over any contiguous 30-minute period.

Table 1: Maximum Permissible Exposure (MPE) Values in Public Areas

Frequency Bands	Maximum Permissible Exposure (MPE)		
	Electric Fields	Magnetic Fields	Equivalent Power Density
0.3 – 1.34 MHz	614 (V/m)	1.63 (A/m)	(100) mW/cm^2
1.34 - 30 MHz	824/f (V/m)	2.19/f (A/m)	(100) mW/cm^2
30 - 300 MHz	27.5 (V/m)	0.073 (A/m)	0.2 mW/cm^2
300 - 1500 MHz	--	--	f/1500 mW/cm^2
1500 - 100,000	--	--	1.0 mW/cm^2

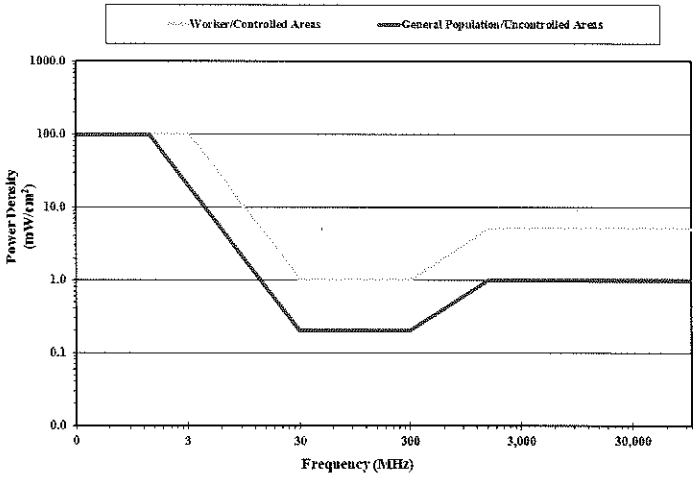


Figure 1: FCC Limits for Maximum Permissible Exposure (MPE)

NOTE: FCC 5% Rule – At multiple transmitter sites, actions necessary to bring the area into compliance with the RF exposure guidelines are the shared responsibility of all licensees whose transmitters produce RF field levels in excess of 5% of the applicable FCC MPEs.

THEORETICAL RF FIELD CALCULATIONS - GROUND LEVELS

METHODOLOGY

These calculations are based on what are called "worst-case" estimates. That is, the estimates assume 100% use of all transmitters simultaneously. Additionally, the calculations make the assumption that the surrounding area is a flat plane. The resultant values are thus conservative in that they over predict actual resultant power densities. The calculations are based on the following information for VERIZON WIRELESS:

1. Effective Radiated Power (ERP): See Table 2 inventory.
2. Antenna height (centerline, above ground level (AGL) See Table 2 inventory.
3. Antenna vertical radiation patterns; the source of the negative gain (G) values. "Omni directional" antennas are designed to focus the RF signal, resulting in "patterns" of signal loss and gain. These patterns (see **APPENDIX A**) display the loss of signal strength relative to the direction of propagation due to elevation angle changes.
   Note: G is a unitless factor usually expressed in decibels (dB); where $G = 10^{(dB/10)}$.
   For example: for an antenna *gain* of 3 dB, the net factor $(G) = 10^{(3/10)} = 2$.
   For an antenna *loss* of -3 dB, the net factor $(G) = 10^{(-3/10)} = 0.5$.

To determine the magnitude of the RF field, the power density (S) from an isotropic RF source is calculated, making use of the power density formula as outlined in FCC's OET Bulletin 65, Edition 97-01: [vi]

$$S = \frac{P \cdot G}{4 \cdot \pi \cdot R^2}$$

Where:
- $P \rightarrow$ Power to antenna (watts)
- $G \rightarrow$ Gain of antenna
- $R \rightarrow$ Distance (range) from antenna source to point of intersection with the ground (feet)
- $R^2 = (\text{Height})^2 + (\text{Horizontal distance})^2$

Since: $P \cdot G$ = EIRP (Effective Isotropic Radiated Power) for broadcast antennas, the equation can be presented in the following form:

$$S = \frac{EIRP}{4 \cdot \pi \cdot R^2}$$

In the situation of off-axis power density calculations, apply the negative elevation gain (G^E) value from the vertical radiation patterns with the following formula:

$$S = \frac{EIRP \cdot G^E}{4 \cdot \pi \cdot R^2}$$

Ground reflections may add in-phase with the direct wave, and essentially double the electric field intensity. Because power density is proportional to the *square* of the electric field, the power density may quadruple, that is, increase by a factor of four (4). Since ERP is routinely used, it is necessary to convert ERP into EIRP; this is readily done by multiplying the ERP by the factor of 1.64, which is the gain of a half-wave dipole relative to an isotropic radiator. Therefore, downrange power density estimates can be calculated by using the formula:

$$S = \frac{4 \cdot (ERP \cdot 1.64) \cdot G^E}{4 \cdot \pi \cdot R^2} = \frac{ERP \cdot 1.64 \cdot G^E}{\pi \cdot R^2} = \frac{0.522 \cdot ERP \cdot G^E}{R^2}$$

To calculate the % MPE, use the formula:

$$\% \text{ MPE} = \frac{S}{MPE} \cdot 100$$

OBSERVATIONS IN CONSIDERATION WITH FCC RULES §1.1307(B) & §1.1310

Is it physically possible to stand next to or touch any omni-directional antenna? No, access to the utility poles is restricted, and the utility companies will adhere to RF safety guidelines regarding potential access to the proposed PWS antennas mounted on the poles.

ANTENNA INSTALLATION LOCATIONS

The location of each proposed utility pole which would host a Verizon Wireless SC antenna is shown below in Figure 2.

Figure 2: Proposed Location of 12 Utility Poles
Which Would Host a Verizon Wireless SC Antenna within Needham, MA.

ANTENNA INVENTORIES

Table 2: Proposed Verizon Wireless Antenna Inventory Utility Poles in Needham, MA
Parameters: 560 watts ERP* of PCS @ 1970 MHz; 1173 watts ERP* of AWS @ 2145 MHz

Site Name	Address (See Figures 3A-3L)	Antenna Centerline (AGL)	Antenna Model
Needham MA SC01	20 Great Plain Ter	35' 5"	NH360QM-DG-2XR
Needham MA SC06	609 Webster St	41' 0"	NH360QM-DG-2XR
Needham MA SC10	270 Hunnewell St	41' 0"	NH360QM-DG-2XR
Needham SC03 MA	97 Melrose Ave	24' 0"	NH360QM-DG-2XR
Needham SC04 MA	7 Stevens Rd	26' 7"	NH360QM-DG-2XR
Needham SC05 MA	200 Harris Ave	28' 4"	NH360QM-DG-2XR
Needham SC07 MA	443 Great Plain Ave	39' 0"	NH360QM-DG-2XR
Needham SC09 MA	Dedham Ave & South St	24' 1"	NH360QM-DG-2XR
Needham SC16 MA	Central Ave	41' 0"	NH360QM-DG-2XR
Needham SC19 MA	1250 Great Plain Ave	24' 7"	NH360QM-DG-2XR
Needham SC21 MA	33 Chestnut Place	36' 6"	NH360QM-DG-2XR
Needham W SC03 MA	1437 Great Plain Ave	40' 6"	NH360QM-DG-2XR

Table Notes:
AWS: Advanced Wireless Services
PCS: Personal Communication Services
* ERP = Power out per channel (CH) X # channels per remote radio head (RRH) X #RRHs X gain the antenna provides within that frequency band.

RESULTS

The results of the percent Maximum Permissible Exposure (%MPE) calculations for the summation of the proposed Verizon Wireless contributions are depicted Figures 4A – 4L as plotted against linear distance from the base of each utility pole. The values have been calculated for a height of six feet above ground level in accordance with regulatory rationale. In addition to the six-foot height, and depicted on the graphs for reference only, values have been plotted for a height of 16 feet above ground level for comparison with a typical two-story structure. A logarithmic scale was used to plot the calculated theoretical %MPE values in order to compare with the MPE of 100%, which is so much larger that it would be off the page in a linear plot. The curves in the figures resemble a straight-line on the log-linear plots at distances beyond about five hundred feet. Within that distance, the curves are variable due to the application of the vertical radiation patterns.

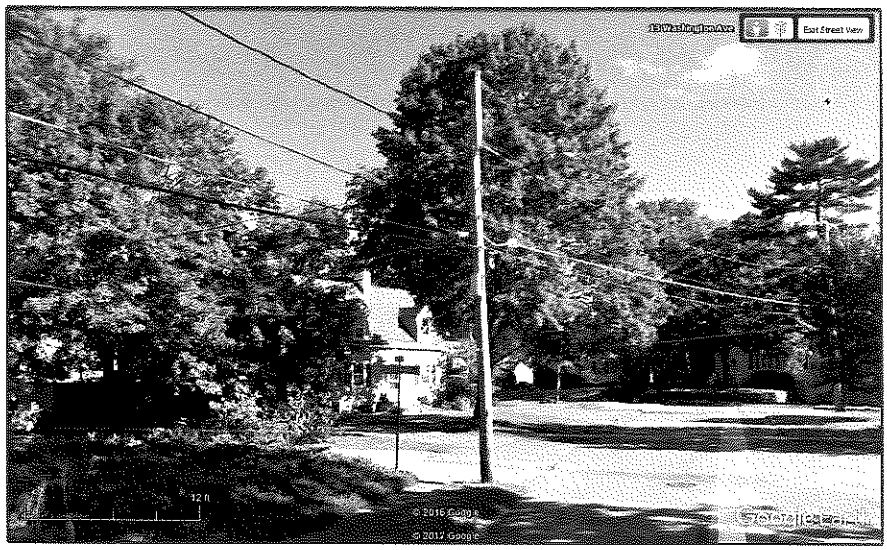


Figure 3A: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC01"

