

# FLOOD SAFETY



Flooded houses on W. Emporia Avenue - July 1985

# PONCA City

City of Ponca City  
Development Services Department

**STAY OUT OF FLOOD WATER-** Drowning is the number one cause of flood deaths. Six inches of moving water can knock you off your feet. Even strong swimmers can drown in swift moving water. If trapped in flowing water, wait for rescue. If you find yourself carried by swift water, face downstream and swim perpendicular to the current. If your only escape is to move through floodwater, avoid fast moving water and whirlpools. Even small whirlpools can indicate a submerged storm drain into which a person can be pulled. If possible, use a pole or stick to probe the ground ahead of you to prevent stepping into a hole. Besides the drowning hazard, floating debris like cars, dumpsters and logs can crush people. Also, flood waters are often contaminated with chemicals and sewage.

**DO NOT DRIVE THROUGH A FLOODED AREA- TURN AROUND - DON'T DROWN!** The majority of flood related drownings happen to people who try to drive across flooded roads. Water over a roadway can be much deeper than it appears and water can hide road damage like sinkholes. If you get stuck in flood water that continues to rise, you might soon find yourself underwater. Don't drive around road barriers; the road or bridge may be washed out. Moving water is especially dangerous. As little as 18 inches of flowing water can sweep your car off the road. Your tires alone create as much as 1000 pounds of lift when submerged. Initially, cars and trucks float and are swept away by moving water. As they are carried downstream, vehicles may tumble or turn upside down. As water seeps in, a vehicle will eventually sink. It does not matter how big and heavy your truck is, it can be swept downstream by moving water.

**BEFORE EVACUATING YOUR HOUSE-** If time permits, shut off the electric main and turn off gas at the meter. As your house floods, appliances will float and can pull loose from pipes and wires causing a gas leak or an electrocution hazard. Gas leaks can cause fires during a flood. Because of surrounding floodwater, the fire department may not be able to respond. Turning off these utilities can make your house safer to return to.

**RETURNING HOME-** After you return home, leave the utilities off until your home has been inspected. If your home has significant structural damage, do not enter until it has been inspected. If your home looks undamaged, enter carefully. Stairs that have been covered with mud can be very slippery. Floors can be buckled and unstable. Do not use electrical appliances that have been wet. When it is safe to turn the gas back on, don't forget to relight pilot lights.

**STAY AWAY FROM POWER LINES-** Electrocution is also a major killer in floods. Electrical current can travel through water. Report downed power lines to Ponca City Energy at 767-0405 or call 911.

**BE ALERT FOR GAS LEAKS-** Use a flashlight to inspect for damage and spray soap solution to check for leaks. Report suspected gas leaks by calling the Oklahoma Natural Gas trouble number at 800-458-4251.

**WATCH FOR ANIMALS, ESPECIALLY SNAKES-** Small animals that have been flooded out of their homes may seek shelter in yours. Use a pole or stick to poke and turn items over and scare away small animals. The Ponca City Animal Control phone number is 767-0401.

**CARBON MONOXIDE EXHAUST KILLS-** Do not use a generator or other gasoline-powered machine indoors. The same goes for camping stoves. Fumes from charcoal are especially deadly. Do not heat or cook with charcoal indoors.

**CLEAN EVERYTHING THAT GETS WET-** Floodwaters can carry sewage and chemicals from vehicles, farms, factories, and storage buildings. Anything that has touched floodwater could be contaminated, so protect your health. Food, cosmetics, and medicines that have been in contact with floodwaters are health hazards. When in doubt, dispose of them.

**REPAIRS-** Repairing flood damage requires a permit from the City. Contact the Development Services Department at 767-0383 before you begin work. Once permitted, prevent mold by removing building materials (carpet, drywall, insulation, etc.) that have been underwater. Strip walls/floors to studs/joists and let structural lumber air dry. Spray lumber with bleach and water and let dry before installing new floors and walls. Wiring, outlet boxes, ducts and registers may need to be replaced.

## LOCAL FLOOD HAZARD

While flooding could happen at any time of year, Ponca City typically receives 75% of its annual precipitation between April and October. May is normally the wettest month of the year and January is usually the driest. Stormwater runoff in Ponca City drains into Bois d' Arc Creek, Turkey Creek and the Arkansas River. Extended rainfall can cause overbank flooding where rising waters inundate property. More common however, are relatively short duration storms with high-intensity rainfall that cause local flash flooding of streets and adjacent properties.

