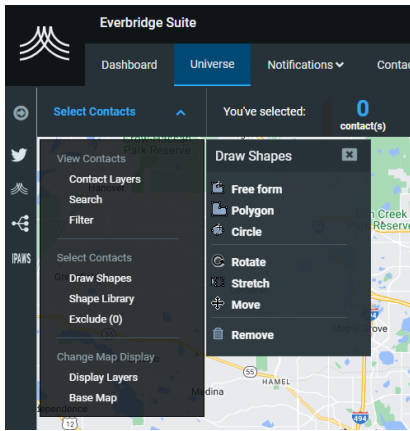


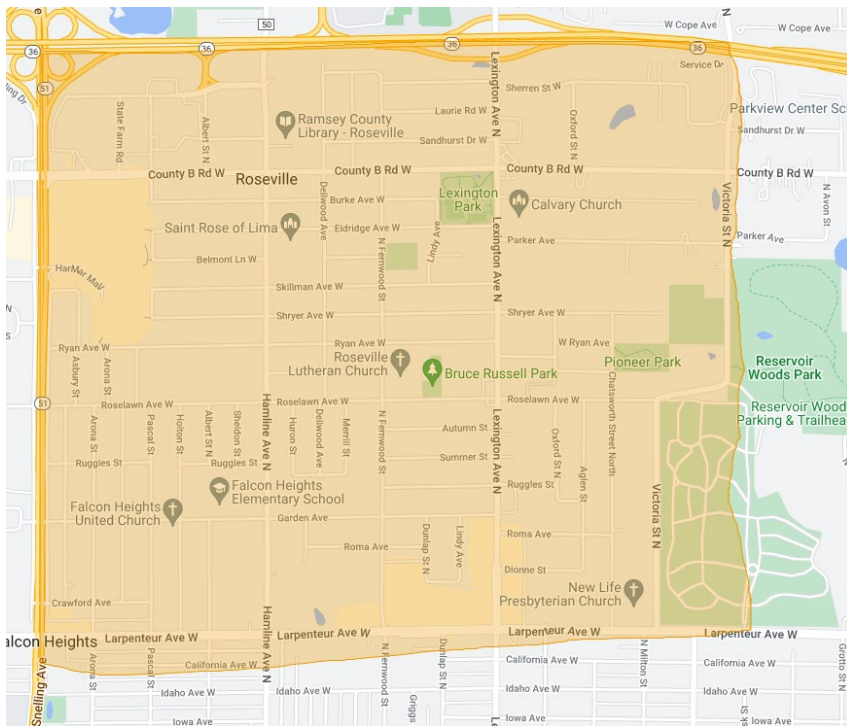
10/25/2022 Wireless Emergency Alert Notification Review

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11/02/2022

At 10:50 an Everbridge notification was created in the Community Alerts section of Everbridge following a request from Roseville Police to send a shelter in place notification. The area they indicated for the alert was approximately Snelling Ave./Hwy 36 to Victoria St./Larpenteur Ave. An ECC Supervisor opened the Universe page within Everbridge to use the free-form tool and drew the polygon on the map tracing the indicated area from Roseville PD.



A review of the initial settings show the polygon below and enabled contact layers captured 5302 contact records. These contacts would include Reverse 911, White Page and Yellow Page Records, and any residents in that polygon area that had enrolled and opted-in to the community alerts.



After the shape file creation, the supervisor moved on to the new notification creation window. The provided information was as follows:

Shelter in place - homicide suspect at large

Shelter in place - Homicide suspect at large described as a 17year old white male thin muscular build, long wavy light brown hair, wearing pajama bottoms unknown color shirt and likely no shoes. Weapon used was a knife and bat - not believed to have at this time - left on foot unknown direction. SUSPECT IS CONSIDERED DANGEROUS USE CAUTION - CALL 911 IMMEDIATELY IF YOU SEE THE SUSPECT - DO NOT APPROACH.

This text and message content is what is delivered via text-to-speech by automated telephone calls to the contacts selected. The content would also be delivered via SMS and/or email to registered community members who have opted-in to notifications and provided an SMS or email address as a delivery method.

After completing that portion of the notification settings, the supervisor enabled the WEA check box, which opens WEA notification settings.

