TO: Mayor and City Council

FROM: Tom Welch, Fire Chief

SUBJECT: Fire Prevention and Preparedness, Neighborhood Meetings Update and Emergency Communications/Protocols

DATE: May 21, 2018

Approved for Forwarding:

James C. McCann, City Manager

Issue:

Progress report on City Council wildfire protection/preparedness initiatives.

Comprehensive review of communication processes and protocols and an update on neighborhood meetings.

Recommendation:

Receive report/update and provide direction.

Background:

Following the October 2017 north bay fire storms, the City Council reviewed six initiatives that sought to decrease community risks against catastrophic wildland fire, improve community resiliency and organize neighborhoods. The initiatives are listed below:

Initiative 1 – Building Codes, Standards and Structural Ignitability:

Currently: In the Wildland Urban Interface (WUI) areas, home owners can change their external siding, windows and outside elements such as decks without improving the ignition resistance of the changes. Currently, new construction in the WUI is required to comply with modern ignition resistive construction. The above listed items are not exhaustive nor complete, but they represent the obvious ones based on our knowledge of vulnerabilities and the lessons recently learned.
Outcome: A process that improves the ignition resistive featured of already built homes within the WUI areas. This code update passively improves the ignition resistance and WUI compliance of built homes. Depending on the scope of the project, we estimate a 10% - 20% increase in construction costs associated with this recommendation.


Initiative 2 – Hazardous Fuel Reduction:

Currently: The Mill Valley Fire Department conducts vegetation inspections on over 5000 parcels covering 1800 acres within the WUI area. Our inspections center on the proper maintenance of existing trees, shrubs, grasses among several other items in an effort to reduce fire hazards, increase access and enhance evacuation efforts. Our current program does not call for the regulation of pyrophytic plantings/species such as bamboo, acacia, cypress and juniper. Nor does our current regulation prohibit residents from planting of these varieties at or near their homes.

The City of Mill Valley provides budgets to enable the removal of Eucalyptus trees on public lands. The Department of Public works has identified, categorized and prioritized the removal of this particularly invasive and pyrophytic tree (see Attachment 1). Our removal program has focused on strategically removing trees in a prioritized way.

The City is already an aggressive supporter of wide area and ridge top fuel breaks with our adjacent land managers (Marin Municipal Water District, Marin County Open Space and Parks). Continued support of the judicious use of Integrated Pest Management (IPM) techniques, including the use of herbicides are necessary to reduce the progression of pyrophytic French Broom on Mount Tamalpais is recommended.

Outcome: A substantial reduction of pyrophytic plantings directly adjacent to homes within the WUI improves the survivability of homes. This is accomplished by substantially reducing the most receptive fuel beds available to receive embers and propagate fire adjacent to the residences.

Timeline: Feedback is being processed from the 5 community meetings. We are in the process of developing ordinance language that should be ready for City Council consideration Summer of 2018. The process will require additional funding to enact,
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which has been proposed by way of a substantial increase through the upcoming budget process.

Initiative 3 – Access and Evacuation Concepts:

Currently: The City of Mill Valley manages vegetation at the edge of pavement on all primary and secondary evacuation roads. This is accomplished by way of funds provided through the MST.

Access and egress routes such as found on Cascade Ave and W. Blithedale have large clusters of trees that delay emergency response due to the need to negotiate tree obstacles. The trees are growing larger every year, thus creating more challenges.

The age and design of current infrastructure creates challenges for modern day fire engines. The City Council supports the redesign of problem areas to improve response times.

Recently, we completed such an improvement project at the intersection of Marion and Monte Vista with several more in design and development to include:

- Marion/Hazel  
- Hazel/Rose  
- Lee St./Quary Rd

Outcome: Improved emergency response times and more effective evacuation routes will result by creating larger vegetation buffers on critical routes, thus enhancing our infrastructure capacity during an emergency response or evacuation.

