MURRAY AND TRETTEL, INCORPORATED

March 20, 2012

ComEd
Lincoln Centre Two
Two Lincoln Centre
Oakbrook Terrace, Illinois 60181

Re: Rebuttal testimony for Weather Event June 21, 2011
Docket No. 11-0588

Introduction:

I, Thomas R. Piazza, Certified Consulting Meteorologist and President of Murray and Trettel, Inc. of Palatine, Illinois, have been asked by the Commonwealth Edison Company ("ComEd"), to prepare a report in response to the direct testimony of Illinois Commerce Commission Staff witness Mr. Greg Rockrohr, Staff Ex. 1.0, regarding the Severe Weather Event that occurred in ComEd's service territory on June 21, 2011.

Specifically, I will provide a direct link between the severe weather conditions experienced across ComEd's service territory and the individual outages that occurred by preparing graphics and tables on a more granular scale to directly link wind speeds with specific interruptions. In the process of formulating my conclusions and opinions expressed in this report, I have examined the weather data reports, images and maps, documents and other information and reports listed in Appendix A.

Background and Supporting Information:

Radar images are from the National Weather Service Doppler Radar Sites in Davenport, IA ("KDVN") and Romeoville, IL ("KLOT").

Wind speed reports used in this report are either actual measured winds or estimated wind speeds made by this author that are based upon the associated damage descriptions for that particular event, using the guidelines outlined in, A Recommendation for an Enhanced Fujita Scale.

The term "wind gust" is defined as the maximum three (3) second wind speed which is measured at ten (10) meters, or 33 feet above the ground. This is the standard National Weather Service surface wind anemometer height. The maximum wind speed gusts determined by this author in this testimony can be assumed to be accurate plus or minus 5 mph.

Outage information was supplied in a spreadsheet file by ComEd. This outage file contained all the outages for the storm event on June 21, 2011, from the Start_Date_Time: 6/21/2011 at 18:16 through 6/24/2011 at 19:09.

The "Meteorological" time frame of this severe weather event is defined as the time frame that the severe weather, causing the outages, began and ended in the ComEd service territory. This Meteorological Event consisted of numerous severe thunderstorm events throughout ComEd's service territory. The Meteorological Event began at approximately 1700 hours on June 21, 2011 when the first thunderstorms developed in the Dekalb and Streator Districts of the ComEd's service territory. The Meteorological Event ended at approximately 2215 hours on June 21, 2011 when the severe thunderstorms exited Libertyville and Crystal Lake Districts of the ComEd service territory.

The timelines presented on the images are based on a detailed analysis of reported maximum wind speed measurement times, severe weather and damage report times and radar image times. The presented times on the images and in the tables can be expected to be accurate within plus or minus 5 minutes.

All times are Central Daylight Time ("CDT") unless otherwise noted. (Note: that all times indicated in the legend on NWS NEXRAD Doppler Radar images are in Greenwich Mean Time ("GMT") which is CDT plus five [5] hours.)

Methodology:

Using the Meteorological Airdrome Reports ("METARS"), the National Weather Service ("NWS") Storm Prediction Center's ("SPC") measured wind speed reports, the estimated wind speeds based on SPC's damage reports, and KLOT's Next Generation Radar ("NEXRAD") Doppler Radar Level II base reflectivity and velocity products, a contoured graphic analysis of the maximum wind gusts that occurred across the ComEd service territory during this storm event was created using ERSI's BusinessMap application software. In addition, timelines of when the maximum gusts occurred were plotted to show the progression of the storms.

After the above graphic analysis was completed the outages for the entire event window, as supplied by ComEd, were sorted by "Interruption Description". The outages extracted from this file and used in the images and tables in this testimony had the following interruption descriptions:

1. Tree related
2. Tree contact primary
3. Tree contact service drop
4. Limb broken primary
5. Limb broken service drop
6. Wind/Tornado

A file was created with the above Interruption Descriptions.(Outages due to uprooted trees were not included). The Tree and Wind related file was then imported as a database layer into the BusinessMap application software used to create the maximum wind speed analysis described above.
Using the BusinessMap application software various images were created at different zoom levels that

displayed the wind speed analysis and the outage layers. In addition, using a BusinessMap database tool allowed the extraction of all outages that were potted within the different wind speed polygon areas. This tool was used to create the tables of outages with the associated maximum gust wind speeds.

Analysis:

This severe thunderstorm event was most intense between 1800 and 2100 hours on June 21st. Even though there were several clusters of thunderstorms that affected ComEd's territory late in the afternoon and evening, all the severe weather and damage reports were associated with the line of storms that originated in West Central Illinois and moved across the southeast half of the territory (southeast of a line from Zion to Princeton). The storms produced the following:

1. Two EF-1 tornadoes
2. Damaging winds…numerous reports of 60-80+ mph
3. Intense lightning…over 11,000 strokes

The following image is a graphical analysis of the maximum wind speed gusts that occurred across the Com Ed service territory during the Meteorological Event timeframe, 1700 to 2215 hours on June 21, 2011.

