2025 Flooding

<u>Availability of Flood Insurance</u>

You do not have to be in a FEMA designated floodplain to be eligible to purchase flood insurance. There may be a misunderstanding with insurance agents about how this works.

If I were to ask my insurance agent to make sure flood insurance was included in my policy, she would tell me that flood damage is not covered by my homeowner's policy and that I cannot add that coverage as a rider. This is a true statement, but many insurance agents fail to understand that you can purchase a separate insurance policy to cover flood damage.

Flood insurance is available to all who live within in a participating NFIP community, which Lee County is one. Per FEMA's website https://www.fema.gov/flood-insurance

> Flood insurance is available to anyone living in one of the 22,600 participating NFIP communities. Homes and businesses in high-risk flood areas with mortgages from government-backed lenders are required to have flood insurance.

Additionally, per the FEMA Flood Smart website https://www.floodsmart.gov/get-insured/buy-a-policy the following groups are eligible to purchase flood insurance:

> Homeowners
> Flood insurance policies for homeowners cover your building and belongings. Any homeowner who lives in a participating NFIP community is eligible, including people who own condominiums and townhouses. Building policies cover up to $250,000 of flood damage and content policies cover up to $100,000 of flood damage.
>
> Renters
> Renters flood insurance policies protect the things you own inside your home. They protect things like your furniture, clothes, television, computers, rugs and some artwork. This type of coverage protects your belongings for up to $100,000 of damage.
>
> Business owners
> Commercial flood insurance protects your business's building and equipment. The policies protect your foundation, utilities, furniture and inventory. Each type of coverage (building and contents) covers up to $500,000 in flood damage.

Georgia Flood Insurance https://www.georgiafloodinsurance.org/faqs/ states:

> Is my property or business eligible for flood insurance?
> Yes! Everyone in Georgia is eligible for coverage as everyone lives in a flood zone. To qualify for the National Flood Insurance Program (NFIP) coverage, it will depend on what zone and community you live in.
>
> If you don't live in an area that participates with the NFIP, you could still be eligible through a private carrier, which Georgia Flood Insurance can provide direct access to

If you are not in Zone A, Zone AE, or shaded Zone X, then you are in the unshaded Zone X. This means that everyone in Lee County, a participating NFIP community, is located in a flood zone.

Design Standards

Drainage systems are designed based on standard storm events. These have been called by names like the 25-year storm or the 100-year storm. The technical term is annual chance flood.

The 1% annual chance storm has often been called the “100-year storm”. This often gives non-engineers a false sense of security that a storm of that magnitude will only occur once every 100 years. This is incorrect. The 1% annual chance storm is a storm that has a 1-percent chance of being equaled or exceeded in any given year. This same “chance” of a storm of that size is the same every year. Statistically speaking, it is possible to have several 1% annual chance storms in one year or in multiple adjacent years. It is just a measure of the probability, or likely hood of a storm of that magnitude occurring.

For drainage inlets and pipes for a road in a subdivision, the design storm is the 10% annual chance storm (i.e. 10-year storm). This means that the pipes and inlets have been sized to handle a 24-hour 10-year storm event. Holding ponds with no outlets have been sized to handle the 24-hour 100-year storm event.