What follows is the WEA Settings used for the notification:

Mode:	Live
Publishing Status:	WEA
	600 - Message successfully sent to WEA
IPAWS Polygon(s):	0/1
CAP Fields	
Message Status :	Actual
Message Type :	Alert
Scope :	Public
Message Category :	Safety
Event Name :	Civil Danger Warning
Event Type :	CDW
WEA Handling :	Imminent Threat
Urgency :	Immediate
Severity :	Extreme
Certainty :	Observed
Expires :	1hour(s)
Sender Agency Name :	Ramsey County
Headline :	Shelter in place - homicide suspect at large
Instruction :	SHELTER IN PLACE
Web Link :	
U.S. Time Zones :	Central Time Zone
Area Description :	Ramsey County
Affected Areas :	27123
WEA - English 90 :	Shelter in place - Homicide suspect at large described at 17year old white male

Immediately following the notification being sent, phones in the ECC were activated with the alert. This was the first indication the notification had gone out to an expanded area. We've experienced wide notification delivery in the past with WEA alerts for severe weather at the State Fair, and that is due to carriers picking up and delivering the message if their cell site "range" is overlapping the shape file delivered to IPAWS (FEMA).

Supervisors attempted to send an additional message with follow up information minutes after the initial delivery, but when attempting to "Send a Follow Up" in the Everbridge portal were asked for the private key and keystore passcode that are issued to RCECC.

▼ CAP CHANNELS (WEA)

Live Mode - This message will be sent to the public.

* Private Key Enter PIN

* Keystore Password

Those two items are stored behind a pin code to assist in rapid delivery of messages by authorized personnel, and while they were able to send the initial message with a pin, this prompt was asking them for something outside of the normal process and the values were not immediately available. After verifying another supervisor was met with the same prompt for keystore passcode and private key, they were able to have a manager send the follow up message using the PIN. That update was delivered at 11:26 CDT.

WEA - English 90 : Shelter in place info for roseville area only.

WEA - English 360 : Shelter in place info for Roseville area only. Area Hwy 36/Snellling to Larpenteur/Victoria

After receiving verification from responders to the homicide that the suspect had been apprehended a cancellation was sent at 11:24 CDT. This did not trigger a follow up message to be delivered, and a second follow up was sent at 11:29 CDT with a message triggering the alert on phones again advising the public of the cancellation.

WEA - English 90 : CANCEL Shelter in place for Roseville Area - Suspect in Custody

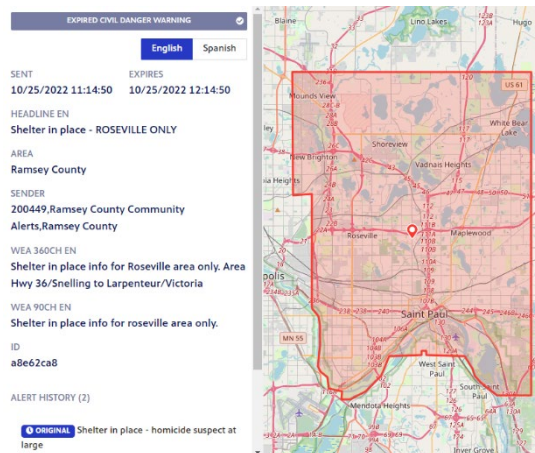
WEA - English 360 : CANCEL SHELTER IN PLACE REQUEST FOR ROSEVILLE - SUSPECT IN CUSTODY

WEA - English 90 : CANCEL SHELTER IN PLACE FOR ROSEVILLE AREA - SUSPECT IN CUSTODY

WEA - English 360 : CANCEL SHELTER IN PLACE FOR ROSEVILLE AREA - SUSPECT IN CUSTODY

Immediately we started looking at the notifications to determine how and why the notification was delivered to such a large area. For the selection of Everbridge contacts, the shape provided properly geofenced an area and selected the appropriate contacts. HSEM and FEMA were contacted to assist in providing information to determine what was received to compare to what was sent.

FEMA's IPAWS ingest received a properly formatted IPAWS WEA Alert with a 90-character message on the initial delivery. The area notified was the entire boundary of Ramsey County. This means any cell tower that covers geography that overlaps any part of that shapefile would pick up the message and deliver it to phones. This is confirmed by looking at the PBS Warn Portal, which populates with messages sent out for public warning.



When the ECC Supervisor drew the shape on the map indicating the area to alert, the shape translated to a shapefile that had over 500 vertices on it. IPAWS has a limit of 100 vertices for shape data to be considered. This shape was discarded and the entire alerting area for our alerting authority was notified instead of a focused area as drawn by the supervisors. We are not sure if there was a notice or modal window warning of this, but examples provided to us by Everbridge of what that warning would look like were shared during our follow up meeting with them.