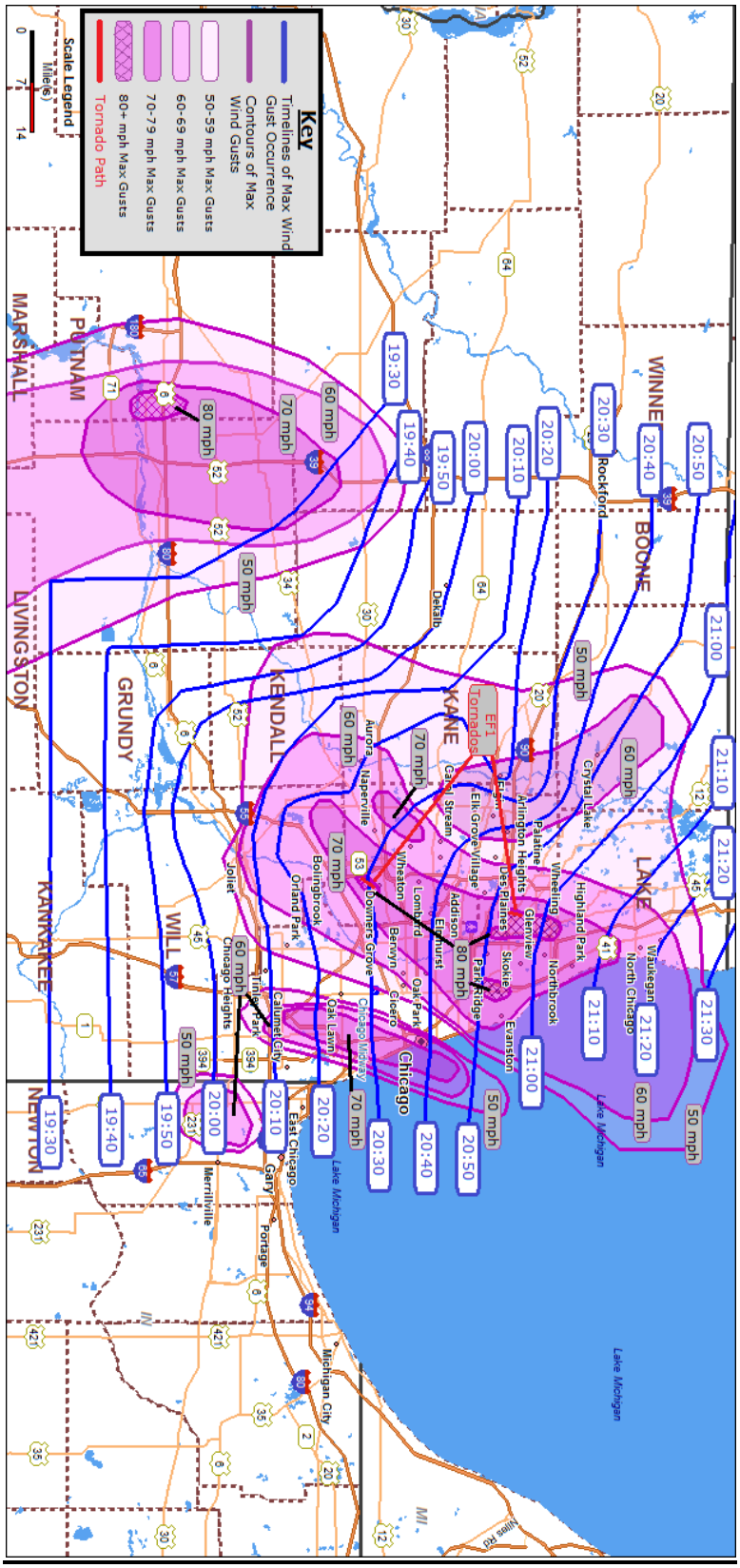

Image 1 Maximum Wind Gusts with timelines from 1700 to 2215 hours on June 21, 2011

The following images, images 2 through 17, are zoomed-in images of Image 1 with the ComEd outages plotted on them. They are sequenced in the order that the severe weather affected the service territory.