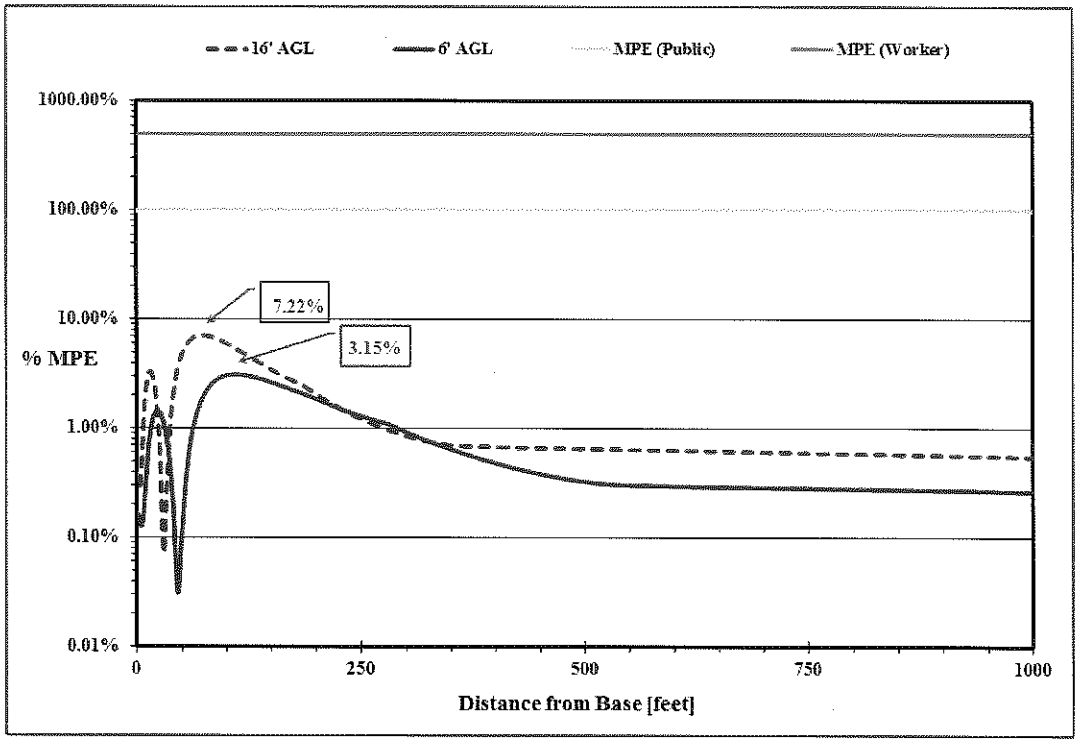


Figure 4A: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC01"

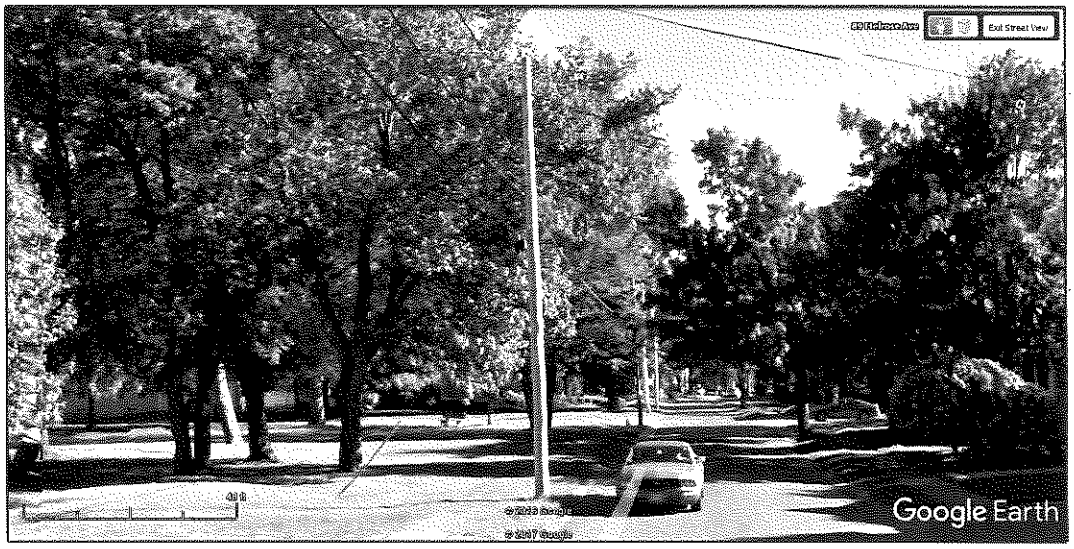


Figure 3B: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC03"

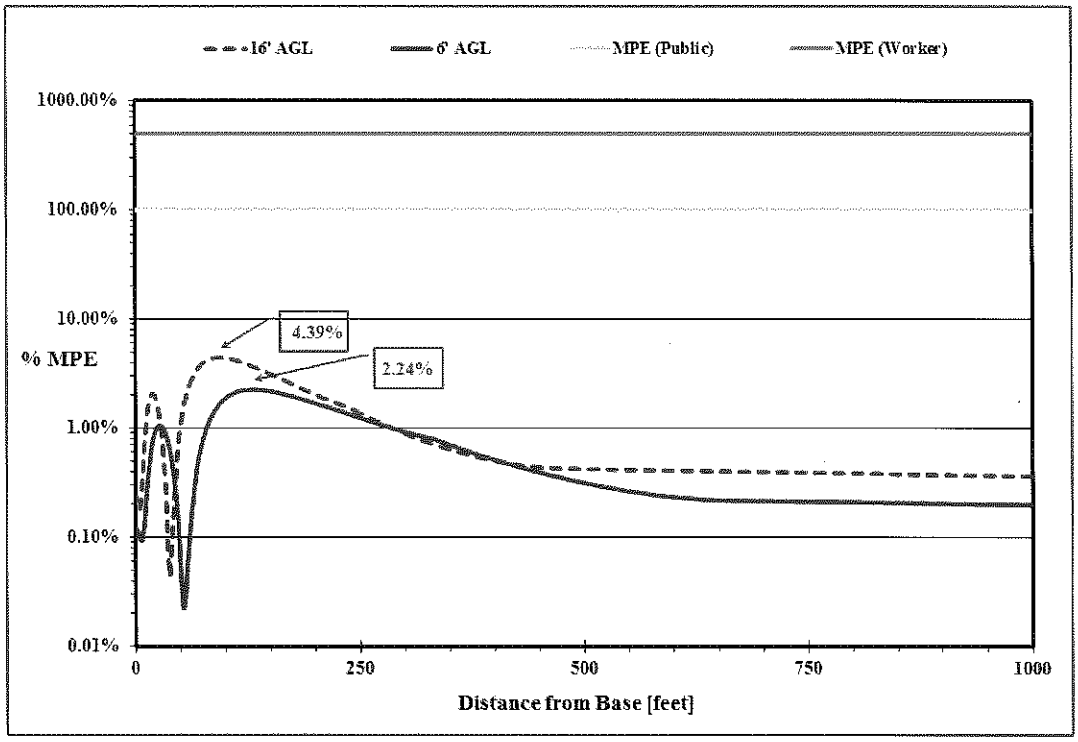


Figure 4B: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC03"

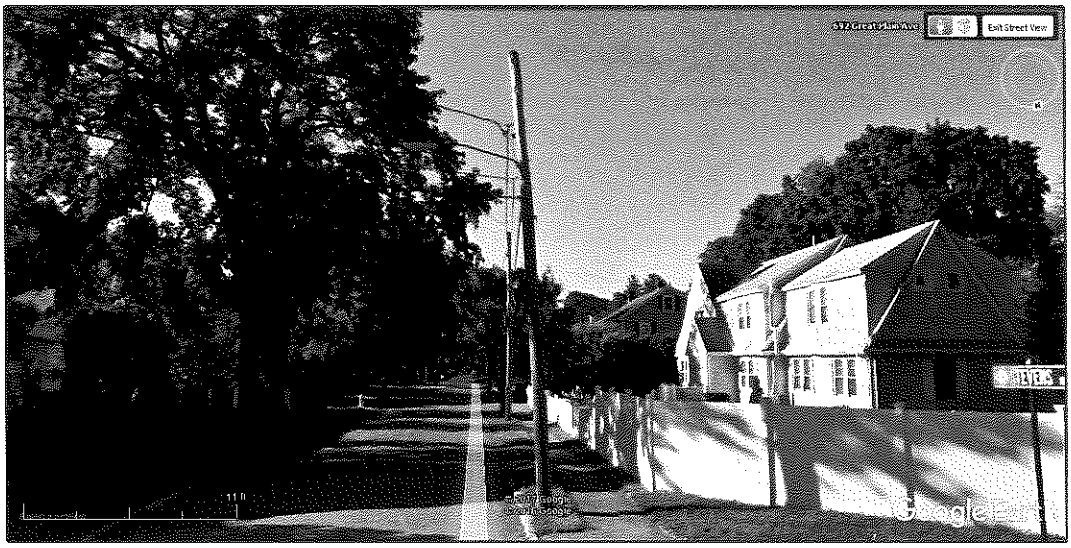


Figure 3C: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC04"

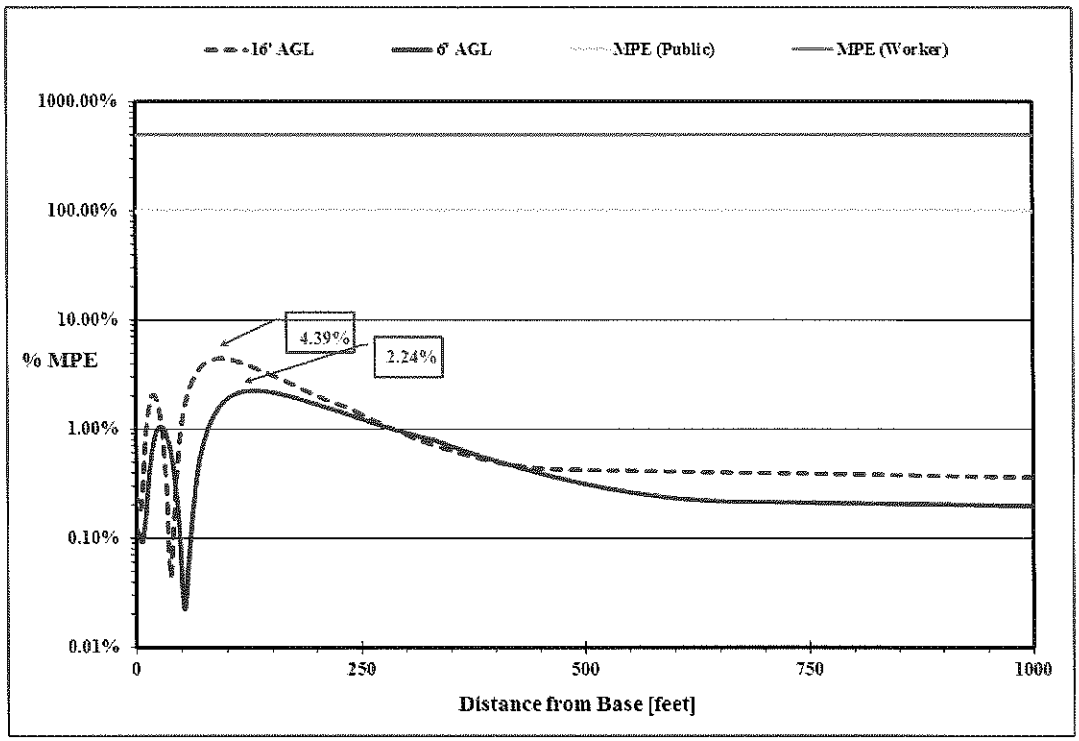


Figure 4C: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC04"