Timeline: With budget adjustments, enhanced clearing of vegetation and widening of crown spacing on selected street segments can begin promptly. Budgets are being developed for FY 2018/19 programs.

Initiative 4 - Public Education:

Currently: The Mill Valley Fire Department conducts educational opportunities by way of several sources, mediums and platforms. We have contemporary educational content
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The Mill Valley Fire Department has developed several videos that focus on vegetation management and evacuation concepts for all residents. We provide various mailings and have developed a smart phone application that illustrates the processes home owners can undertake to improve their homes survivability. Finally, we offer/support several classes for residents throughout the year to include the Fire in Marin Class, the National Fire Protection Association’s Hazard Recognition in the Wildland Urban Interface class and Get Ready.

Outcome: Enhanced understanding of risks associated with wildfire throughout the community. Improved clarity surrounding the responsibilities of the home owner and that of the City.

Timeline: Completion of the evacuation informational pamphlet draft will be presented to City Council early summer for a 2018 fire season roll-out to the community. As of April 24, 2018, all five neighborhood meetings are complete.

Initiative 5 – Communications:
Currently: The City of Mill Valley has a number of methods available to reach the affected community in an emergency. These methods include: Alert Marin, reverse 911, Wireless Emergency Alerts (WEA) neighborhood sirens, Facebook, Nixle, Twitter, email and City News web postings. We use the appropriate methods to notify residents of an actual emergency or provide information about an escalating situation such as Red Flag Warnings. During the Tubbs/Nuns fires a gap was identified due to the destruction of infrastructure such as cellular towers causing communication delays. The Mill Valley EOC does have a limited capability/supply of satellite phones with no satellite phones currently in the hands of our Battalion Chiefs, Police Sergeants or key administrative staff.

Recommendation: Provide satellite capable phones to field supervisors, chief officers and key response staff. Evaluate opportunities for voice command amplifiers to replace generic sirens in the canyons such as the Long Range Acoustic Devices (LRAD). The LRAD devices can act as sirens and have the capability of being modifiable and addressable.

The City of Mill Valley needs to continue our comprehensive promotion of Alert Marin, Twitter and...
Nixle communication tools.

**Timeline:** Enhancements to communications such as Alert Marin, Nixle, Twitter and Facebook are largely underway. Additional research and development is required to understand the application of the LRAD system within our community. We have tentatively scheduled system evaluation demonstrations for May 2018. Budgets have been developed and are under review for FY2018/19.

**Initiative 6 – Staff Training.**

**Currently:** Staff training specific to working in the Emergency Operations Center (EOC) occurs approximately 2 times a year. Limited specialized training is attended throughout the year such as training specific to the Plans Section Chief or Logistics, both functions found within the EOC.

**Recommendation:** Provide, assign and encourage key staff to attend specific training to their assigned areas within the EOC.

**Outcome:** An enhanced knowledge and understanding relative to the operations of the EOC.

**Timeline:** Budget development begins immediately to support EOC educational opportunities. A full program and budget will be ready for evaluation during the budget process 2018.

In concept, the above listed recommendations have been reviewed by the Emergency Preparedness Commission. Additionally, the concepts have been reviewed and are supported by the Mill Valley Police Department, Building/Planning Department and the Department of Public Works.

**Discussion:**

Recently, the Mill Valley Emergency Preparedness Commission organized and completed 5 neighborhood meetings to include:

- Warner Canyon (Park School)
- Cascade Canyon (Old Mill School)
- Lomita, Seaver and Vasco (Edna Maguire School)
- Sycamore Flats (Community Center)
- Blithedale Canyon (Outdoor Art Club)
The subjects covered during the meetings included:

- Defensible Space and Evacuations
- Lessons Learned from Sonoma/Napa Fires
- Vegetation Management
- Disaster Preparedness
- City of Mill Valley Communications Plan

Anecdotally, we received outstanding feedback from the community that did participate, however, we had a lower than anticipated turnout. Over the entire five meetings we invited the entire community of approximately 14,000 residents and had approximately 265 or .2% attended. Although this is a rather low turnout, we have processed double the number of hazard assessment request as well as took a first good step towards establishing/formalizing neighborhood groups.