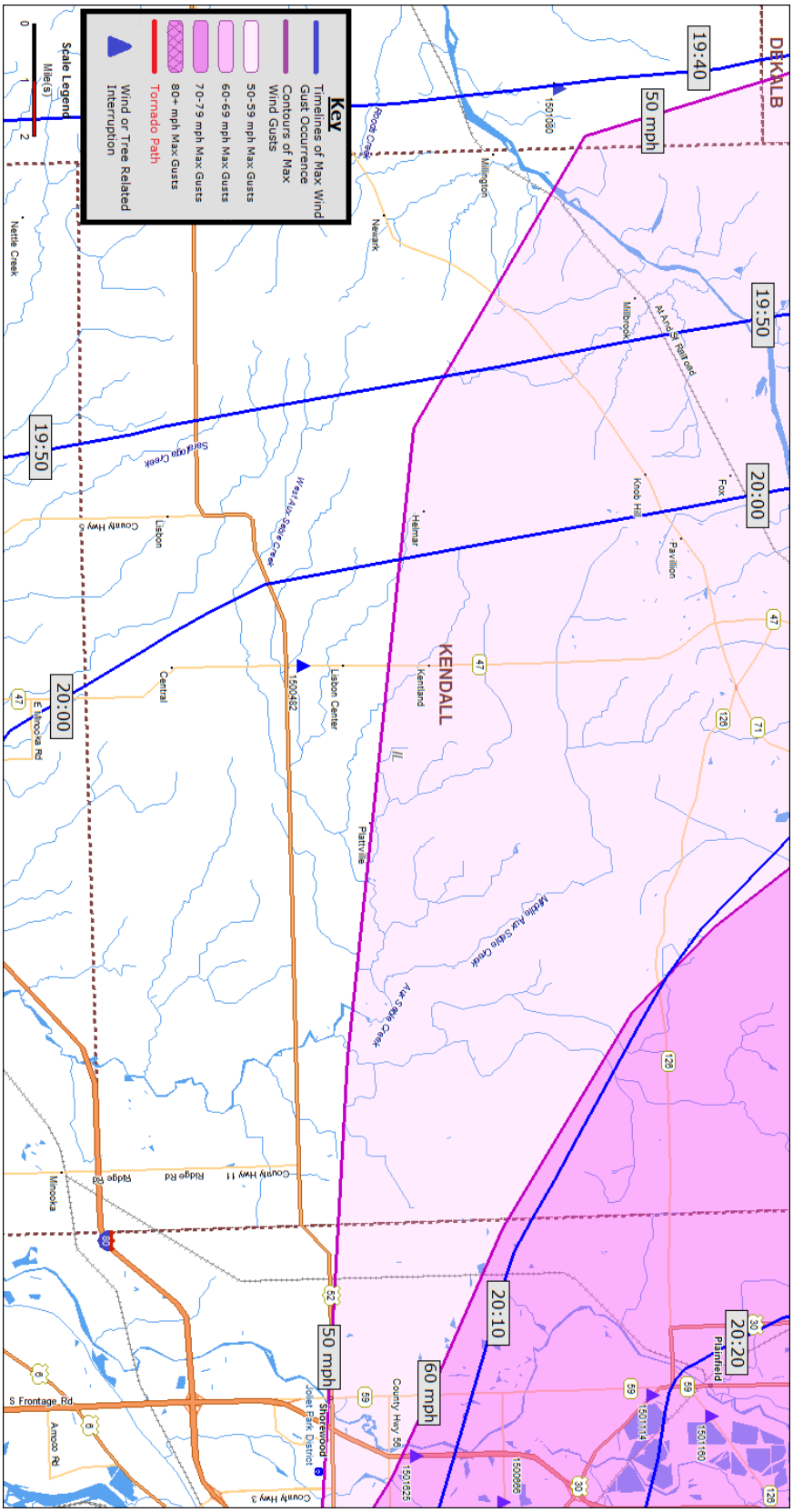

Image 2 Maximum Wind Gusts from 1940 to 2020 hours on June 21, 2011 and Wind related Outages <u>Southern Kendall County</u>