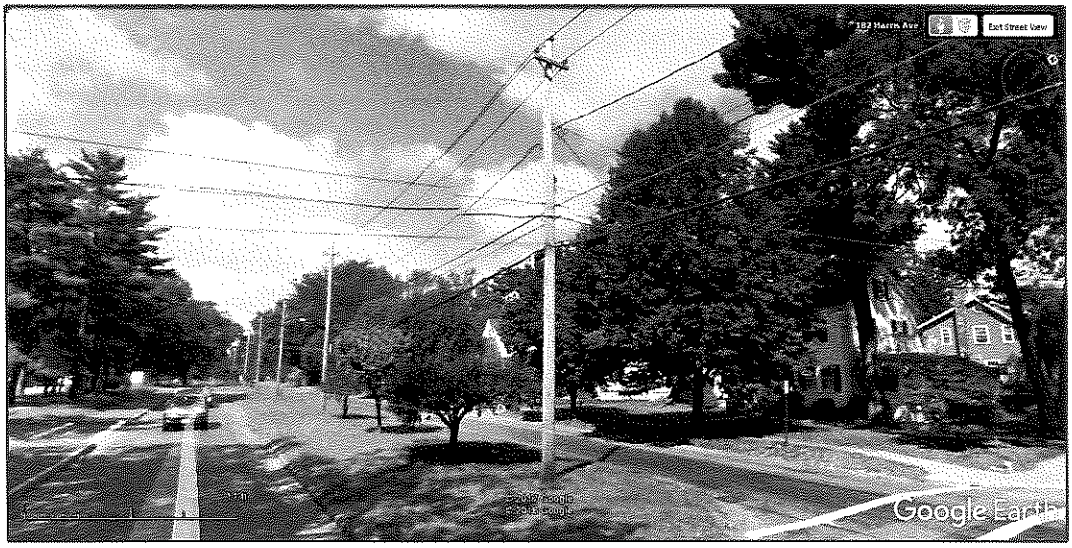


Figure 3D: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC05"

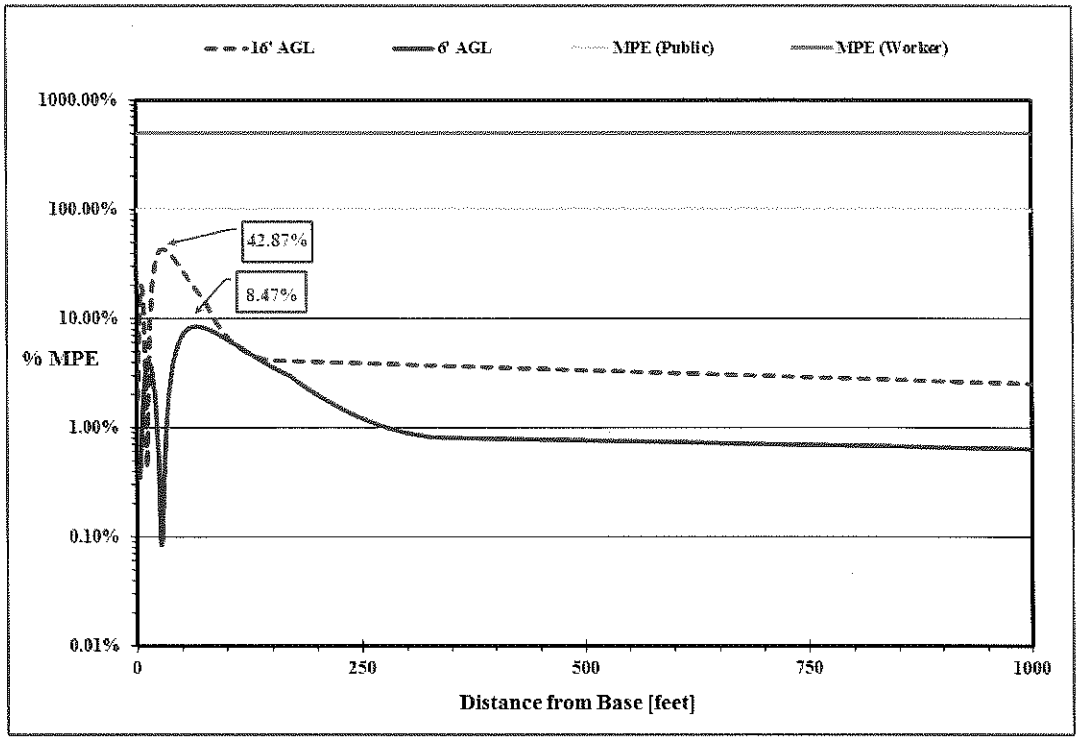


Figure 4D: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC05"

Figure 3E: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC06"

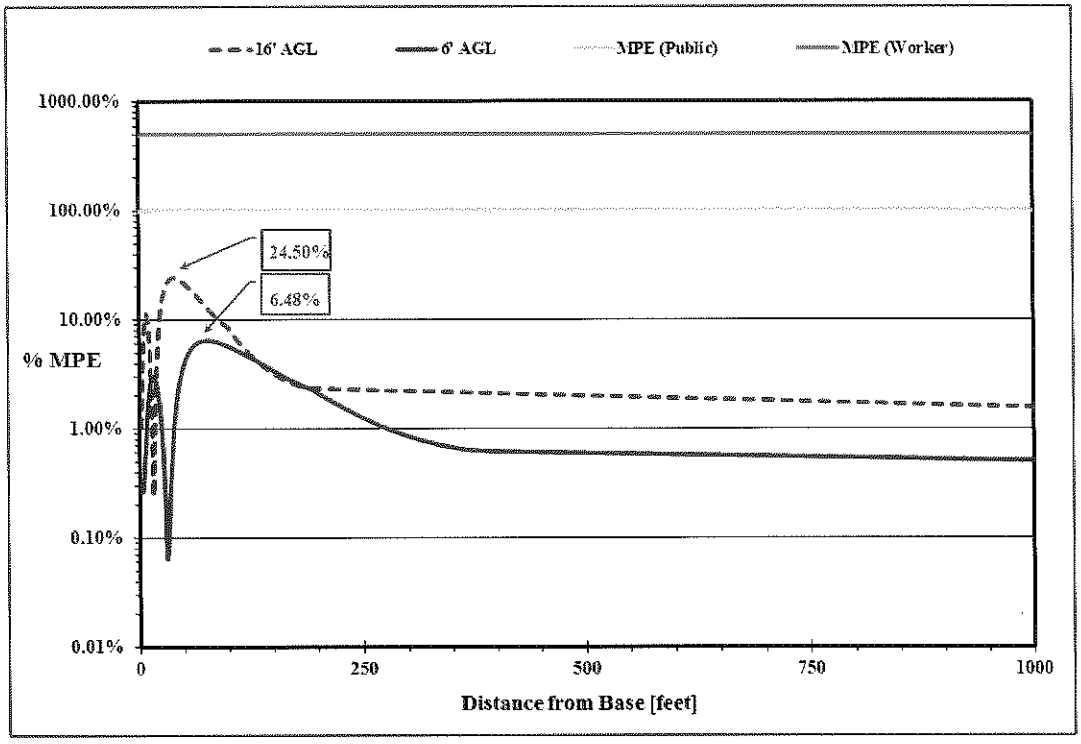


Figure 4E: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC06"

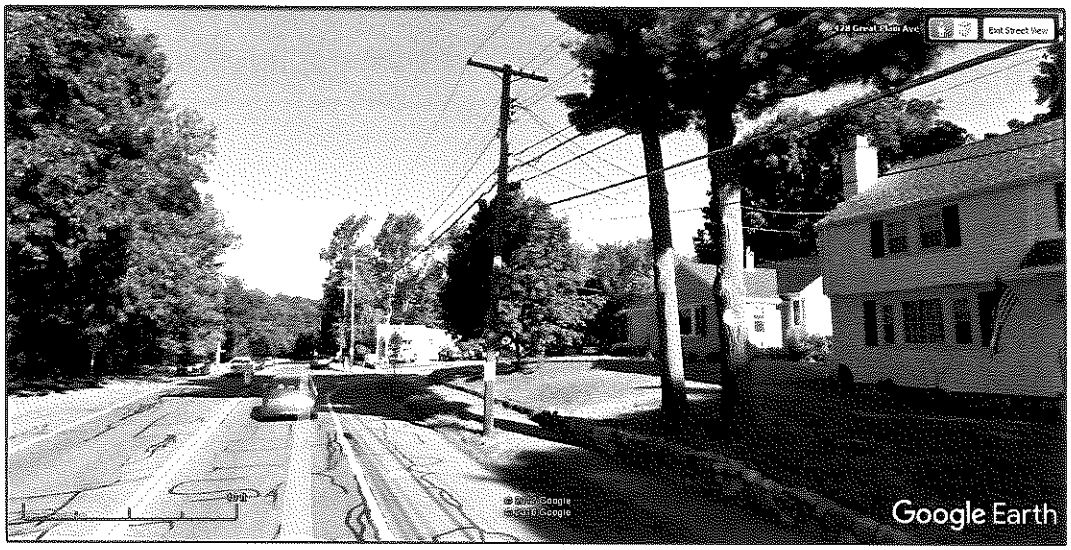


Figure 3F: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC07"