Approximately 30 citizens indicated interest in becoming block captains for their neighborhoods which is a number that exceeded expectations. In addition to the five completed meetings, we are processing additional requests for presentations within the Mill Valley School district. If this occurs, we will be connecting with a new demographic not previously reached.

Marin Office of Emergency Services - Communications:
For this meeting, Council Member Wickham has requested additional information relative to the communications piece of community evacuations. Chris Reilly, the Director of the Office of Emergency Services, is attending our meeting today to provide key information relative to communications now and what is possible in the future.
Community evacuations are dynamic events with a number of challenges. There are no perfect solutions to community evacuations, however, with good preparation, training and planning the odds of a positive outcomes improve. There are several phases of evacuation, some elements include:

- Incident Detection Time
  - Notification to 911 and response
  - Fire Detection Cameras – early notification
  - Progress of the incident into a new area

- Decision/Lead Time (Incident Commanders)
  - Establishing trigger points
  - Determining decision points
  - Notification to OES to initiate community evacuation.

- Warning Time (Office of Emergency Services)
  - Alert Marin
  - Reverse 911
  - Wireless Emergency Alerts (WEA)
  - Nixle
  - Social Media

- Preparation Time
  - Community Education
  - Grab and Go Bags
  - Ready-Set-Go
  - Ability to evacuate

- Network Clearing Time
  - Cars per hour
  - Homes per exit
  - Fragility of our network system
For this report, we are focusing on the communications phase of the evacuation process. At your request we can provide additional information into the other phases of evacuation.

Steadfast emergency communications tools, processes and protocols are essential for effective communication to the public prior to and during an emergency. Community notifications during an emergency must be concise, instructive and current to be successful. A number of tools are at our disposal through a contract with the Marin County Sheriff’s Office of Emergency Service (OES).

Public Emergency Alert and Warning Tools – All of these tools are available to the Marin County Sheriff’s Office of Emergency Services (OES) to warn residents and visitors in Marin County about threats to life and property. We use the following tools at the direction of the incident commanders and tailor use of the notification tool to the incident/disaster.

1.) Emergency Alert System (EAS)

The Emergency Alert System (EAS) is used by alerting authorities to send detailed warnings via broadcast, cable, satellite, and wireline radio and television channels. EAS provides very broad alerting to the entire Bay Area media market. Anyone not watching / listening to broadcast media will not get the message. EAS Participants-radio and TV providers nationwide-are the stewards of this important
public service in close partnership with alerting officials at all levels of
government.

In many cases, radio and TV stations continue to
operate when other means of alerting the public are
unavailable, providing a layer of resiliency to the suite
of available emergency communication tools. FEMA,
with support of the Federal Communications
Commission (FCC), is responsible for
implementation, maintenance, and operation of the
EAS at the Federal level. The Marin County Sheriff’s
Office of Emergency Services (OES) is an approved
“alerting authority”

2.) Wireless Emergency Alerts (WEA)

Wireless Emergency Alerts (WEA) are short
emergency messages from authorized public alerting
authorities that can be broadcast to any WEA-enabled mobile device in a locally
targeted area. The WEA channel can be used for three alert categories:
Presidential, AMBER, and Imminent Threat. WEA messages are broadcast from
cellular towers in the designated alert area to any WEA-enabled mobile devices
that communicate with the cell tower during the alert duration. Wireless carriers
primarily use cell broadcast technology for WEA message delivery. WEA is a
partnership between FEMA, the Federal Communications Commission (FCC),
and wireless carriers, to enhance public safety.