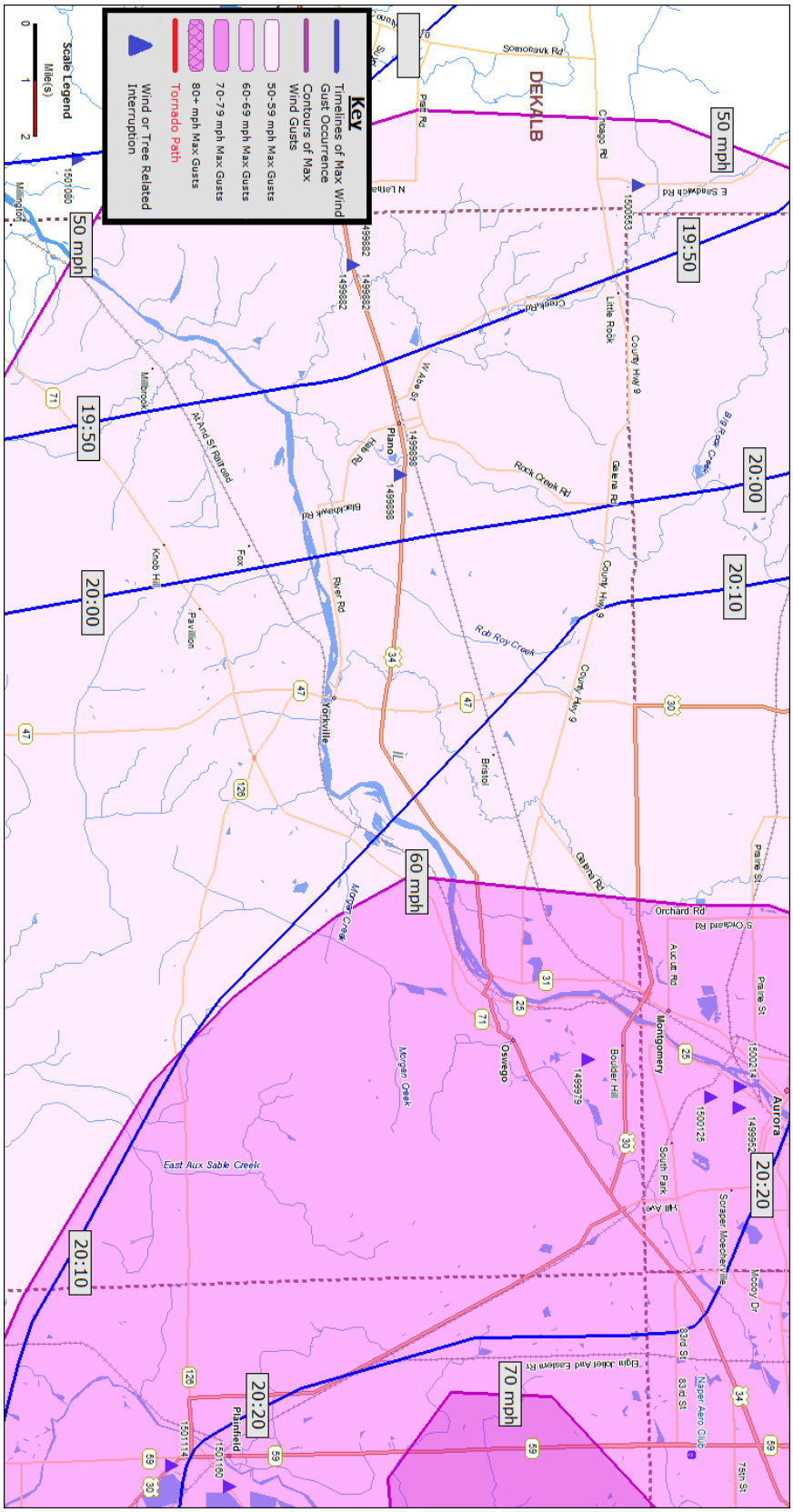

Image 3 Maximum Wind Gusts from 1950 to 2020 hours on June 21, 2011 and Wind related Outages <u>Northern Kendall County</u>

