<div align="center">

APPROVED
MINUTES OF THE MILFORD BOARD OF SELECTMEN MEETING
April 12, 2017

</div>

PRESENT: Kevin Federico, Vice Chairman
          Gary Daniels, Member
          Mike Putnam, Member
          Laura Dudziak, Member
          Mark Bender, Town Administrator
          Darlene J. Bouffard, Recording Secretary
          Mike McInerney, Videographer

          WILTON BOARD OF SELECTMEN: Kermit Williams, William Condra, Kellie-Sue
          Boissonnault, Scott Butcher

          MONT VERNON BOARD OF SELECTMEN: Jack Esposito, John Quinlan, Kim Roberge

          LYNDEBOROUTH BOARD OF SELECTMEN: Lee Mayhew, Mark Schultz, Russ

MACC Base Staff
Milford Police Chief Viola
Milford Police Captain Frye
Milford Police Captain Pelletier
Milford Ambulance Director Eric Schelberg
Milford Fire Chief Jack Kelly
Belltronix Representative Lee Lemoine
Two-Way Communications Representative Steve Bartlett
Wilton Police Chief
Wilton Ambulance Director

EXCUSED: Mark Fougere, Chairman

1. WELCOME, INTRODUCTIONS: Selectman Kevin Federico called the public meeting to order at 7:00 p.m., introduced Milford Board members, noting that Chairman Fougere is excused this evening. Selectman Federico explained this meeting is about technology for dispatch of emergency personnel (fire, ambulance, police, DPW) and how to resolve issues brought up at the joint meeting on January 18, 2017.

          Tonight, we have two representatives from vendors for this type of equipment; Two-Way Communications and Belltronix will both present their proposed solution. After the presentation, there will be questions and answers. Lee Lemoine of Belltronix and Steven Bartlett of Two-Way Communications are here to explain possible technology solutions. Selectman Federico indicated he had a recent discussion with Lyndeborough Selectman Lee Mayhew who told him that he wants more information on an improvement, however, Selectman Federico explained to him that we really do not have any more information and knowing that this is not a small amount of money, and realizing that it cannot be resolved by Milford itself, it is a much bigger conversation that has to happen with all of the stakeholders. Selectman Mayhew told him that Lyndeborough needs to talk about the financial aspect, but the problem needs to be identified with a solution and what a rough price would be so they can identify how much money we are talking about. If Lyndeborough does not have an understanding of that, it cannot talk about how to finance it. Selectman Federico told him if we do not have a sign off from all of the stakeholders, then there is no point in moving forward together. The technology questions need to be answered first and then we can talk about the rest of it.

          Belltronix presentation: Lee Lemoine is an infrastructure engineer with a public safety background and he was an IT person prior to being a fireman; now he works in communications. Tonight's goal is to review an overview about the current system and look at the requirements. What are the details? The technology being proposed is for life coverage for all first responders here and regionally. The Police need four transmitters and receivers connected to MACC Base, the antenna site is located on Milford Town Hall. The best audio goes to a dispatcher with a quality rating of 4. 75% of the area, for all four towns, is covered this way. The dispatcher must select the best transmitter for each call. That is pretty much an art form, it is a challenge for a new dispatcher. A different re-

1 sponder might require a different channel. The dispatcher might need to transfer several times to reach all of the
2 responders. The Fire and Ambulance systems are very similar. Pead Hill and Abbott Hill antennas are used for po-
3 lice and fire and then there is the town hall tower; all of the sites are capable of transmitting and the dispatcher can
4 select one way to transmit. The same transmitter may not be used for talking back and sent, depending on a lot of
5 factors. The anomalies of radio transmitting are beyond this discussion. As an example, two weeks ago, there was a
6 call for an accident on 101/101A near the Market Basket parking lot, a second unit (police) was awaiting instruction
7 and there was a another stop at 101/Route 13 North of the off ramps. There is 3.39 miles between Market Basket
8 and Route 13 and 2.3 miles between Market Basket and the Police Station, and there is 1.59 miles from 101A to the
9 Police Station. With all of the trees, buildings, etc. the radio transmission weakens. There is a lot of terrain that the
10 signal has to pass through.