Unique Ring Tone & Vibration: WEAs automatically “pop up” on the mobile
device screen and are limited to 90 characters. WEAs use a unique ring tone and
vibration designed to draw attention and alert people to an emergency. The
unique vibration, which distinguishes the alert from a regular text message, is
particularly helpful to
people with hearing or
vision-related
disabilities.

Geo-targeted alerts:
WEAs are targeted to
the specific geographic
area of the emergency.
Due to the nature of cell tower technology and coverage, the targeting often results in broad alerting for an entire county or a large portion. “Bleed over” will often cause alerts to go beyond the target area – potentially beyond Marin. If a WEA-capable mobile device is physically located in that area, it will automatically receive and display the message.

**Non-subscription based:** WEAs are not subscription based, so customers of participating wireless carriers with WEA-capable phones do not sign up to receive the alerts. Instead, they automatically receive WEAs if a WEA is active in the area in which they are located. Wireless customers are not charged for the delivery of WEA messages and may opt-out of Imminent Threat or AMBER alerts but may not opt-out of Presidential alerts.

**Avoids congestion:** WEAs use SMS-Cell Broadcast (SMSCB), a one-to-many service, which simultaneously delivers messages to multiple recipients in a specified area. By using SMS-CB as the delivery service technology, WEAs avoid congestion issues experienced by traditional voice and text messaging (SMS-PP) alerting services, which translates into faster and more comprehensive delivery of messages during times of emergency. All the major U.S. cell carriers are participating in WEA on a voluntary basis. Wireless carriers are currently selling mobile devices with WEA 19 capability included; however, not all handsets currently on the market are capable of receiving WEAs. It is anticipated that most commercially available phones will be WEA-capable in the near future. To find out what mobile devices are capable of receiving WEAs check with your local cell provider.

The Marin County Sheriff’s Office of Emergency Services (OES) is an approved “alerting authority” for WEA alerts.

3.) **“AlertMarin”**

The Marin County Sheriff’s Office of Emergency Services (OES) uses the [AlertMarin](http://www.alertmarin.org) Emergency Notification System to deliver incident-specific information or potentially life-saving instruction to the precise geographic area(s) affected. Emergency situations may include:
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- flooding, wildfires, and subsequent evacuations;
- public safety incidents including crimes that affect your neighborhood;
- post-disaster information about shelters, transportation, or supplies.

If you live, work or go to school in Marin County and are 18 and over, you may now register your cell phone or VoIP (voice over internet protocol) phone to receive emergency alerts sent by call, text, email, or smartphone application from the County of Marin. Search the Apple Store or Android Marketplace for the “Everbridge” app.

Listed and unlisted/blocked Marin County landline phone numbers are already included in our emergency notification system. Cell phone and VoIP numbers are not included and will require your registration in our Self-Registration Portal @ alertmarin.org.

4.) Nixle

Nixle is a Community Information Service dedicated to helping you stay connected to the information that matters most to you, depending on your physical location. You stay connected to your local police department ensuring that you receive trusted and immediate, geographically relevant information. Information is immediately available over your cell phone by text message, by email, and over the web. Members of the public may self-register by texting their zip code to 888777. The system typically alerts via SMS / text, though email & smartphone app. Alerting can be geographically focused from a single zip code to entire county.

Your account can be customized so you receive the information that matters most to you. Whether it is where you live, work, or have friends or family throughout the country, the information is immediately available to you over your mobile phone, email and computer. Only authenticated agencies and community organizations can securely publish information. There are multiple agencies in Marin County that use Nixle including the Marin County Sheriff’s Office.
There are four types of messages; Alerts (many would refer to this as an emergency type alert), Advisories (less urgent need-to-know information), Community Information (day-to-day neighborhood to community-level information), Traffic (very localized traffic information).

Anyone can view information by going to www.nixle.com without registering. However, to customize the information you receive and the locations you receive it from, in addition to receiving information by text message and/or email you must set up an account. Once registered, you can personalize your locations and your preferences, making the service fit your needs.