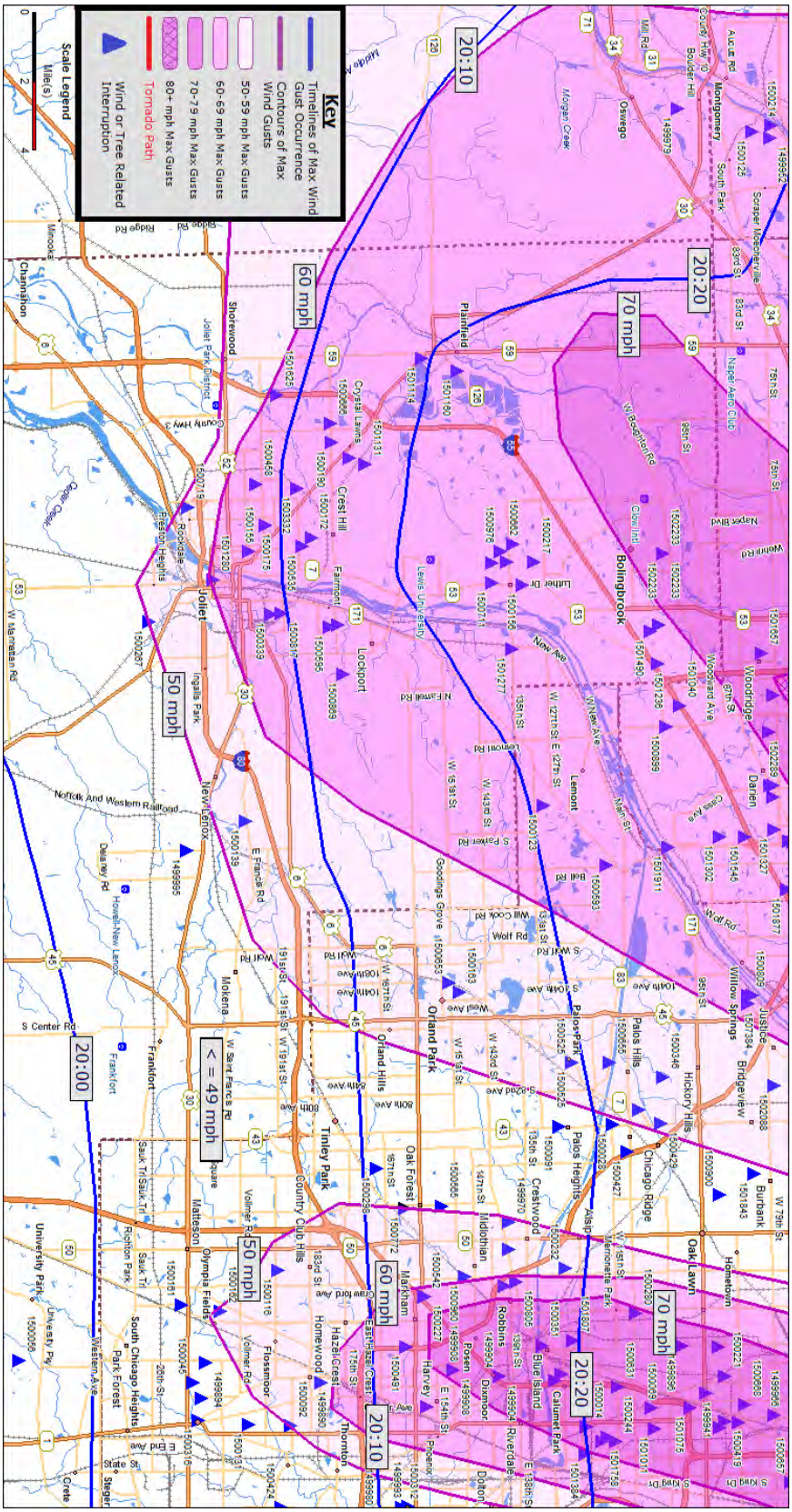

Image 4 Maximum Wind Gusts from 2000 to 2030 hours on June 21, 2011 and Wind related Outages <u>Northwestern Will County</u>