12 The 1.59 miles did not have a lot of forgiveness in the terrain.   Unit 1 transmitted to MACC Base, it is
13 heard, the Pead Hill antenna picked it up but because of the terrain, Units 2 and 3 could not hear the transmission so
14 2 of those units cannot hear the transmission at all. The dispatcher has to make the decision of where to transmit
15 from; one of the units might not hear the transmission because of terrain or other things. Having the sites and being
16 able to choose requires deciding which site to select. The hills in the way is what we are finding. The Fire Depart-
17 ment changed to a computerized system having a single site repeater. Without that single site repeater, they do not
18 have coverage. If we use that for the Police, the unit over by Market Basket is difficult to reach from the Police Sta-
19 tion. The Fire Department has a repeater, for outside operations and for day-to-day operations. It meets about 75%
20 of their requirements. They need to delay some transmissions and speed up some other transmissions.

22 Syncronizing the GPS is one idea. The west Milford to East Milford transmissions are tough. The Wilton
23 portable radios at the town line (car to car) are no problem. What Belltronix is proposing is one communication
24 system for all of the agencies (Police,Fire,Ambulance). The town does not want to have redundancy. If something
25 happened to one of the sites, we do not want it all to go down. We want to see transmissions simulcast on each site.

27 Public Safety is a minimal load on the antennas, Belltronix proposes modern equipment, no analog within
28 the sites, connectivity via microwave, T1, internet, there are a lot of different options. It is important for the ISO
29 rating as well. They have seen this problem before, phone companies have been using this technology for 100 years
30 for communication. The technology has about a ten year life span. A thermal power generator is required since if
31 the power fails, the DC power will not. Periodic site visits can be performed to check the equipment. We will know
32 there is a problem before there is a failure. Voltage and current all can be monitored. If a small storm is bad, we
33 can tell you if it looks good or not.   Belltronix adds the training for design and we can talk about what works and
34 what doesn't. We can talk about what options are good or not good for this application in order to make an in-
35 formed decision. The correct solution will provide coverage. 100% coverage, all of the time. They are looking at
36 sites that can be simultaneously used and looking at the coverage that exists and coverage that can be improved.
37 There are some terrible challenges in Lyndeborough. That is an engineering problem that we would want to solve.
38 We can have you look at some of these systems noting that customers are very pleased with the outcome. Mr. Lem-
39 oine said he is looking forward to working with the towns.

41 Vice Chairman Federico said we will hold questions until after the Two-Way Communication presentation.

43 Two-Way Communications presentation: Steve Bartlett of Two-Way Communications explained he has 23
44 years with the company, he is a systems engineer and senior technician. He has worked for both Motorola and Two-
45 Way Communications. RF communications is a line of site technology. We use height to our advantage. MACC
46 Base uses the height of hills and the average terrain. We have to look at where you are today and compare that with
47 where you want to be. We do not consider MACC Base to have a system, it is really a lot of equipment that is put
48 together. Dispatch centers use voice dispatch in order to communicate out. If you have a communication issue with
49 the dispatch center, it does not get any better, there is no technology to enhance the existing equipment. New tech-
50 nology is the first place to start; a network needs to be created for success. The dispatch center started with the goal
51 of a network then tried to tie in the surrounding agencies and their needs. Connectivity cannot be built. The most
52 important thing is the network. The sites that can be worked with can change or be moved. The area needs to be
53 surveyed to find sites that can be used to our advantage. Two-Ways' focus has been finding those sites; Summer
54 Street is one possible location. The system design is four channels for Milford and layer on three additional chan-
55 nels. We want to consider two modes of operation, Fire and EMS and we would continue to use analog as well.