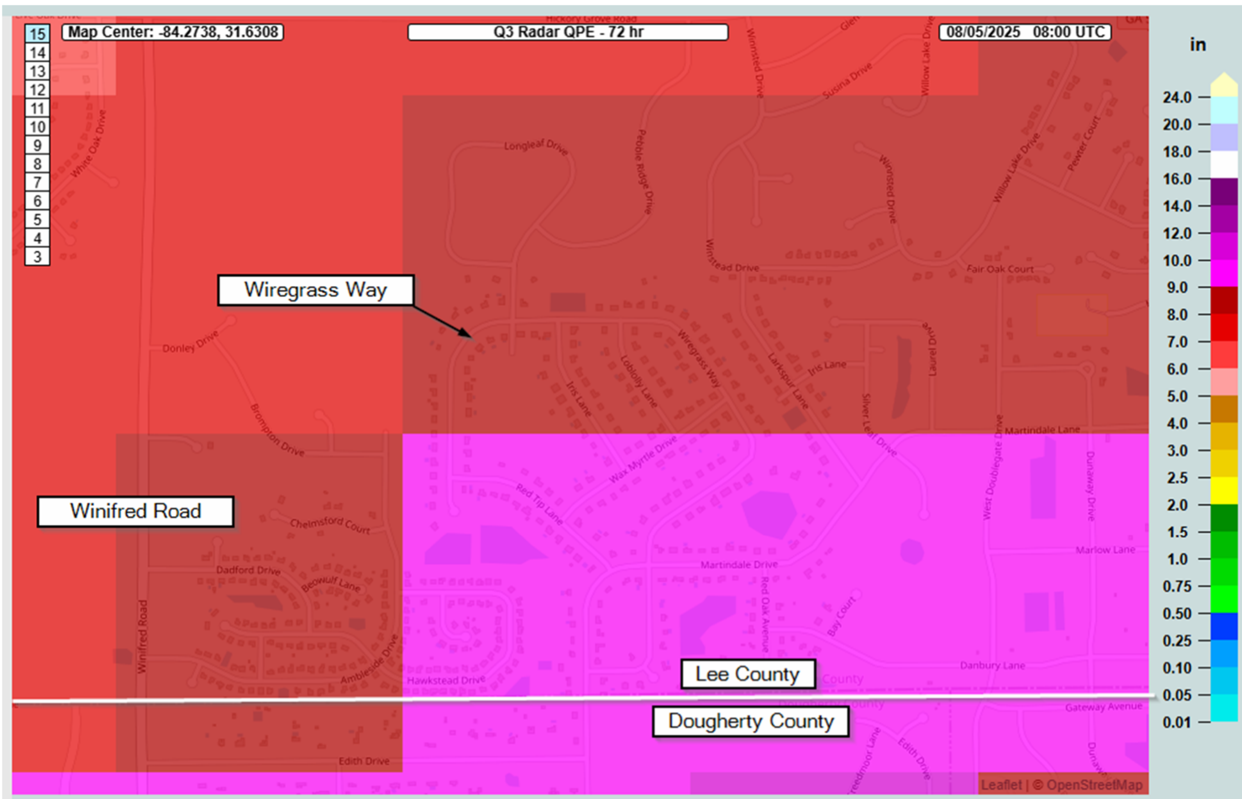
When a storm event exceeds the design storm, then the pipes will not be able to handle all the water. Additionally, inlets can only handle so much water at one time. When the design storm is exceeded, flooding begins to happen at the ends of culverts, at inlets, and at ponds.

For an analogy, imagine you have a cup that you are filling up from a 2-quart pitcher of water. When pouring the water from the pitcher at a reasonable rate, the water will easily flow into the cup, but if you dump the pitcher at one time, the amount of water will overwhelm the cup and will spill. That is similar to what happens when inlets are overloaded and pipes cannot handle the amount of water.

Similarly, when ponds begin to fill up, the water will find its own level and will back up into the pipe network, which will decrease the capacity of the pipe to convey stormwater.