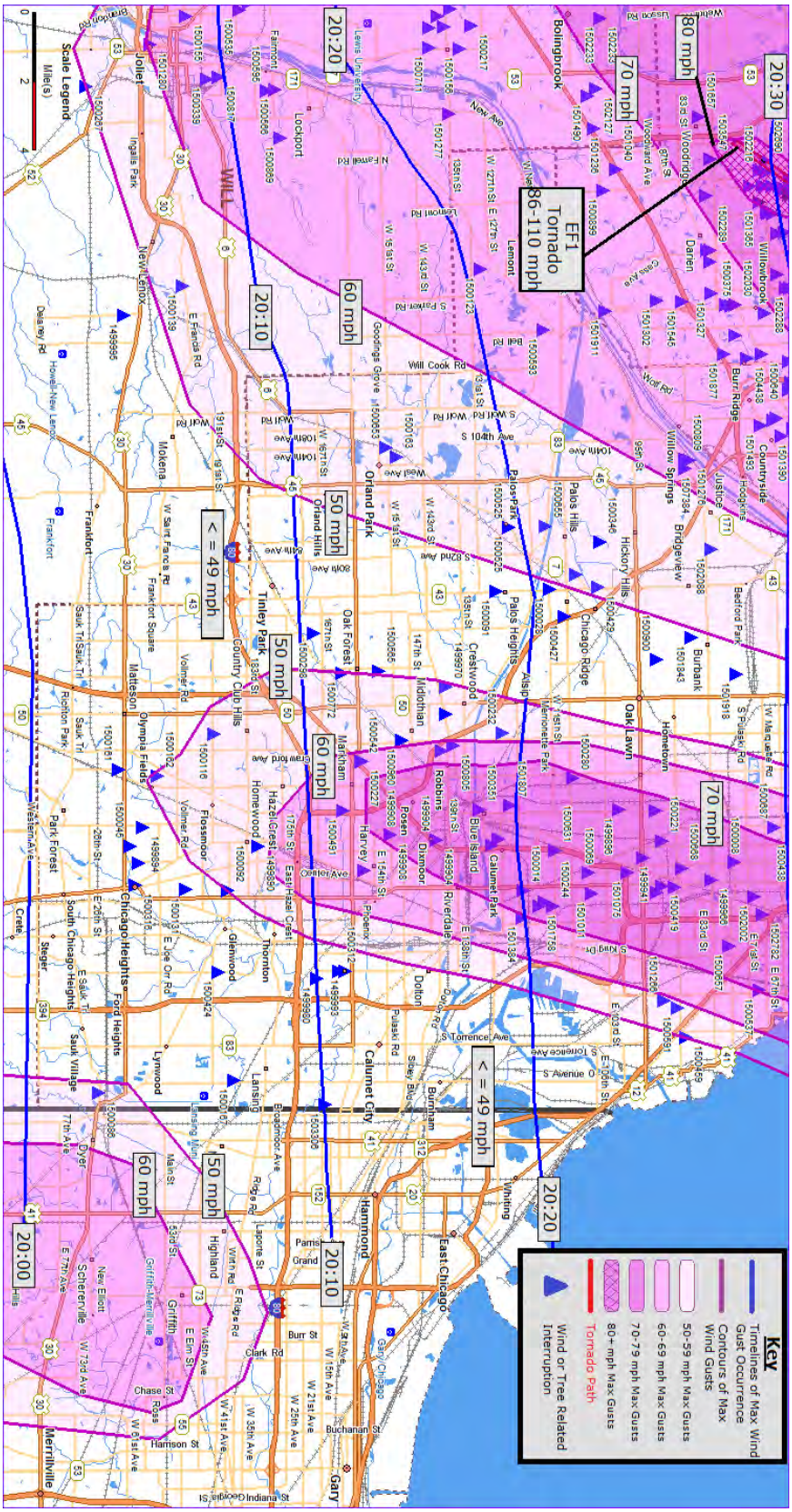

Image 5 Maximum Wind Gusts from 2000 to 2030 hours on June 21, 2011 and Wind related Outages <u>Southern Cook County</u>