57 Two-Way Communications is looking for technology for the future and planning that this will be a system
58 with full digital. How many channels do we need for capacity is something to decide. For the best on-call volume,

1   we decided was a 7-channel philosophy. The ability to service site losses is another aspect. The corresponding elec-
2   tronics themselves need virtual reminder protocol, open chair, etc. We looked at some architecture, some of the
3   components are world class. This system is completely managed with the highest degree of quality service. It is a
4   lot more than just switches. This system will no longer use UHF. Every piece is IDMS and of the highest quality.
5   Mr. Bartlett showed a street level view of what is expected for coverage. Lyndeborough has coverage issues. He
6   would expect coverage to be expanded in Lyndeborough. The basic architecture is easily expandable. Once the
7   network is in place and the town is populated, it just needs to be expanded for the other towns, that's all it takes. He
8   would like to know the questions everyone has. A final note is that voice is not enough to get the job done anymore.
9   More and more it will rely on data, not just voice. In the next few years, this is coming up so it is important to build
10   from the ground up to support these new technologies. He is excited about what we can do and it might be things
11   you are not aware of that could be done such as geo-fencing, meaning the radio knows where you are.
12
13   Steve Bartlett said the center of Milford has excellent coverage, but as you move outside of the center, it
14   gets more and more difficult and the type of buildings out there prevent the signal from passing through. Captain
15   Frye indicated there are 7 channels on the radios; could DPW and town offices share with other towns or different
16   scenarios? Mr. Bartlett responded that could work, they only planned for local needs; if public works wants a town
17   channel, populating that area would be easy, since the infrastructure would be in place. Expansion of the subset
18   would be pretty easy. An additional receiver would be needed and could be programmed.
19
20   Vice Chairman Federico opened up the discussion for questions.
21
22   Kermit Williams, Wilton,   asked if the vendors are talking about two designs, one just for Milford and then
23   another one that is regional for four towns? Mr. Bartlett responded that there are not two designs, it is that Milford
24   needs full coverage and capacity, those challenges were addressed for Milford and then built upon for the other
25   towns. Mr. Williams asked if the number of transmitter sites is increased and does it use the fire tower? Mr. Bartlett
26   said Two-Way planned the design based on that input. Originally the plan was to add to the initial design. Lynde-
27   borough has very poor coverage no matter how we do it. Mr. Williams indicated this is a line of site communication
28   issue, if you had access to a much higher tower, for example space on Pack Monadnock, would that would make a
29   difference in the design? Mr. Bartlett said that is correct, the territory would be huge with that coverage, for exam-
30   ple, Bedford sits below Mt. Uncanunook and they get broad sweeping coverage there. Pack Monadnock would
31   broadcast out but also create some flat areas, from there we could take a look at if it would be worth it. Mr. Wil-
32   liams asked about geo-fencing; would some departments need new portables? Mr. Bartlett answered that geo-
33   fencing is just one example of all that is out there and available, it is important so that you can layer new technology
34   that is becoming available. Mr. Williams asked if the infrastructure would be built in the current MACC Base facili-
35   ty. Mr. Bartlett said it is possible to do it there, but more would need to be added while we keep what is up there
36   operational. Mr. Williams asked if it is all microwave based? Mr. Bartlett said that it is; microwave is very robust,
37   and the opportunity to expand is there.
38
39   Selectman Putnam asked if we can use our existing frequencies? Mr. Bartlett said you can use the existing
40   channels and also add to them. Additional frequencies will be needed in order for those additional channels. As the
41   network expands, the channels will need an update. Selectman Putnam asked if the existing equipment will need to
42   be changed? Mr. Bartlett said not everything will need to change; some are low band equipment as those no longer
43   exist and would need upgrade. Selectman Putnam asked if there is a guarantee that there will be no interference?
44   Mr. Bartlett said there is no guarantee, but we do our best to be immune to interference, but sometimes it does occur.
45   What is being dealt with is today's technology.   Selectman Putnam asked if the transmit sites are capped at 45
46   watts. Mr. Bartlett said the models we are looking at are two-fold; every system has two sides. Portable radios are
47   usually five watts. We are broadcasting at 50 watts. 140 watts come out on the top of town hall. He is forecasting
48   about 50 watts. To bring balance to the system, they would increase sites. If it is imbalanced, you are wasting pow-
49   er. What is being proposed could double its capacity; it gets re-programmed.
50
51   Kermit Williams asked what about support for digital data transmission and secure audio transmission. Mr.
52   Bartlett responded the core system has data collaboration which can offload and share with other devices. There is
53   also blue tooth technology, which allows remote access for the device and allows collaboration. This is the current
54   technology. The voice network supports duality. Through data collaboration, it allows shared data on to the LTE
55   network. Selectman Putnam asked what is the life expectancy of the Motorola equipment. Mr. Bartlett responded
56   the manufacturer of Motorola, which is a software supported system (the radio is software driven and software de-
57   pendent) has stated the radios are rugged. Software is dependable and rugged; this will be here in another 10 or 20
58   years. Selectman Putnam asked how many employees are at Two-Way? Mr. Bartlett responded there are 23 em-