5.) Social Media
The Marin County Sheriff’s Office uses many of the social media platforms now available to assist in disseminating information to the public. These platforms are: Twitter, Facebook, Nextdoor, Instagram, Webpages and others. We use these platforms to share all kinds of information from non-emergency to emergency. We do not rely on these platforms alone to convey urgent emergency alert and warning messages. We may use them to share additional information regarding an ongoing incident after the appropriate warning has already been broadcast through one of the preferred alert methods above.

6.) Sirens/Horns
Some communities in Marin County use sirens or horns to alert residents and visitors to an imminent dangerous situation. The siren/horn activation is usually followed up by the distribution of additional information or direction by using one of the alerting systems above or by broadcasting a pre-recorded message on a local radio station. These sirens or horns are location specific but the sound often "bleeds over" into adjoining jurisdictions therefore neighboring jurisdiction work together to coordinate messaging.

7.) Law Enforcement/Fire Agency Evacuation Procedures
Law Enforcement Officers and Firefighters may drive through neighborhoods with sirens activated announcing evacuations and/or emergency directions over
Proposed legislative and technical changes to Wireless Emergency Alerts (WEA):

1.) Increase the number of characters of a WEA message from 90 to 360 characters. WEA message length has been a gnawing concern of practitioners who complain that 90 characters are simply not enough to communicate a workable alert.

2.) Include URLs and phone numbers within the message.

3.) Make geographic targeting of WEA messages more precise. Challenge: Signals are not precisely controllable.

4.) Create a new class of alerts called public safety messages. As it stands, WEA can only be used for imminent threats, AMBER Alerts, and Presidential Messages. This new category would allow public safety practitioners to use the WEA system to send out messages that don’t meet the standard of an “imminent threat,” but could be important for public safety.

5.) Broadcast WEA messages in Spanish, as well as English.

6.) Establish provisions for practitioners to test WEA, train personnel on the use of WEA, and raise public awareness.

Alert and Warning – What changes are coming?

Proposed State Legislation – SB 833

- This bill would provide for a red alert system designed to issue and coordinate alerts following an evacuation order, as specified. The bill would require the red alert system to incorporate a variety of notification resources and developing technologies that may be tailored to the circumstances and geography of the underlying evacuation, as appropriate.

- The bill also would require OES to ensure that emergency management personnel trained on the WEA system receive yearly training in WEA software and equipment operation.

- The bill, upon appropriation by the Legislature, would require an emergency management office within a county or city and county to be provided moneys for the purposes of implementing this provision.
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Conclusion:
In conclusion, there have been many positives from the neighborhood meetings. Our messaging to the community supported evacuation, structural hardening and community preparation. Our approach was successful at reaching substantially more of the community through the meetings than during 2017’s evacuation drill. Neighbors helping neighbors is key to enhancing our community resiliency. More work is necessary and underway to further organize the neighborhoods into resilient communities.

Marin County Office of Emergency Services has a substantially mature communications plan and processes with which we are very familiar. The processes are conducted through our contractual relationship with Marin County OES within our leader’s intent and at our discretion. Our Community has a solid understanding of those tools and many of our residents are registered and active users of the systems. We will continue to “spread the word” about these tools through our education and outreach efforts and will refine and expand our communication tools and efforts to seize opportunities to be more effective.

The objective of this report is to provide Council with a status report of our fire prevention, preparedness, and emergency communication efforts since the 2017 North Bay fire storms. As we achieve more of our preparedness goals and continue to make progress and move forward on the six Council-approved fire prevention/preparedness initiatives, staff will continue update the Council and the Mill Valley community.

Fiscal Impact:

- Community Meetings $5,000 + staff time
- OES Contract for Service $5,808
- Municipal Services Tax Currently - $300,000
  (Vegetation Management Program) Proposed - $600,000

Attachments:

1. None