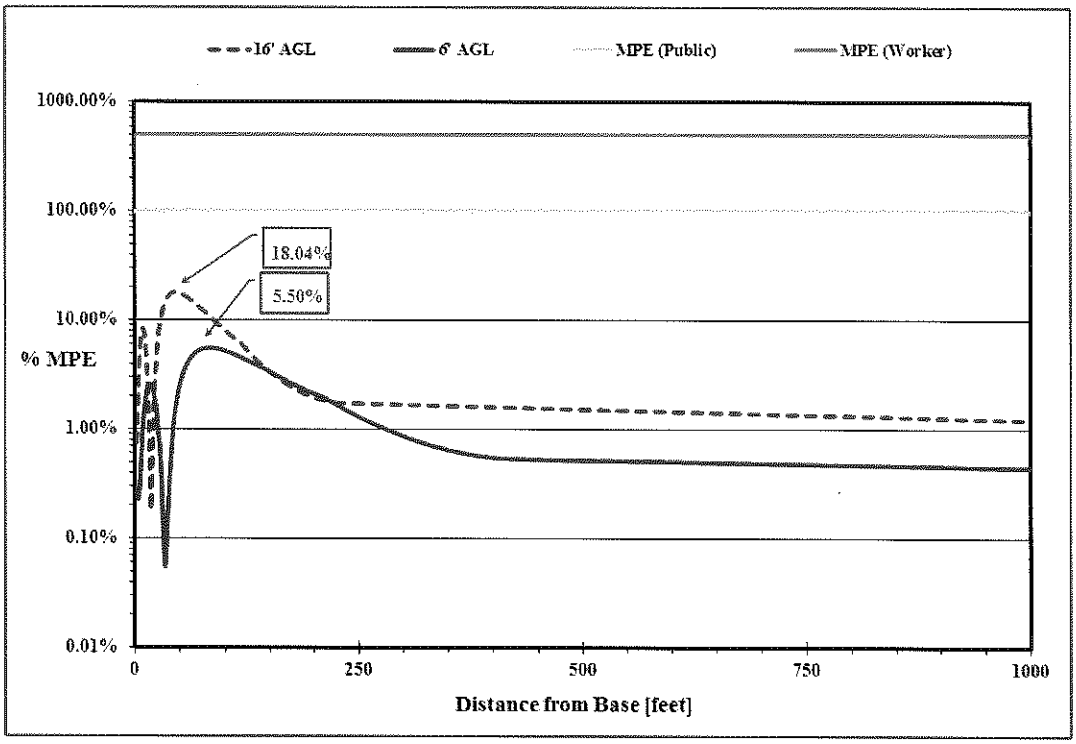


Figure 4F: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC07"

Figure 3G: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC09"

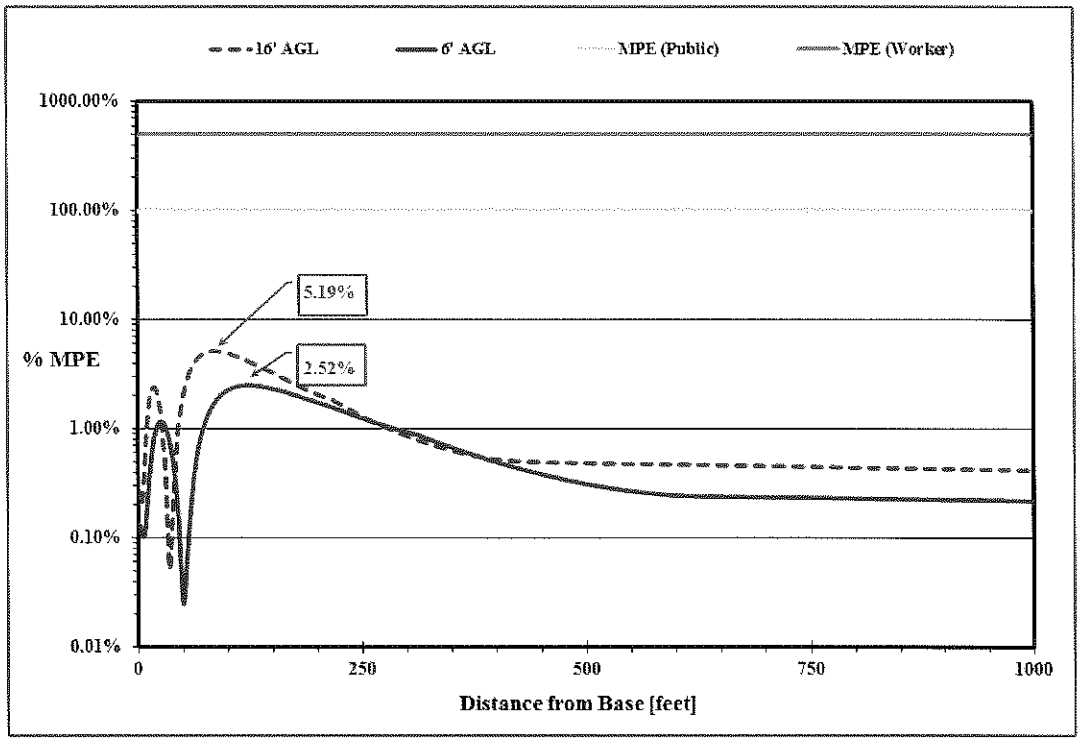


Figure 4G: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC09"

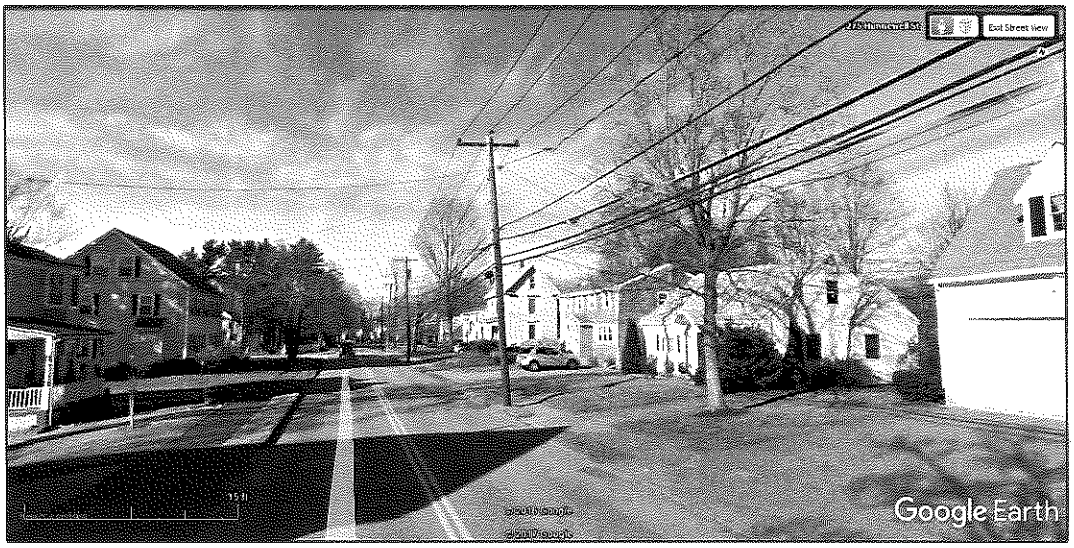


Figure 3H: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC10"

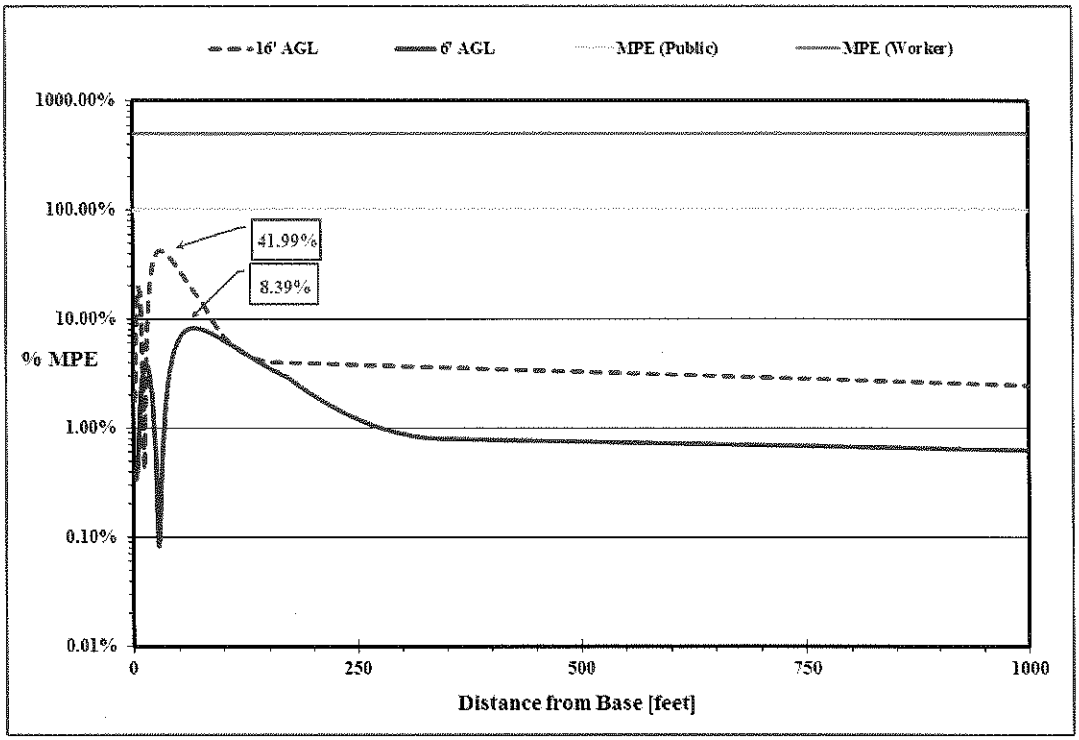


Figure 4H: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC10"

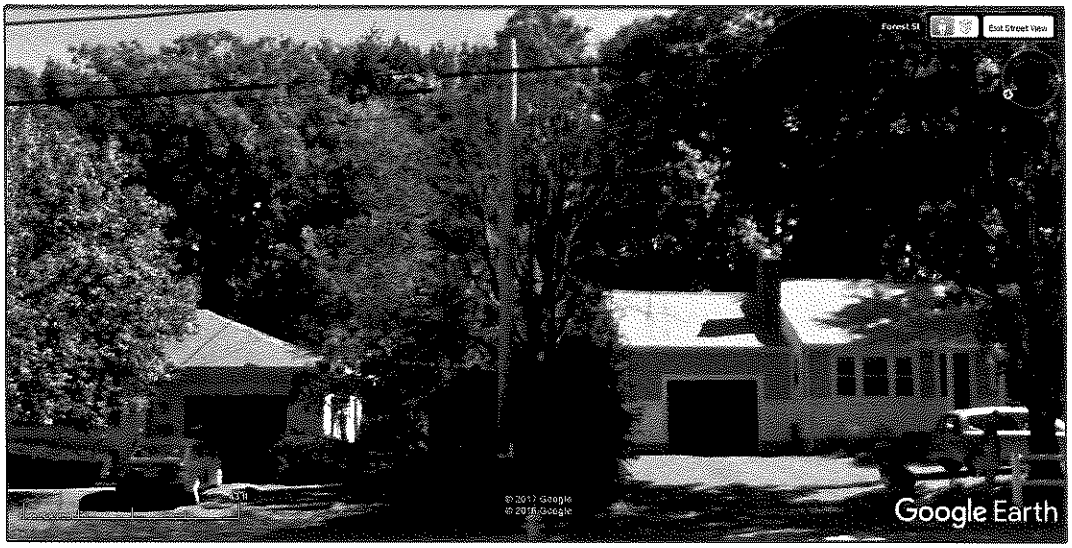


Figure 3I: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC16"