1   ployees. Selectman Putnam asked if there are enough people for an install? Mr. Bartlett responded yes, we have
2   different groups for different projects. Programming and support is a different group than install and there are four
3   locations.
4
5   Selectman Federico asked about types of radio networks; voice radio network in the future will not hold, an
6   IP based ring for communication is where it is going. Why wouldn't we put a repeater in the cruisers and have it
7   work and why are you telling us we need to move to an IP based system? Mr. Bartlett responded that this is a voice
8   network, the IP portion is connectivity. There is no system currently in MACC, it is a lot of radios collected over
9   multiple years the Federal Hill location helped the situation. How do we expand the system? In order to do that,
10   connectivity is needed. IP is the new technology. IP is connectivity. Once the network is built, we can expand it.
11   This is about bringing in connectivity.
12
13   Mr. Lemoine of Belltronix agreed building a network is the current industry standard, this is to get to digi-
14   tal over analog. All of the technology is capable of doing what is needed. Each building block needs to be about
15   expansion. A lot of fire departments are using simple analog radios. Selectman Federico said the hardware would
16   be upgraded through the software. Mr. Lemoine said that is correct, to provide connectivity between the sites; it is
17   so that it is easier for the dispatcher. The software will make the decision for the dispatcher. This eliminates the
18   decision making and situational analysis for the people on the street. There is no situational awareness with the cur-
19   rent system. Selectman Federico said the IP based backbone of the system is basically replacing one tower receiving
20   and then transmitting the signal; it would be multiple transmissions being done. Mr. Bartlett said all sites would
21   receive and all sites would transmit. Selectman Federico said it is all digital. Mr. Lemoine added that in the United
22   States, we have the ability to transmit 100 watts. Internationally, the wattage is limited.
23
24   Lee Mayhew, Lyndeborough, asked if the needs of MACC Based drove this presentation or the needs of
25   the Town of Milford drove this presentation? Mr. Lemoine answered the first one to contact Belltronix about soft-
26   ware was MACC Base, for a fresh start design because the FCC took away some of the coverage for frequencies.
27   The problem was discussed years ago with MACC Base and funding was an issue. It all must be connected.
28
29   Mr. Bartlett indicated that Two-Way Communications was approached by Milford first from a different an-
30   gle, the focus was to mimic MACC Base to mimic and augment Milford's coverage. Nashua has a system in place
31   but it is much larger. They have one site less than what we are looking at. Selectman Federico asked when a new
32   installation is done, is it always IP-based or is it similar to what MACC base now uses? Mr. Bartlett responded they
33   have smaller systems than this one. Belltronix responded they have done both, he has done installations in a person-
34   al basement or in a large department. It is a software-based system. Mr. Bartlett put in infrastructure today and then
35   upgraded the software.
36
37   Lee Mayhew asked about a MACC Base pricing sheet similar to what was distributed tonight. Selectman
38   Federico indicated what was distributed tonight is all there is. Tonight's meeting is only to understand the technolo-
39   gy, not about financials. Selectman Federico thanked Belltronix and Two-Way Communications for providing the
40   presentations tonight, they are competing vendors and brought this to a meeting with four towns.
41
42   Selectman Federico indicated this is a rough estimate of what it could cost; everyone should understand the
43   ball park of what we are talking about. Mr. Mayhew is asking for a MACC Base Plan and there is not one. Lee
44   Mayhew said whatever Milford chooses to do is what MACC Base has to work with. Selectman Federico said we
45   have more detail now than we did at the last meeting, we have not put out an RFP, we are not there yet. Tonight
46   was to get together the stakeholders to discuss and understand what we need and get to that point. Collectively the
47   stakeholders all have to be willing to move forward because if they are not, it is a moot point.
48
49   Kim Roberge, Mont Vernon, said the directive has come from Milford not from MACC Base. Is this Mil-
50   ford-driven or MACC Base-driven? Selectman Federico answered it is Milford-driven. At some point it can be
51   driven by one entity. The difficulty is this has been an issue for years. We know that we have a common issue.
52   Operability has not been working properly for a long time. It is a problem in other communities as well. This is
53   being pushed by Milford because of all the times it has been dropped, we want to talk about how we can fix it and
54   we are talking about a $1.8 million investment that has to be taken out by bond, but with an intermunicipal contract,
55   the Board of Governor's cannot do that. We have to ask the stakeholders how we can re-write this agreement to
56   make it work. Milford has been pushing for it and we are trying to get to a resolution. If we want to stay regional,
57   we need input from all involved. Selectman Federico said tonight was to talk about technology to get some answers.
58   We have distributed what we have, the next question is, is this something that everyone wants to move forward