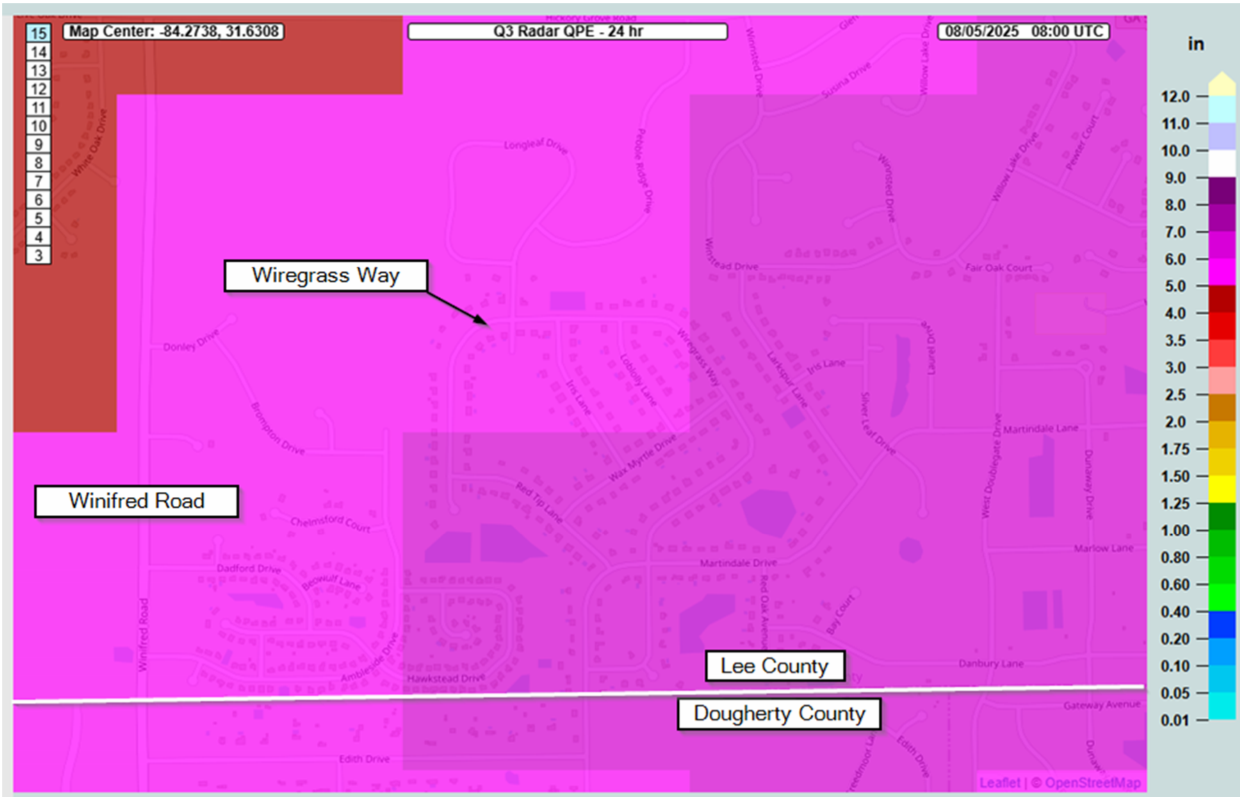
<u>Rainfall Totals – August 2025</u>

From 4pm August 2nd[rd] to 4pm August 5th, 72 hours, a total of 10 inches of rain fell in the western Lee County area. This is equivalent to almost a 100-year storm (10.5 inches). Breaking down the rain further the data shows that from August 4th 4pm to August 5th 4pm the 24-hour rainfall total was 7" which is equivalent to somewhere between a 25-year storm and a 50-year storm. Analyzing the data shows that the 3-hour period of August 4th 6pm to August 4th 9pm, a total of 5" of rain fell. This is equivalent to a 100-year storm. The images below are from NOAA and show the various periods the data was analyzed for.