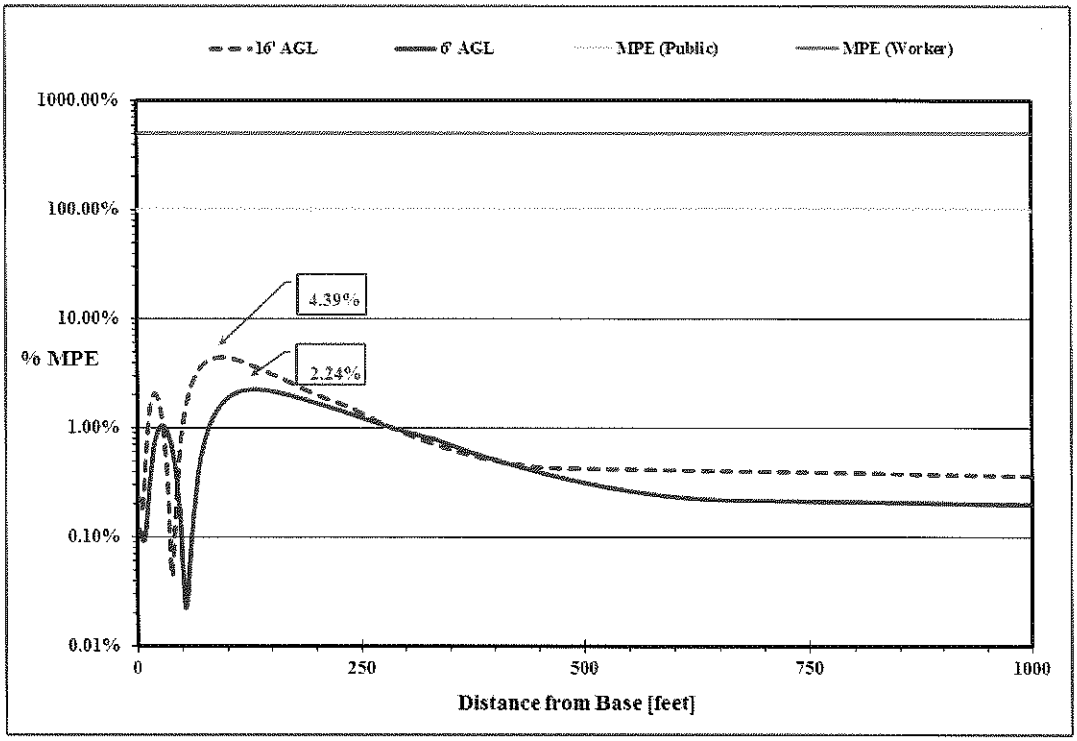


Figure 4I: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC16"

Figure 3J: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC19"

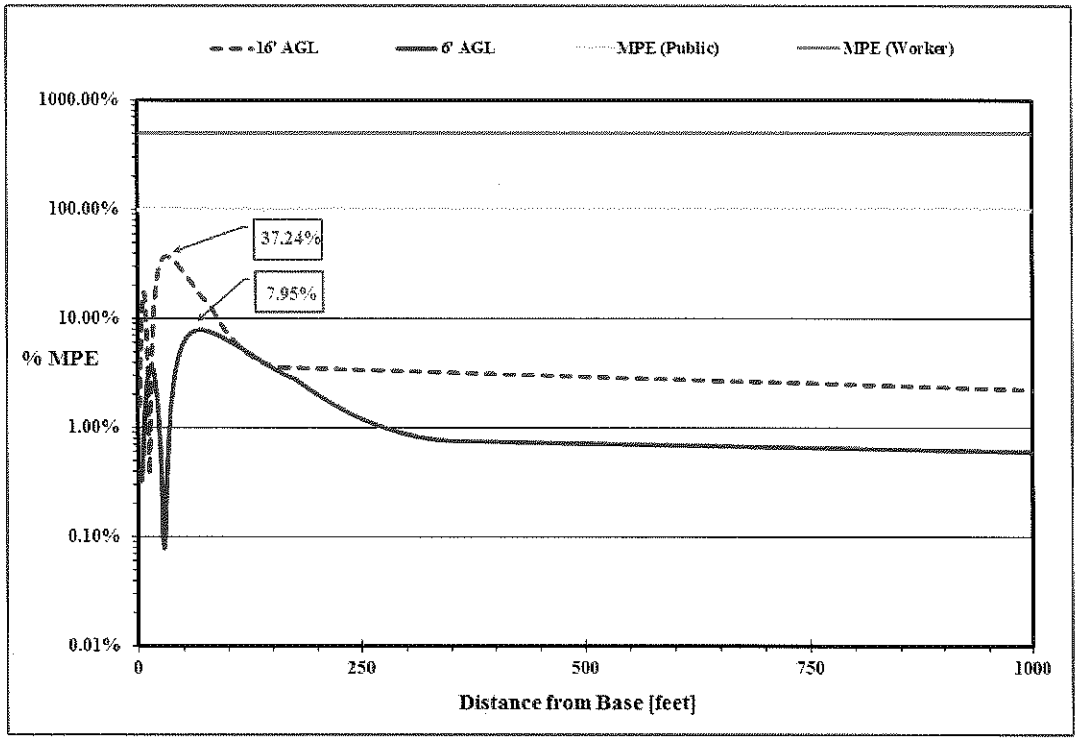


Figure 4J: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC19"

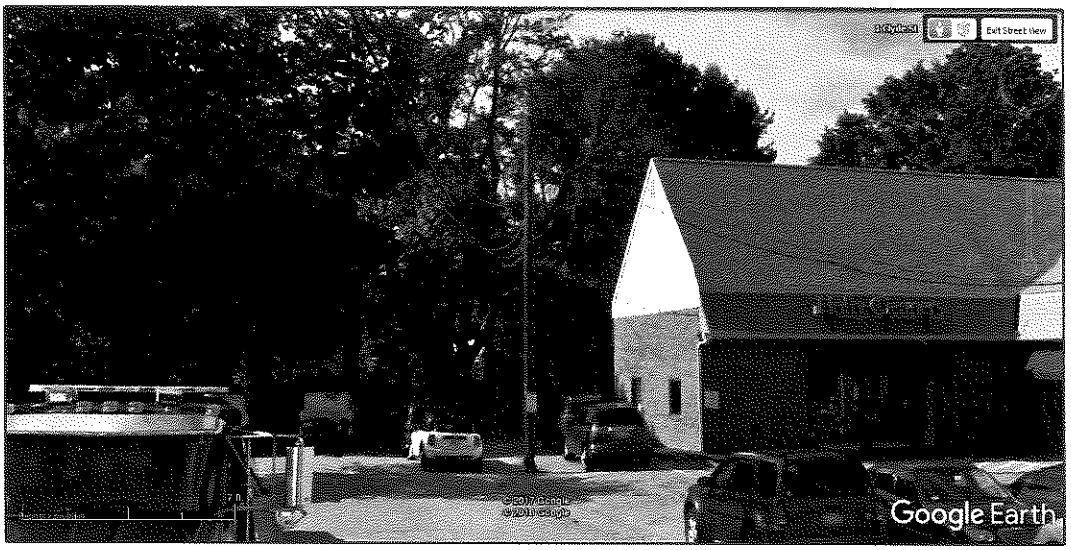


Figure 3K: Proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC21"

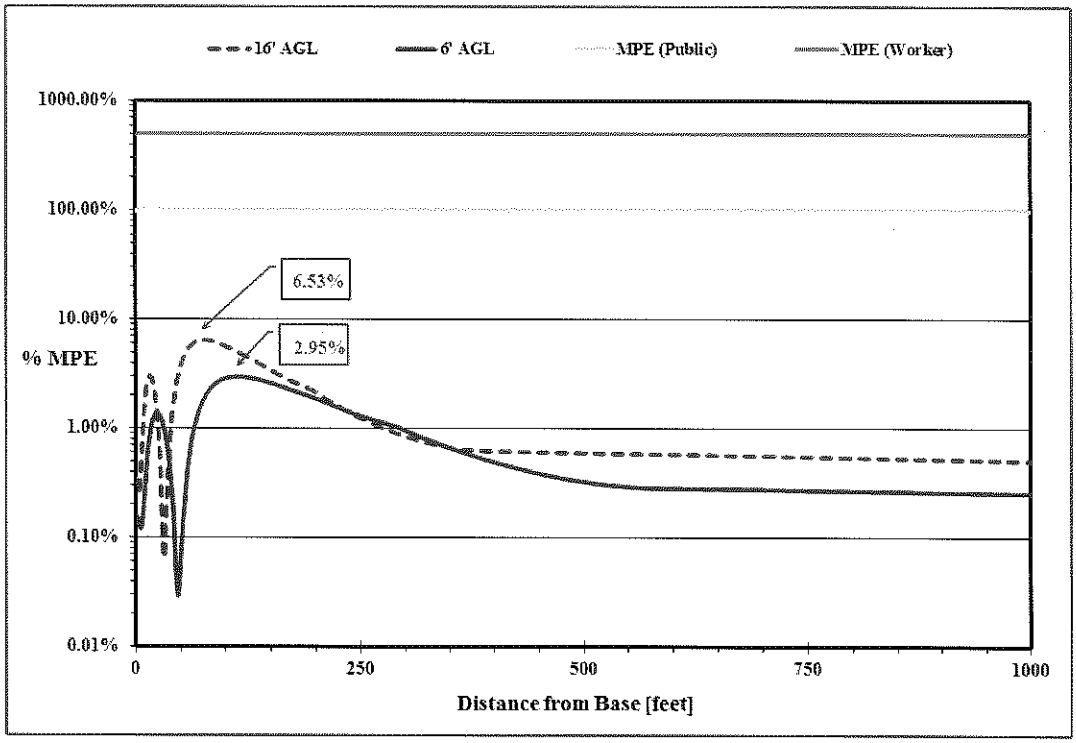


Figure 4K: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_MA_SC21"