Since 1972, Ponca City has sustained property damage from flooding 19 times. If past experience is any indication of future flooding, we can expect to see damaging floods as often as every few years.

The areas most susceptible to flood damages have been identified and mapped. Floodplain maps are available as follows:

**FIRM-FEMA** maintains the Flood Insurance Rate Map (FIRM) for Ponca City. The latest version became effective Dec. 17, 2013. Paper copies can be viewed in the City Development Services Department at City Hall. FIRM data can also be viewed on-line at [www.owrb.ok.gov](http://www.owrb.ok.gov) or [www.msc.fema.gov](http://www.msc.fema.gov). Insurance companies and mortgage lenders access this data to determine which properties must carry flood insurance.

**City Maps** – The City maintains flood hazard maps that include all data shown on the FIRM as well as regulatory floodplains for certain areas that are not found on the FIRM. For this reason, the City data is considered “Best Available Data” and is used to regulate new development and redevelopment in flood hazard areas. While there is no on-line access to City map data, the City’s Engineering Department will investigate all flood data and provide a formal determination of flood zones and base flood elevations. This service is available to all at no cost. To reach the Engineering Department call 767-0326.

## FLOOD INSURANCE

Your standard home owners or renter’s insurance policy does not cover flood damage. The City of Ponca City joined the National Flood Insurance Program (NFIP) in 1980 and has been a member ever since. Consequently, federally-backed flood insurance is available to everyone in Ponca City regardless of whether or not their property is in the Special Flood Hazard Area (SFHA). Structures located inside the SFHA must maintain flood insurance if the property is the subject of a federally-backed mortgage. While uncommon, extreme flood events do occur and floods can damage almost any home; even those outside of the SFHA. For this reason, all property owners are encouraged to consider flood insurance. Even renters, who do not own property, can obtain flood insurance for their furniture and belongings.

Flood insurance coverage has limitations. For example, damage to driveways, fences, patios and swimming pools, landscaping, etc. are not covered. Also, coverage will typically not be effective for 30 days after purchase. Talk to your local insurance agent for details. To locate an agent, or get more information, go to [www.floodsmart.gov](http://www.floodsmart.gov) or call 1-888-379-9531.

For free personalized advice about flood insurance from a knowledgeable person, call the City Engineering Department at 767-0326.

### Elevation Certificates

If your house or business is within the SFHA, your premium may be rated on a comparison of the lowest floor elevation to the 1% chance flood elevation. In this case, you may need an Elevation Certificate prepared by a licensed surveyor or engineer. The City has Elevation Certificates for some properties on file. To get a copy, contact the Ponca City Engineering Department at 767-0326. These are also viewable online at [www.poncacityok.gov](http://www.poncacityok.gov). If an Elevation Certificate is not on file with the City, you will have to hire a surveyor to create one. The City Engineering Department can check completed certificates to make sure they meet FEMA requirements.

## REPAIRING FLOOD DAMAGE

**Permits Required**- Any structural repairs within the Special Flood Hazard Area (SFHA) identified on the Flood Insurance Rate Map or the Regulatory Floodplain as determined by the City may require a Floodplain Development Permit and/or a Building Permit. Even if the damage was not caused by flooding (such as wind or fire damage) a permit is required for repairs. Always contact the City Development Services Department at 767-0326 before making repairs or improvements to a building in the SFHA.

**Substantial Damage** –Repairs of a structure in the SFHA that cost more than 50% of the pre-damage value of the structure are prohibited unless the planned repairs include floodproofing measures such as relocation, elevation or other measures. Again, this applies to repairs of all types of damage. For instance, if a house in the SFHA caught on fire and the damage repairs would cost 60% of the pre-fire value of the house, repairs would have to include measures to protect the repaired structure from flood damage by moving it or elevating it. Permits would be required before work could begin.

**Funding Assistance** – The City Engineering Department can provide basic guidance regarding means of funding repairs or flood hazard mitigation projects. Call 767-0326 and ask about grant programs. Types of financial assistance may include the following:

**Flood Insurance** – Flood insurance is by far the most reliable funding mechanism available. All property owners should consider flood insurance. For structures in the SFHA that have received Substantial Damage due to flooding, additional funds up to \$30,000 can be paid to relocate or elevate the house.