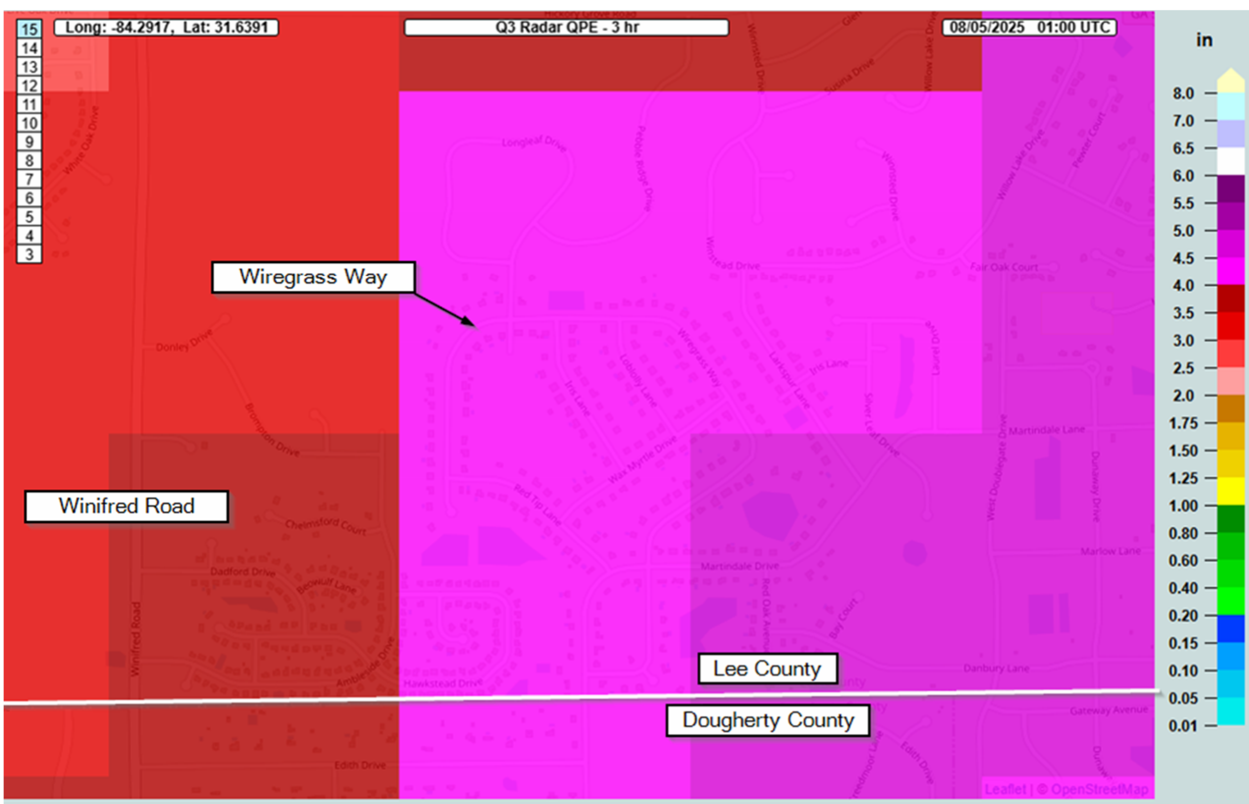


August 2nd 4pm to August 5th 4pm – 72-hour rainfall total = 10"

1 2100



August 4th 4pm to August 5th 4pm – 24-hour rainfall total = 7”



August 4th 6pm to August 4th 9pm – 3-hour rainfall total = 5”

The data indicates that over a 3-day period an equivalent of a 100-year storm event occurred in this basin. This event filled up the ponds to their capacity, which limited the capacity of the inlets and pipes to handle the periods of high intensity rain. The 3-hour period shown produced a tremendous volume of stormwater runoff. This much rain, in such a short period of time, overwhelmed the inlets and pipes and filled up the stormwater ponds.