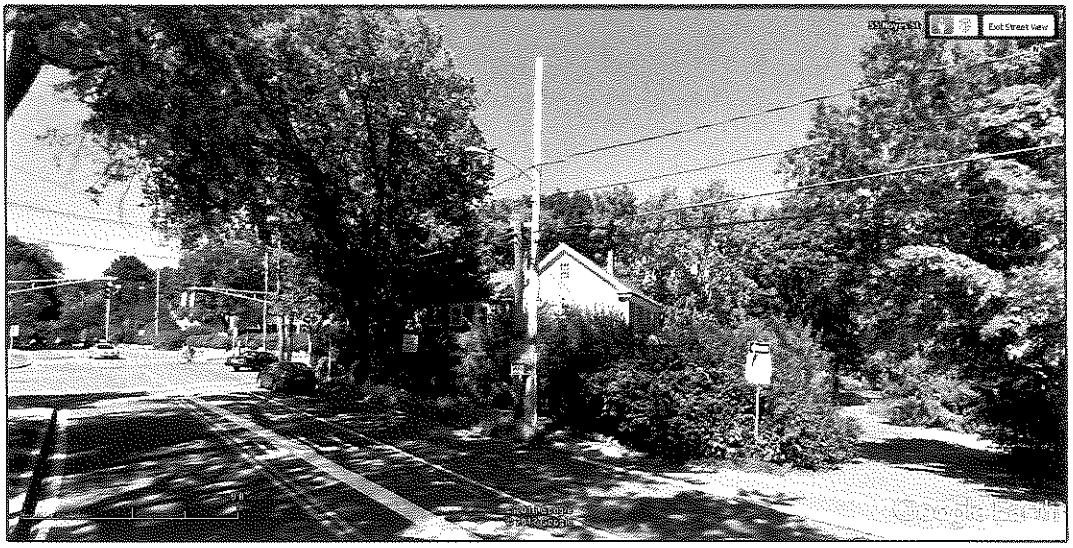


Figure 3L: Proposed Verizon Wireless Small Cell Antenna Site "Needham_W_SC03"

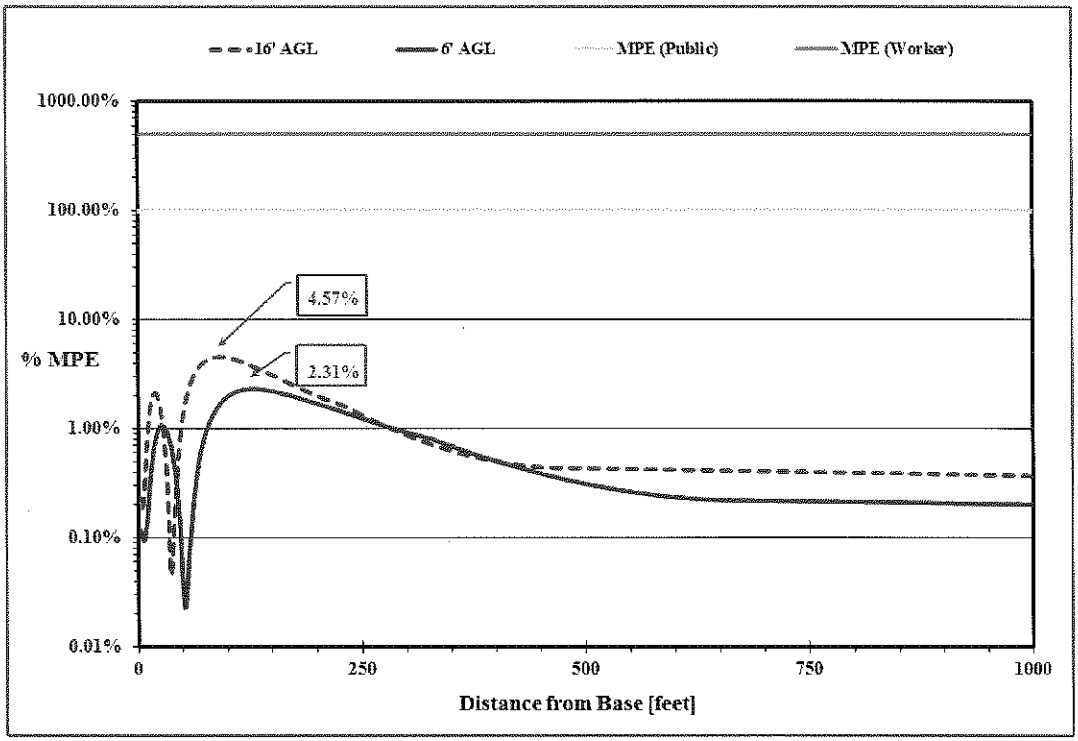


Figure 4L: Theoretical RF field calculations for the summation of the proposed Verizon Wireless Small Cell Antenna Site "Needham_W_SC03"

CONCLUSION

Theoretical RF field calculations data indicate the summation of the proposed Verizon Wireless RF contributions would be within the established RF exposure guidelines at each proposed site; see Figures 4A – 4L. This report provides written proof that the proposed facilities would comply with the FCC and MDPH RF exposure guidelines, including residential areas and in the surrounding neighborhoods.

The number and duration of calls passing through PWS facilities cannot be accurately predicted. Thus, in order to estimate the highest RF fields possible from operation of these installations, the maximal amount of usage was considered. Even in this so-called "worst-case", the resultant increase in RF field levels are far below established levels considered safe.

Based on the theoretical RF fields I have calculated, it is my expert opinion that these facilities would comply with all regulatory guidelines for RF exposure to members of the public.

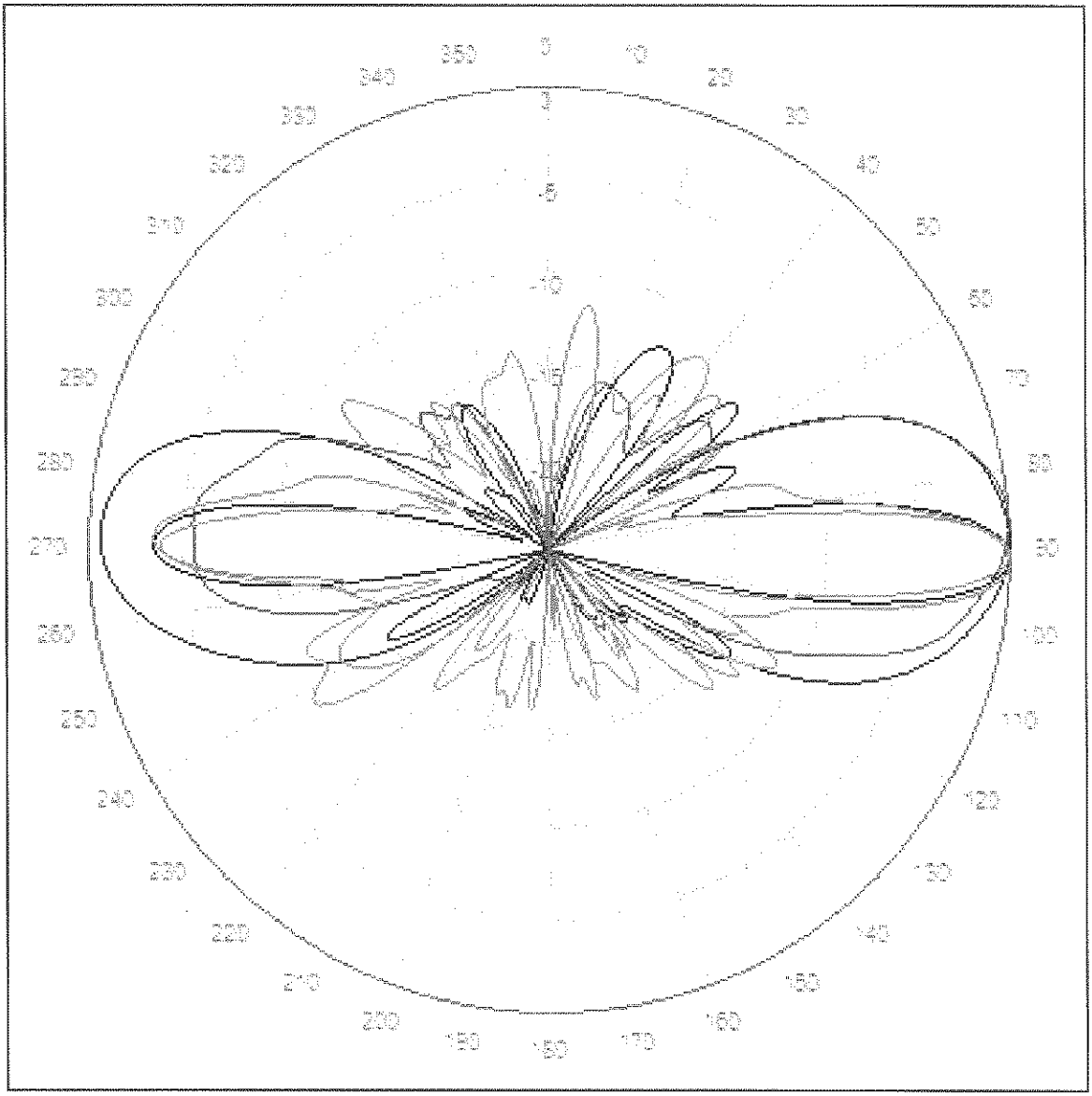
Feel free to contact me if you have any questions.

Sincerely,

Donald L. Haes, Jr., Ph.D
Certified Health Physicist

Note: The analyses, conclusions and professional opinions are based upon the precise parameters and conditions of **these specific 12 utility poles within Needham, MA**. Utilization of these analyses, conclusions and professional opinions for any personal wireless services installation, existing or proposed, other than the aforementioned has not been sanctioned by the author, and therefore should not be accepted as evidence of regulatory compliance.

APPENDIX A



Composite Vertical Radiation Patterns for Proposed Small Cell Omni Antennas For Specific Verizon Wireless Proposed PWS PCS & AWS Frequencies

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STATEMENT OF CERTIFICATION

1. I certify to the best of my knowledge and belief, the statements of fact contained in this report are true and correct.

2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are personal, unbiased professional analyses, opinions and conclusions.

3. I have no present or prospective interest in the property that is the subject of this report and I have no personal interest or bias with respect to the parties involved.