**Multiple Flood Claims** – By maintaining flood insurance on your house or business you may become eligible for federal grants. After several flood claims, your property may be designated as a Repetitive Loss Property or a Severe Repetitive Loss Property. Properties so designated are often given priority for grant funds.

**Disaster Assistance** - If a Federal Disaster is declared, federal financial assistance may be available. Most often, this assistance will be in the form of a low interest loan. Post-disaster grants may also be available for flood hazard mitigation projects.

**Pre-Disaster Grants** – From time to time the City may apply for federal grants to mitigate flood hazards. For more information on grant opportunities, contact the City Engineering Department at 767-0326.



Damaged construction project on Ash Street caused by flash flood - October 1959

## DRAINAGE SYSTEM MAINTENANCE

For drainage systems to function properly inlets must be kept clear and drainage ways must not be obstructed. During flooding events, abnormally heavy amounts of silt and debris can be transported by the drainage system.

Drainage system maintenance that homeowners can perform around their homes includes the following items:

1. Use a mulching mower to reduce leaves to small pieces that will pass through grates. Leaves clogging storm drains are a major source of blockage of inlets. Or, rake leaves into a compost pile where the leaves will be naturally broken down into humus materials.
2. Keep roof gutters clean, and extend downspouts to direct roof drainage away from your house. Clogged gutters and downspouts that discharge close to foundations can cause water to seep into your house.
3. Keep stormwater grates clean and do not remove grates. Grates keep pipes from plugging. A plugged grate is much easier to clean than a plugged pipe. Keep drainage ditches, drain pipes, culverts, and other types of storm water drainage devices clear of sediment.
4. Keep your lot clean. Yard waste and trash (like plastic bags and water bottles) can plug inlets and pipes. When flooding is forecast, move trash cans and other belongings into a garage or shed to keep them from floating away.
5. The City cleans all catch basins at least twice per year and cleans all inlets after every rainfall greater than one inch. If you see an obstruction or damage to a drainage channel, please report it to the Ponca City Street Department at 767--0409.

## 10 Things you can do to prevent stormwater runoff pollution:

Street gutters and storm inlets convey stormwater runoff to local streams. Whatever pollutants are washed into storm inlets will end up in the Arkansas River where they can cause harm to fish and wildlife. Your property can be a source of pollution. Here are some ways to protect downstream ecosystems.