with? If it is, then how do we do this? The intermunicipal agreement does not allow the Board of Governors to bond money or allow for a capital reserve. We need to look at how to do it. That is not for tonight but that is the next issue to deal with. Do the other stakeholders want to look at this? That is the first question that needs to be answered.

Lee Mayhew said his town wants to do this. Selectman Federico stated Milford wants to do this but does not want to put anyone on the spot. If the answer is yes from everyone, then we can move this forward through MACC Base and we need to make changes to the agreement with the Board of Governors. Selectman Federico agrees the BOG represents all four communities. In moving forward, that question has to be answered. Do the communities want to move forward and talk about what it would cost and how to get there? Lee Mayhew responded if we go ahead, the intermunicipal agreement has to be rewritten to allow borrowing money. If all agree, instead of getting people who are new to his sitting around, Mr. Mayhew would asked the BOG what problems do they see in the agreement and have them send the recommended changes to the attorney for input and get a draft of a new in-termunicipal agreement to this quorum. That way, we could have something ready for the 2018 town vote.

Jack Esposito, Mont Vernon, indicated that Mont Vernon has never said it was in favor of this. John Quin-lin, Mont Vernon, said everyone understands this is Milford-driven. These meetings have lacked focus with no agenda of what is to be discussed; what Mont Vernon expects is that we need to know what the projected end result is. That would be a written proposal that we can evaluate before we have a discussion. We are coming to meetings with the other towns with no agenda and no specifics. This is a lot of money for a small community. If it makes sense, it needs to be laid out with a proposal. This should have been something that was kept with the Board of Governors.

Selectman Federico thanked all for attending this evening. The meeting was adjourned at 9:12 p.m.

_____   _____
Kevin Federico, Vice Chairman

_____   _____
Gary Daniels, Member   Laura Dudziak, Member

_____
Mike Putnam, Member