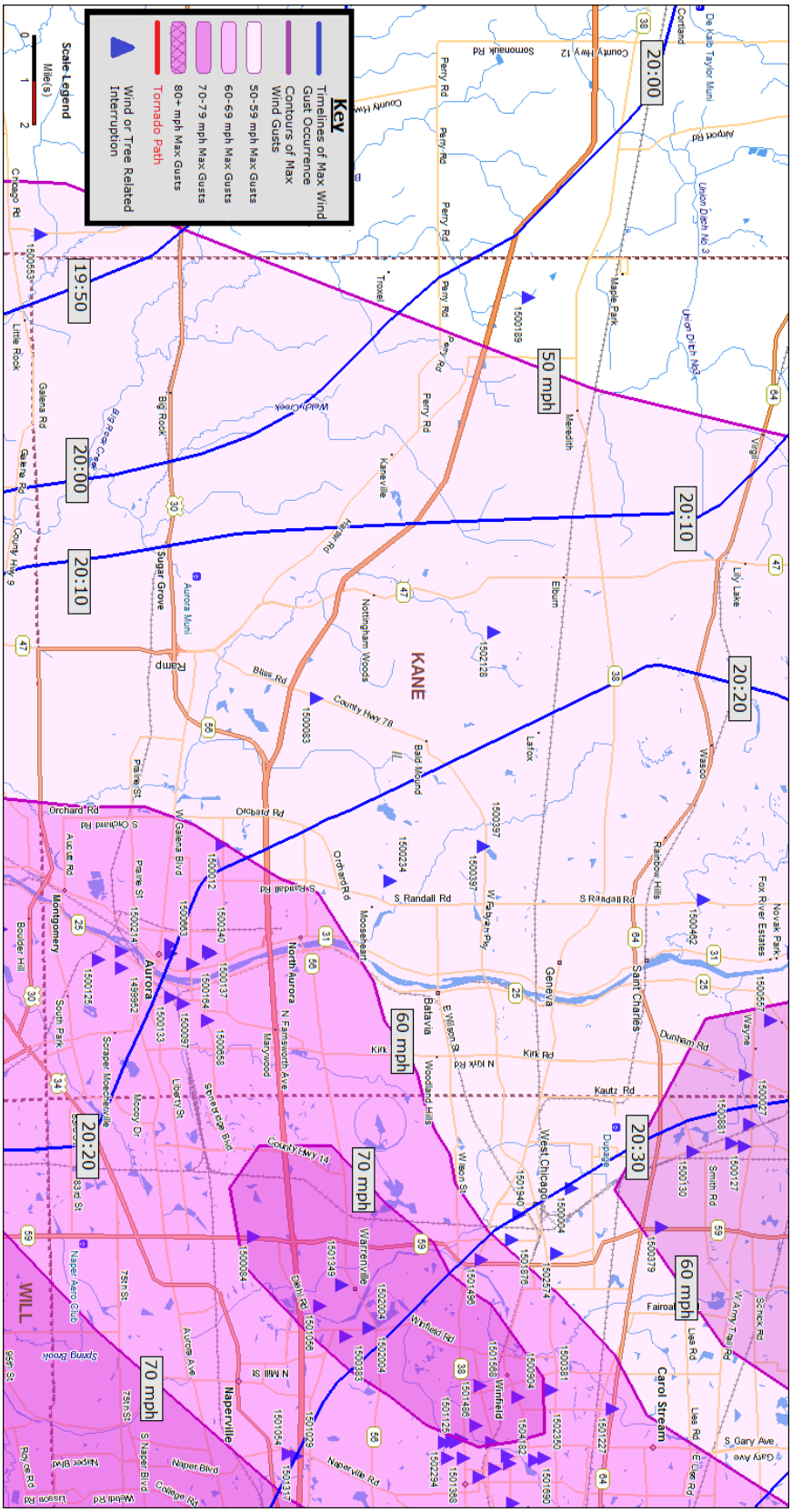

Image 6 Maximum Wind Gusts from 1950 to 2040 hours on June 21, 2011 and Wind related Outages <u>Southern Kane County</u>

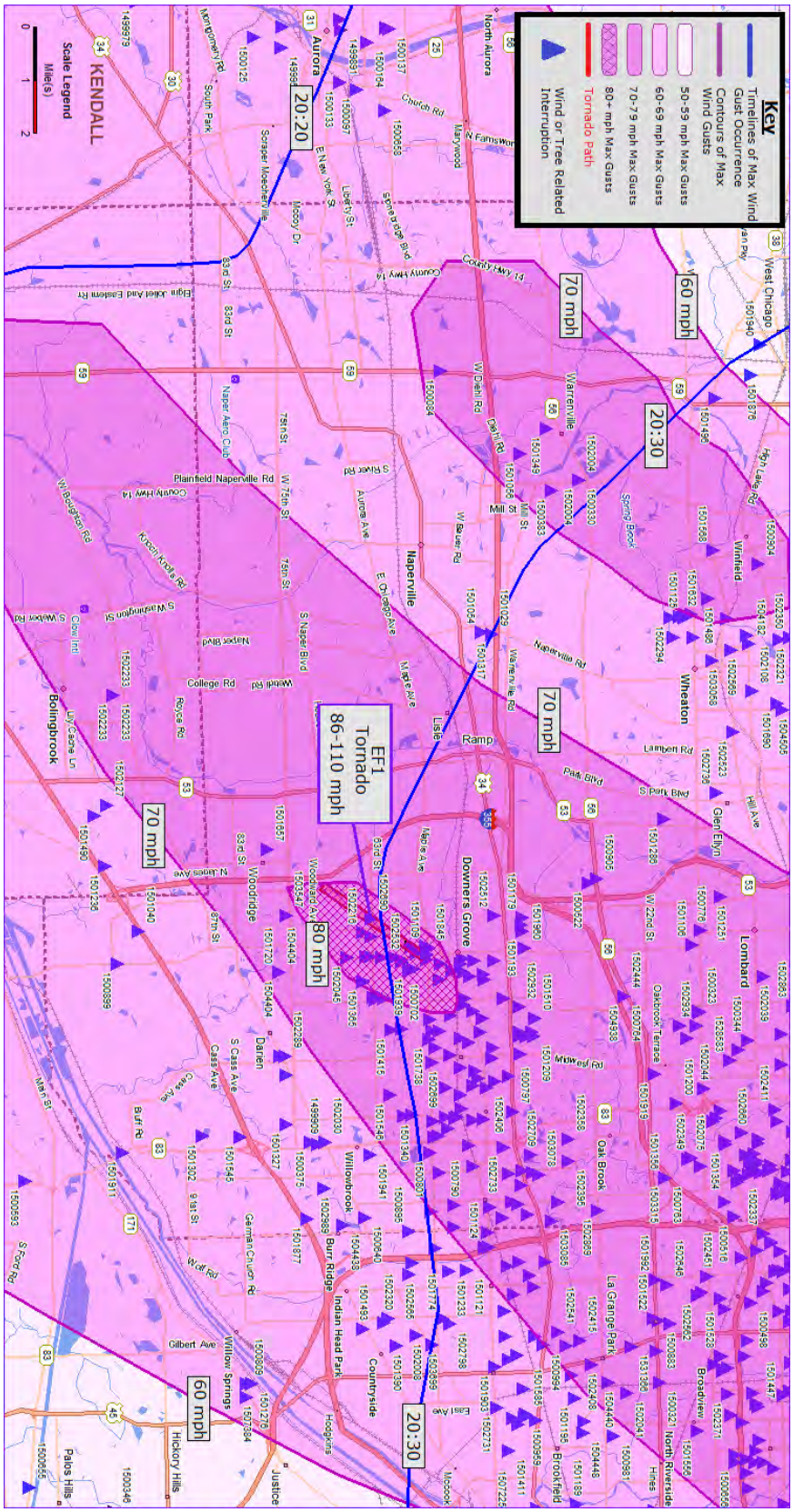

Image 7 Maximum Wind Gusts from 2020 to 2040 hours on June 21, 2011 and Wind related Outages <u>Southern DuPage County</u>