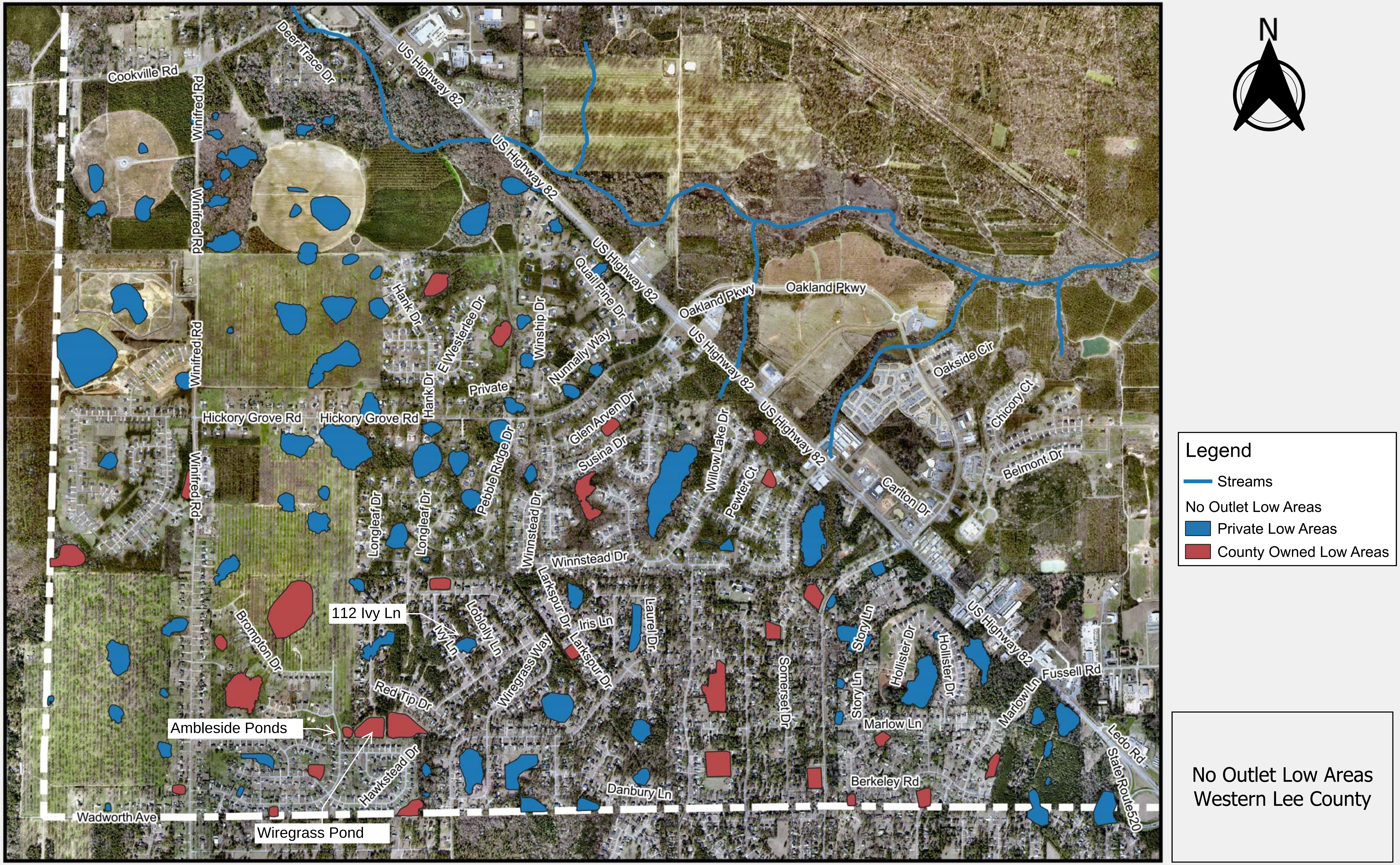
The flooding that occurred was a flash flood where the stormwater receded quickly after flooding various properties. Longer term flooding has been observed at the holding ponds, as it will take some time for the stormwater to infiltrate into the ground.

<u>Western Lee County</u>
A map of Western Lee County is attached. This map shows that there are no positive outfalls west of US82, which encompasses an area that is approximately 6.5 square miles. The blue filled in areas represent closed contour, no outlet lows that are privately owned. The red filled areas represent closed contour, no outlet lows that are owned by Lee County.

When flooding events occur, it is often asked why the County cannon pump the water somewhere. As can be seen from this map, there is typically nowhere to pump to, apart from pumping to another low area. As is often the case, these other low areas are full of water as well and most likely privately owned. The County cannot send water from one area to another without permission from the owner.