In previous testing of preplanned shapefiles prepared by our technical staff to have pre-loaded city shapes available we had encountered that limit and a warning that the shape exceeded the limit for WEA/IPAWS messaging, but those were not created from the user placing the shape on the universe tab.

Review of documents on the Everbridge Support site did not show any specific reference to the free-form tool or a substitution of the entire alerting authority area with an invalid shape file. The February 2022 Everbridge CEM product update release notes contain this entry.

Mass Notification Platform	Resident Connection - U.S.	IPAWS notifications sent with a boundary polygon will error if sent with a polygon over 100 points for WEA or 200 points for EAS. Future enhancements to support automatically simplifying polygons to be IPAWS WEA- and EAS-compatible when utilizing any polygons (drawn, shape, or boundary) over 100 and 200 points. This will be supported in Resident Connection - U.S. (Q2-2022).
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During our follow up call with Everbridge we were informed that the new shape simplification tool can be automatically configured to “fix” shapes and bring them into compliance, but that feature is still in testing and not available for release but expected in Q1 of 2023.

Immediate Resolutions/Recommendations

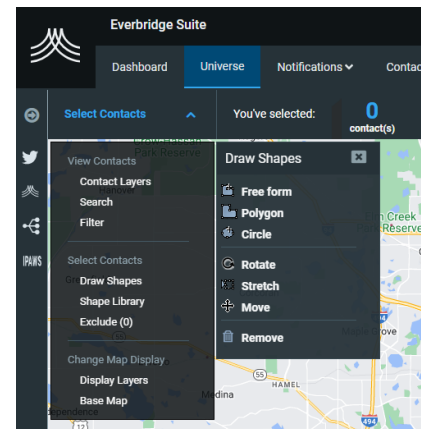
ECC Supervisors should review Message Creation Guidelines including recommendations on crafting 90-character and 360-character messages for future alerts. Additionally, review the MN Best Practices Guide and supply a copy to ECC reference materials.

https://dps.mn.gov/divisions/ecn/Documents/AWN_Best_Practices_Guide_2.02.pdf

When entering an IPAWS Notification Supervisors should ensure they have expanded the WEA English Message Field and are entering a 90 AND 360 message.

Until we have resolution with the vendor, all supervisors should **cease using the free-form tool or circle tool** to create shapes on the map. The polygon tool allows proper shape creation and supervisors should also be mindful of the 100-point limit.

When entering WEA credentials, as noted above the supervisors provided the proper PIN on message initiation.



When attempting to send the follow-up message they were asked for a key and password. Clicking the Enter Pin text to the right will revert to the PIN entry field to assure they can use the pin as desired.

Future Opportunities and Enhancements Requested

The following points were identified as future considerations or requested enhancements through our vendor Everbridge.

- We encouraged Everbridge to continue working on rolling out the Auto-Simplify functionality to bring shapes into compliance with WEA/EAS limitations.
- Everbridge shared an example of the invalid polygons warning. Our suggestion was to modify this to be more apparent that it's a warning or error, we feel at first look this could be mistaken for a confirmation popup and not an indication that something is wrong with the included polygon.
- We've requested that Everbridge make modifications to the UI to not hide the 360-Character Message entry field behind the "Add optional WEA message fields" clickable link so it is readily available and visible upon message creation by default.
- It was identified that with an invalid WEA polygon the system was able to revert to the pre-selected SAME code for Ramsey County. We are evaluating if that default selection should be disabled to disallow the automatic substitution with the entire county for a WEA message and make the message delivery fail to WEA.
- We've identified through discussions with partner agencies that additional information needs to be shared with them again about the use of Everbridge system.
 - Reviewing the process for sending notifications and what they can expect the supervisors will need to know.
 - Reviewing the thresholds, we would look at for escalating the delivery of message reach through just Everbridge, WEA or even EAS notifications.
 - We feel the decision to send this as a WEA alert met the best practices guide recommendations but working with Law and Fire agencies on better understanding the capabilities was identified in follow up discussions with their leadership.
- All supervisors and managers should assure they individually have access to the training resources available on Everbridge University, as there are updated courses that may offer additional information or good review of IPAWS and WEA functionality since it is infrequently used.
- Establish quarterly training for ECC Supervisors meetings where scenarios are introduced, and supervisors complete that month's Monthly Proficiency Demonstration with the FEMA IPAWS Test portal.
- Supplemental training for the supervisors from the State on recently developed best practices guides and message creation is being planned.