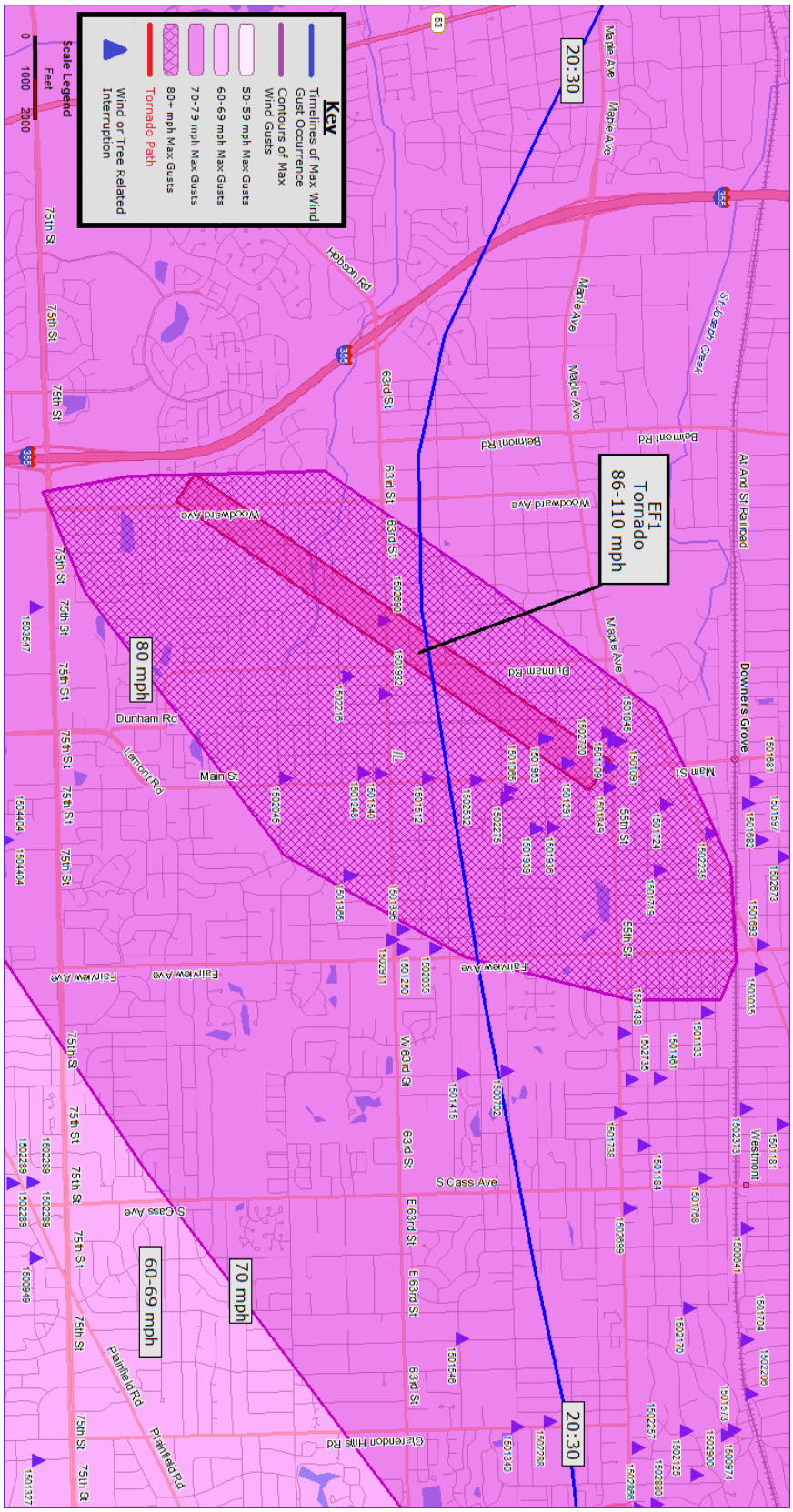

Image 8 Maximum Wind Gusts from 2025 to 2035 hours on June 21, 2011 and Wind related Outages <u>Downers Grove EF1 Tornado</u>