4. My compensation is not contingent upon the reporting of a predetermined energy level or direction in energy level that favors the cause of the client, the amount of energy level estimate, the attainment of a stipulated result, or the occurrence of a subsequent event.

5. This assignment was not based on a requested minimum environmental energy level or specific power density.

6. My compensation is not contingent on an action or event resulting from the analyses, opinions, or conclusions in, or the use of, this report.

7. The consultant has accepted this assessment assignment having the knowledge and experience necessary to complete the assignment competently.

8. My analyses, opinions, and conclusions were developed and this report has been prepared, in conformity with the *American Board of Health Physics* (ABHP) statements of standards of professional responsibility for Certified Health Physicists.

Date: April 1, 2017

Donald L. Haes, Jr., Ph.D
Certified Health Physicist

ENDNOTES

[i]. Federal Register, Federal Communications Commission Rules; *Radiofrequency radiation; environmental effects evaluation guidelines* Volume 1, No. 153, 41006-41199, August 7, 1996. (47 CFR Part 1; Federal Communications Commission).

[ii]. Telecommunications Act of 1996, 47 USC; Second Session of the 104th Congress of the United States of America, January 3, 1996.

[iii]. 105 CMR 122.000: Massachusetts Department of Public Health, *Non-Ionizing Radiation Limits for: The General Public from Non-Occupational Exposure to Electromagnetic Fields, Employees from Occupational Exposure to Electromagnetic Fields, and Exposure from Microwave Ovens*.

[iv]. ANSI/IEEE C95.1-1999: American National Standard, *Safety levels with respect to human exposure to radio frequency electromagnetic fields, from 3 KHz to 300 GHz* **(Updated in 2010)**.

[v]. National Council on Radiation Protection and Measurements (NCRP); *Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields*, NCRP Report 86, 1986.

[vi]. OET Bulletin 65: Federal Communications Commission Office of Engineering and Technology, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*; Edition 97-01, August 1999.

HARVARD
Campus Services
ENVIRONMENTAL HEALTH & SAFETY

Cell Phone Towers and Radiofrequency (RF) Radiation Safety

Cell Phone Towers

Cell phone towers are also known as base stations. The base station antennas are usually located outdoors on rooftops, sides of buildings, or inside church steeples. The antennas are also situated on towers or monopole structures. For aesthetic purposes, many are camouflaged to look like brickwork on the side of a building or like an evergreen tree (monopine) along a roadway. Base stations typically contain antennas, control electronics, a GPS receiver for timing, digital signal processors, radio transmitters and power sources. Antennas are commonly arranged in groups of three, with one antenna used to transmit radio frequency (RF) signals to cellphones, and the other two used to receive RF signals from cellphones. Three groups of these antennas are installed to face in different directions (sectors) so as to provide 360 degree coverage.

Transmitted RF signals between the cellphone and base station are radio waves and can be characterized by their frequency and other coding features (e.g., modulation scheme) to carry information (voice or data). Cellphones operate at frequencies of about 900 megahertz (MHz) and 1900 MHz. RF energy is converted to heat when absorbed by the body, and the potential for tissue heating is the only established mechanism of interaction associated with potentially adverse effects. Exposure guidelines and standards for RF levels, as published by organizations such as the International Commission on Non-Ionizing Radiation (ICNIRP) and the Institute of Electrical and Electronic Engineers (IEEE), establish exposure limits to protect against adverse outcomes that could result from such heating. Between ~70 and 110 MHz, the human body (depending on a person's size) maximally absorbs the energy with complex spatial distribution due to differing body tissues. As the RF frequency increases, the energy's distribution is more concentrated near the body surface and by 3,000 MHz is almost all in the outer layers of skin.

Health Effects of RF

RF fields travel on a two-way path between base station and a cell phone user. Because the phone is often held in close proximity to the head, most exposure is attributable to RF emissions from the phone (called the uplink). However, measurable exposure is possible from a base station (the downlink) depending on its power rating, a person's proximity to the base station, and the directionality of its antenna's beam.

Over the last two decades, a large number of studies have been conducted to assess cellular phone health risk, particularly studies in human populations (epidemiologic studies) seeking to determine if cell phone use is a risk factor for brain cancer. A number of studies have also investigated the potential effects of RF exposure on cancer in laboratory animals, brain electrical activity, cognitive function, sleep, heart rate and blood pressure in volunteers. To date, there is no consistent scientific evidence of adverse health effects from exposure to radiofrequency fields at levels below those that cause tissue heating.

It is generally accepted that damage to DNA molecules in living cells is necessary to initiate the carcinogenic process. For example, we know that ionizing radiation such as gamma ray and x-ray exposure, by virtue of its high energy, can cause initiation of cancers through unrepaired mutations of genes or disruption of chromosomal structure. This process may be mediated by the production of reactive oxygen species. The frequencies of RF fields are over 100,000 times lower than electromagnetic wave frequencies capable of breaking chemical bonds. Thus, RF energy is called "non-ionizing". It has not been found to cause cancer in animals or to enhance the cancer-causing effects of known chemical carcinogens in animals. For these reasons, the overwhelming majority of consensus documents from various health agencies worldwide agree that cell phones and base-station antennas are unlikely to cause cancer.

As stated above, epidemiological research on potential long-term health risks from radiofrequency exposure has focused on brain tumor risk and mobile phone use. For the most part, this literature has not uncovered a positive association between RF (mostly from cell phones) and brain cancer, although there are several exceptions. Since most cancers have a latency period of between 10 and 40 years and mobile phones were not widely used until the early 1990s, epidemiological studies can only assess cancers with shorter latency periods. However, animal studies consistently show no increased cancer risk for long-term exposure to radiofrequency fields, and despite considerable effort, no plausible biological mechanism has been identified whereby RF at levels emitted by cell phones can initiate cancer

Prior to the advent of cellular technology, RF exposure has had a ubiquitous presence in modern society since the introduction of commercial AM radio in the 1920s, the expansion of FM radio (~88-108 MHz) after World War II, and the inception of TV (100s of MHz) in the 1940s, which spread from urban to rural areas in the US in the 1950s. Cellular technology has introduced higher frequency sources, but has not changed physical interactions, when compared to our exposure to radio and TV transmissions.

Radiation Regulations

Since 1985, the United States FCC (Federal Communications Commission) has exercised regulatory authority over RF exposures produced by its licensees (see OET Bulletin 65, 1997). The FCC's current rules are based on interagency consensuses that include the EPA, FDA, National Institute for Occupational Safety and Health (NIOSH), and Occupational Safety and Health Administration (OSHA). Moreover, many international public health groups, such as the International Commission on Non-ionizing Radiation Protection (ICNIRP) and the European Commission (an arm of the EU) monitor and review RF health effects research.

The current FCC guidelines are based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE) made in the early 1990s. Both the NCRP and the IEEE documents were developed by interdisciplinary groups of expert scientists and engineers after extensive reviews of scientific literature related to RF biological effects. These "blue-ribbon" reviews of the science (by FCC,

IEEE, ICNIRP) are periodically updated [1] to include research in additional areas such as "non-thermal" effects of RF.

Studies have shown that environmental levels of RF fields (produced by cellphone base stations, radio and TV broadcasting, GPS) routinely encountered by the general public are typically far below the FCC limits. From 30 to 300 MHz the FCC MPE (Maximum Permissible Exposure) for the general public is 0.2 milliwatts per square centimeter (mW/cm^2) increasing to 1 mW/cm^2 at 1,500 MHz. Across radio, TV and cellular bands the highest fields the public might typically experience are between 0.1% to 0.5% of the FCC limit, translating to an absolute value of about 1 microwatt per square centimeter ($\mu W/cm^2$).

Frequently Asked Questions about of Cell Phone Towers

1. Who oversees cell phone tower safety for the public in Massachusetts?

   Cell phone antennas must be approved by Massachusetts governmental agencies before they are built. In order to get permits, cell phone providers must satisfy all of FCC regulations.

2. Is it safe to live or work on the top floor of a building that has a mobile phone base station antenna on it?

   We believe the answer is "yes." In urban areas, most cell phone antennas are installed on the tops of buildings. RF energy from the antennas is directed horizontally. The roofs of buildings reflect and absorb large fractions of RF energy on the roofs surface. Typically, a roof is expected to decrease signal strength by a factor of 5 to 10 (more for a reinforced concrete or metal roof). For antennas mounted on the sides of buildings, the energy level behind a fixed antenna is hundreds to thousands of times lower than in front. Even a worst-case calculation predicts that power density on the floor below a rooftop antenna will meet all current RF safety guidelines. Actual measurements in top floor apartments and corridors confirm that power density is far below all current RF safety guidelines.

3. Do more cell phone towers mean higher RF exposure levels?

   Not really. Cellphone user's RF exposures come from two sources. One is cellphone towers, which send signals to cellphones through RF waves. The RF fields, created by cellular base stations, in typical public areas may be equal to or less than a few

[1] FCC "Wireless Devices and Health Concerns." March 2014. www.fcc.gov/encyclopedia/radio-frequency-safety AND http://transition.fcc.gov/cgb/consumerfacts/mobilephone.pdf
IEEE document "C95.1-2005 RF Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" [2006].
ICNIRP statement on the "Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz)". International Commission on Non-Ionizing Radiation Protection. *Health Phys*. 97(3):257-8 [2009].

microwatts per square centimeter (10^{-6} Watts/cm^2). The cellphone itself sends signals to base station antennas with the power of thousands of microwatts (10^{-3} Watts). Because a cell phone is typically held against the side of the head when in use, much of the RF energy is delivered to very small volumes of the user's body. The greatest RF exposures are from cellphones, not from base stations.

Cell phone communication is two-way. RF signals from a base station decay with distance. All things being equal, the greater the distance between a cell phone and a base station then the weaker the signal. However, a cell phone needs to operate at greater power for its signal to reach base stations further away. This leads to more RF exposure to the cell-phone users when base stations are widely spaced. When phone users are close to towers, the cell phone will emit signals at lower power, which means less RF exposure to a user, so more towers generally reduce a user's RF exposure.

Many factors affect a person's RF exposure, including:

- The amount of time a person is on the phone.
    - Using a speaker or hand-free device will keep the phone away from your head.
    - Text messaging reduces exposures to the head when the user types in front of the body.
- Cell phone reception quality
    - Cell phones adjust their power to make a connection based on the phone's signal strength at the relevant base station. The phone uses minimum power with a good signal and increases the power in poor reception areas.