As an example, along Ambleside and Brompton, Lee County owns a small portion of the undeveloped pecan orchard. The County would only be able to pump until the water in the pecan orchard reached the limits of County ownership. At that point, the County would have to obtain permission from the owner of the property. As of Tuesday the 5th, this pecan orchard was severely impacted by floodwaters. Previous discussions with the pecan orchard owner have not yielded permission to pump additional water to this location out of fear of damaging the trees.

This example is typical in Western Lee County and in large portions of the rest of Lee County. The karst topography underlying the ground is riddled with limestone sinks, which form no outlet low areas.



No Outlet Low Areas
Western Lee County

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.458** (0.366-0.569)	**0.524** (0.419-0.651)	**0.635** (0.505-0.790)	**0.730** (0.577-0.911)	**0.864** (0.661-1.11)	**0.971** (0.725-1.25)	**1.08** (0.779-1.42)	**1.19** (0.825-1.60)	**1.35** (0.895-1.84)	**1.47** (0.948-2.03)
10-min	**0.671** (0.536-0.833)	**0.768** (0.613-0.954)	**0.930** (0.740-1.16)	**1.07** (0.845-1.33)	**1.26** (0.968-1.62)	**1.42** (1.06-1.84)	**1.58** (1.14-2.08)	**1.75** (1.21-2.34)	**1.97** (1.31-2.70)	**2.15** (1.39-2.97)
15-min	**0.818** (0.654-1.02)	**0.936** (0.747-1.16)	**1.14** (0.902-1.41)	**1.30** (1.03-1.63)	**1.54** (1.18-1.98)	**1.73** (1.30-2.24)	**1.93** (1.39-2.54)	**2.13** (1.47-2.86)	**2.41** (1.60-3.29)	**2.62** (1.69-3.62)
30-min	**1.18** (0.939-1.46)	**1.35** (1.07-1.67)	**1.63** (1.30-2.03)	**1.88** (1.49-2.34)	**2.23** (1.70-2.85)	**2.51** (1.87-3.24)	**2.79** (2.01-3.67)	**3.09** (2.13-4.14)	**3.49** (2.32-4.78)	**3.81** (2.46-5.26)
60-min	**1.53** (1.22-1.90)	**1.74** (1.39-2.16)	**2.10** (1.67-2.61)	**2.42** (1.91-3.01)	**2.88** (2.21-3.70)	**3.25** (2.44-4.22)	**3.65** (2.64-4.81)	**4.06** (2.81-5.46)	**4.64** (3.09-6.37)	**5.10** (3.30-7.05)
2-hr	**1.88** (1.52-2.31)	**2.13** (1.72-2.61)	**2.56** (2.06-3.15)	**2.95** (2.36-3.64)	**3.53** (2.74-4.49)	**4.00** (3.04-5.14)	**4.50** (3.30-5.89)	**5.04** (3.54-6.72)	**5.80** (3.91-7.88)	**6.40** (4.19-8.76)
3-hr	**2.09** (1.70-2.55)	**2.36** (1.92-2.88)	**2.84** (2.30-3.47)	**3.27** (2.64-4.01)	**3.92** (3.08-4.98)	**4.47** (3.42-5.72)	**5.05** (3.73-6.58)	**5.68** (4.02-7.55)	**6.57** (4.47-8.91)	**7.29** (4.81-9.94)
6-hr	**2.49** (2.05-2.99)	**2.82** (2.32-3.39)	**3.41** (2.80-4.11)	**3.94** (3.22-4.78)	**4.75** (3.78-5.97)	**5.43** (4.20-6.87)	**6.15** (4.60-7.93)	**6.94** (4.97-9.13)	**8.05** (5.54-10.8)	**8.94** (5.97-12.1)
12-hr	**2.94** (2.45-3.49)	**3.37** (2.81-4.01)	**4.12** (3.43-4.92)	**4.80** (3.96-5.74)	**5.79** (4.65-7.17)	**6.61** (5.18-8.26)	**7.47** (5.65-9.51)	**8.39** (6.08-10.9)	**9.68** (6.75-12.9)	**10.7** (7.25-14.3)
24-hr	**3.45** (2.91-4.05)	**3.97** (3.35-4.67)	**4.88** (4.10-5.75)	**5.67** (4.74-6.71)	**6.82** (5.55-8.34)	**7.76** (6.16-9.58)	**8.75** (6.70-11.0)	**9.79** (7.19-12.6)	**11.2** (7.94-14.8)	**12.4** (8.50-16.4)
2-day	**4.02** (3.44-4.67)	**4.59** (3.93-5.34)	**5.58** (4.75-6.50)	**6.45** (5.46-7.54)	**7.72** (6.36-9.33)	**8.75** (7.03-10.7)	**9.84** (7.64-12.3)	**11.0** (8.19-14.0)	**12.6** (9.02-16.4)	**13.9** (9.66-18.2)
3-day	**4.40** (3.79-5.07)	**5.00** (4.31-5.77)	**6.04** (5.19-6.99)	**6.96** (5.94-8.08)	**8.30** (6.89-9.96)	**9.39** (7.60-11.4)	**10.5** (8.24-13.0)	**11.7** (8.82-14.9)	**13.4** (9.70-17.4)	**14.8** (10.4-19.3)
4-day	**4.72** (4.09-5.41)	**5.34** (4.62-6.13)	**6.42** (5.54-7.38)	**7.36** (6.31-8.50)	**8.73** (7.28-10.4)	**9.85** (8.02-11.9)	**11.0** (8.67-13.6)	**12.3** (9.25-15.5)	**14.0** (10.2-18.0)	**15.3** (10.8-20.0)
7-day	**5.59** (4.90-6.35)	**6.23** (5.45-7.08)	**7.32** (6.38-8.34)	**8.28** (7.18-9.46)	**9.67** (8.15-11.4)	**10.8** (8.89-12.9)	**12.0** (9.53-14.6)	**13.2** (10.1-16.5)	**15.0** (11.0-19.2)	**16.3** (11.7-21.1)
10-day	**6.35** (5.60-7.17)	**7.02** (6.18-7.92)	**8.16** (7.16-9.23)	**9.15** (7.98-10.4)	**10.6** (8.98-12.4)	**11.7** (9.73-13.9)	**13.0** (10.4-15.7)	**14.2** (10.9-17.7)	**16.0** (11.8-20.3)	**17.4** (12.5-22.4)
20-day	**8.46** (7.56-9.43)	**9.32** (8.32-10.4)	**10.8** (9.56-12.0)	**12.0** (10.6-13.4)	**13.7** (11.7-15.8)	**15.0** (12.6-17.5)	**16.4** (13.3-19.6)	**17.8** (13.8-21.8)	**19.7** (14.8-24.7)	**21.2** (15.4-27.0)
30-day	**10.3** (9.25-11.4)	**11.3** (10.2-12.5)	**13.0** (11.7-14.4)	**14.4** (12.9-16.1)	**16.4** (14.1-18.7)	**17.8** (15.0-20.6)	**19.3** (15.7-22.8)	**20.8** (16.3-25.2)	**22.7** (17.1-28.3)	**24.2** (17.8-30.6)
45-day	**12.7** (11.5-13.9)	**14.0** (12.6-15.3)	**16.0** (14.4-17.6)	**17.6** (15.8-19.4)	**19.7** (17.1-22.3)	**21.3** (18.1-24.4)	**22.8** (18.7-26.7)	**24.3** (19.2-29.2)	**26.1** (19.9-32.3)	**27.5** (20.4-34.6)
60-day	**14.8** (13.5-16.2)	**16.3** (14.8-17.8)	**18.5** (16.8-20.3)	**20.3** (18.3-22.3)	**22.5** (19.6-25.2)	**24.1** (20.6-27.5)	**25.6** (21.2-29.8)	**27.0** (21.4-32.3)	**28.7** (21.9-35.2)	**29.8** (22.3-37.5)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.