Tips to Minimize Exposure

The following cellphone tips may help you reduce unnecessary RF exposure:

1) Use the speaker or a headset whenever possible.
2) Keep your phone at least five feet away from your bed.
    a) Avoid placing a cell phone under pillows, on beds or on bedside tables, which may expose you to RF fields while you sleep.
3) Avoid using cellphones in moving vehicles (cars and all forms of public transportation) since the cellphone may need to operate at a higher power as its signal is handed off from one base station to another. [***Risk from RF is minor compared to accident risk, if one uses a cellphone or text messages in a moving vehicle!]***
4) Minimize use of a cell phone in poor signal areas.
5) If you wear a pacemaker or defibrillator, do not place a cell phone in a pocket adjacent to the heart.

Organizations and RF Safety Web Sites:

1) Environmental Protection Agency (EPA)
http://www.epa.gov/radtown/wireless-tech.html

2) Federal Communications Commission (FCC)
www.fcc.gov/oet/rfsafety

3) Food and Drug Administration (FDA)
http://www.fda.gov/radiation-emittingproducts/radiationemittingproductsandprocedures/homebusinessandentertainment/cellphones/default.htm

4) World Health Organization (WHO)
www.who.int/mediacentre/factsheets/fs304/en/index.html

References:

1. OET Bulletin 65: Federal Communications Commission Office of Engineering and Technology, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Edition 97-01, August 1997.

2. 105 CMR 122.000: Massachusetts Department of Public Health, Non-Ionizing Radiation Limits for: The General Public from Non-Occupational Exposure to Electromagnetic Fields, Employees from Occupational Exposure to Electromagnetic Fields, and Exposure from Microwave Ovens.

3. National Council on Radiation Protection and Measurements (NCRP); Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields, NCRP Report 86, 1986.

4. Norwegian Institute of Public Health. 2013. "Low level radiofrequency electromagnetic fields: An assessment of health risks and evaluation of regtulatory practice." http://www.fhi.no/dokumenter/545eea7147.pdf

5. Valberg, PA; Van Deventer, TE; Repacholi, MH. 2007. "Base stations and wireless networks: Radiofrequency (RF) exposures and health consequences." *Environ. Health Perspect.* 115:416-424.

To: Board of Selectmen

Cc: Carl Valente, Town Manager

From: Kenneth T. Pogran, Chair, Communications Advisory Committee

Date: July 20, 2016

Subject: CAC recommendation regarding the request by Verizon Wireless to install "Small Cell Sites" on six utility poles in town right of way

On Wednesday, July 13, several members of the Communications Advisory Committee (CAC) met with representatives of Verizon Wireless (Verizon) regarding Verizon's request to the Board of Selectmen for permission to install "Small Cell Site" equipment on certain utility poles in Lexington. Verizon plans to install Small Cell Sites on ten utility poles. Of these ten poles, four are in Massachusetts Department of Transportation (MassDOT) right of way and are not subject to the Town's jurisdiction. The remaining six are in town right of way, and are the subject of Verizon's request to the Board. This memo presents the Communications Advisory Committee's recommendation to the Board of Selectmen regarding Verizon's request.

Small Cell Site technology is a recent development in the wireless telecommunications industry that enables providers to add coverage and capacity in weak signal areas without immediately building new conventional, full-scale ("macro") cell sites. Small Cell Sites, mounted on utility poles, alleviate the typical concerns about where and how cell sites can be built. Verizon is one of the first wireless providers to deploy Small Cell Site technology in Massachusetts, and the first to seek to do so in Lexington.

The CAC believes Small Cell Site technology offers an excellent opportunity for providers to improve wireless communication coverage in Lexington without resorting to building new macro cell sites in the near term. Given the increasing demand for wireless communication services, the CAC recommends that the Board of Selectmen approve Verizon's request.

Detail regarding Verizon's request, the technology, the regulatory environment, and the reasoning behind the CAC's recommendation, is provided below.

1. The CAC is interested in improving wireless communications in Lexington.

Demand for wireless (cellular) communication services, both voice and data, has burgeoned in recent years. What was once considered a luxury or business service is now a virtual necessity for everyone, with increasing numbers of "cord-cutting" residents foregoing conventional "landline" phone service, and with middle school aged (and sometimes even younger) children carrying modern "smart phones" enabling them to stay in touch with parents (and friends). At the same time, Lexington has maintained restrictive zoning policies regarding macro cell sites, making it difficult for wireless providers to add new cell sites where they are needed to cope with rapidly-increasing demands for service. The CAC regularly receives anecdotal reports from residents of poor voice or data service at their home or place of business. It is well known that all of the major providers—Verizon, AT&T Mobility (AT&T), T-Mobile, and Sprint—have coverage gaps in different parts of Town, especially for their newest and fastest "4G LTE" services.

In the fall of 2015, the Board of Selectmen tasked the CAC with investigating the state of wireless communications in Lexington and determining what wireless carriers need in order to improve service in Lexington. To date, the CAC has had contact with AT&T Mobility and Verizon Wireless in this regard.

2. Small Cell Sites mounted on utility poles enable wireless providers to easily augment coverage and capacity in select areas.

Verizon's drawings show what a Small Cell Site looks like. It consists of a cylindrical antenna enclosure mounted at the top of a utility pole (smaller in size than an electrical transformer that we see on many utility poles), connected to an electronics unit mounted lower down on the pole, near other telecommunications lines. The electronics unit is substantially smaller than the equipment enclosures installed on certain poles by Cable TV providers.

Small Cell Sites augment the wireless service provided by conventional macro cell sites. They do not function alone, and they are not intended to eliminate the need for macro cell sites. However, by providing increased service in areas identified as having high demand (for example, outside a large office building or in a residential area with a weak signal) they can reduce the immediate need for a carrier to seek to build new macro cell sites.

It is important to note that the Small Cell Site equipment gets its power from the pole in the conventional way. A Small Cell Site does not have backup power, as a macro cell site would, and therefore will not function during a power outage.

It is also important to note that Small Cell Sites are exclusively part of the so-called "4G LTE" network, and do not improve service users for older-technology ("3G") phones; users of these older-technology phones are served from macro cell sites only.

3. Verizon has provided documentation demonstrating the need for improved capacity and coverage in the areas where they propose Small Cell Sites.

Verizon has performed signal strength and traffic analysis and has provided coverage maps showing the areas where additional "fill-in" 4G LTE capacity is needed. These needs form the basis for Verizon's request to mount Small Cell Sites on ten utility poles in town.

4. The Town's regulatory role is constrained in several ways.

Verizon intends to mount Small Cell Sites on poles within town (or MassDoT) right of way. Verizon asserts, and legal counsel has so advised the Town, that zoning regulations do not apply to utility equipment mounted on poles within such rights of way. Also, because it is pole-mounted equipment and not a structure, building code requirements, etc. do not apply.

Federal law, and Federal Communications Commission regulations, strictly limit the ability of a state or municipal government to deny permission or otherwise restrict the ability of a wireless provider to construct cell sites. Reasonable zoning controls (which, as noted above, do not apply in the current context) are one area in which a municipality does retain some regulatory discretion.

In addition, a municipality may not discriminate against one service provider in favor of another. We cannot, for example, say "we already have Verizon Small Cell Sites on utility poles; we don't want to have too many, so we will deny AT&T's (or T-Mobile's, or Sprint's) application for similar Small Cell Sites."

5. Some concerns remain.

As noted above, the Town cannot discriminate among carriers. Because utility pole mounted Small Cell sites are a new technology that provides wireless carriers with an attractive solution to capacity and coverage issues, we can expect to see requests for similar installations from the other wireless carriers in the future.

Also, while Verizon is currently seeking permission to install Small Cell Sites on just six poles in town right of way, it is likely that, as demand for wireless services continues to increase, Verizon will, at some point in the future, seek to add additional Small Cell Sites. In fact, Verizon has indicated to the CAC that it has already identified a need for an additional Small Cell Site.

We also note that Verizon intends to install ten Small Cell Sites in Lexington. In addition to the six on poles in town right of way, four are on poles in MassDoT-controlled right of way. Verizon states that it has sought, and has already received, approval from MassDoT to install its equipment on these poles—several of which are in residential areas.

Finally, all cell sites include radio transmitters. The proximity of radio transmitters to residences, schools, etc. has sometimes engendered citizen concerns. (This was especially true in the early days of cellular telephones, when cell sites used substantially more powerful transmitters than are employed with today's wireless technology.) Some of the Small Cell Sites Verizon is proposing will be located on poles outside homes on residential streets.

However, the radio equipment of Small Cell Sites is low in power compared to that of macro cell sites, as a Small Cell Site is designed to augment service only over a very limited area. Verizon has provided documentation showing that the radio frequency (RF) emissions from the proposed Small Cell Site equipment would not significantly add to the existing ambient RF energy in the immediate area. The CAC believes the RF emissions of the proposed equipment should not be of concern.

6. Conclusion and recommendation.

The Communications Advisory Committee has reviewed Verizon's proposal for Small Cell Sites mounted on utility poles, and has met with Verizon's representatives. We believe that the proposed Small Cell Sites provide an excellent means of augmenting Verizon's capacity and coverage in "problem" areas in Lexington, and will likely reduce the need for Verizon to build new macro cell sites, at least in the near term.

As outlined in Section 4, above, the Town's regulatory role is limited, in any event, by Federal law and regulation, and zoning regulations are not applicable.

The CAC does not believe Small Cell Sites present significant environmental, safety, or health hazards.

Although the antenna enclosures will be visible at the top of the utility poles in question, they are smaller in size than the electrical transformers we already accept in today's "polescape" outside our homes and businesses. And, they help to reduce the need for providers to construct new macro cell sites, which often have substantially greater visual impact.

It is possible, and in fact likely, that other wireless carriers will, at some point, seek approval for similar utility pole Small Cell Site installations. It is also likely that Verizon will seek additional Small Cell Site installations in the future (Verizon has made the CAC aware of its impending need for an eleventh Small Cell Site). However, since Small Cell Site deployments are not intended to completely replace conventional macro cell sites, the CAC does not expect Small Cell sites to be deployed in numbers that would come anywhere near the density of today's pole-mounted electrical transformers, which we accept as a matter of course.

Given the size of the Small Cell Site equipment, and the numbers of sites we might expect to be deployed over time, the CAC believes the overall visual impact of Small Cell Sites is reasonable.

For these reasons, the CAC recommends that the Board of Selectmen approve Verizon Wireless' request to install Small Cell Site equipment on six utility poles in town right of way.

Please feel free to contact me with any questions you may have regarding this recommendation.

Kenneth T. Pogran
Chair, Communications Advisory Committee