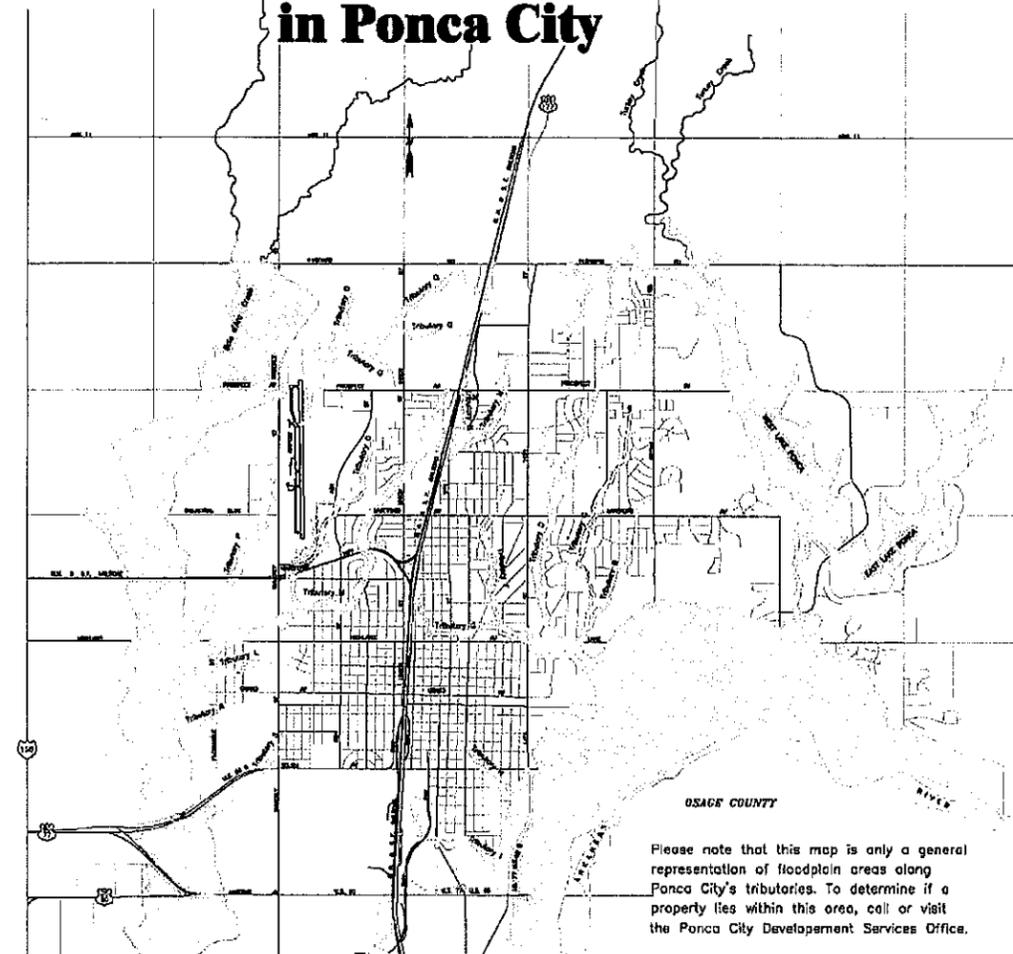
1. Use fertilizers sparingly and don't apply within 10 feet of gutters, channels or streams.
2. Never dump anything into gutters or down storm drains. If you see illegal dumping, report it to the Assistant Public Works Director at 767--0453.
3. Cover bare soil with mulch or vegetation to prevent erosion. This helps reduce the sediment load in streams.
4. Compost your yard waste or bag it and take it to the landfill. Do not blow leaves into storm channels. Excess yard waste can decrease oxygen levels in streams.
5. Avoid pesticides and herbicides if possible and consider alternative methods to control pests and weeds. If they must be used, use sparingly according to manufacturer's recommendation and do not apply within 20 feet of storm channels or streams. These chemicals are extremely toxic to fish and aquatic wildlife.
6. Direct down spouts onto grass away from house instead of onto paved surfaces. This allows stormwater to infiltrate into the ground reducing runoff volumes and filtering pollutants.
7. Wash your car at the car wash instead of washing it in your driveway. Washing a car releases dirt, soap and hydrocarbons into receiving streams.

8. Check your car for leaks, and recycle motor oil. When oil leaks onto a road or parking lot, it is easily washed into streams during the next rainfall.
9. Pick up after your pet. Feces from domestic animals and livestock can wash into streams. Keep animals and livestock away from streams.
10. Have your septic tank inspected annually and pumped at least once every five years to keep drain fields from clogging with solids. Untreated sewage carries pathogenic organisms that can cause serious illness.

## NATURAL AND BENEFICIAL FUNCTIONS OF FLOODPLAINS

Floodplains are the low lying areas adjacent to rivers, lakes, and drainage channels that flood from time to time. Floodplains provide habitat for fish, wildlife, and vegetation. Natural floodplains contain wetland plants and other vegetation that serve to filter stormwater runoff, making it cleaner for those downstream, including fish and wildlife. Natural vegetation also serves to reduce velocity and erosion and increases flood storage. Floodplains also promote infiltration and recharge of groundwater aquifers. Generally, flood hazards are minimized when floodplains remain in a natural and undisturbed condition.

### Flood Hazard Areas in Ponca City



## PROPERTY PROTECTION

The first step to protect your property from flooding is to know your risk. Here are some ways to determine your risk:

1. Ask the City Engineering Department if you are in the floodplain, and what the Base Flood Elevation is at your property. Call 767-0326.
2. The sewer pipes in your house should be higher than the lid of the sanitary sewer manholes nearest to your home. Floods can cause sewer lines to back up.
3. The grading of your lot should drain stormwater runoff away from your house. If the house is lower than the street, you could be at increased risk for flood damage.

**If you find your property to be at risk of flood damage, you should consider flood insurance.** If you are a home owner, buy both building and contents insurance. If you are a renter, buy flood insurance for contents. You should also contact the City Engineering Department and request an evaluation of flood hazard mitigation options. An experienced engineer will visit your property and advise you regarding options to reduce the potential for flood damage. There is no charge for the evaluation. Call 767-0326.

One or more of the following steps may also be taken to reduce the potential for flood damage:

1. If you have sewer pipes that are below the upstream manhole, install a backflow preventer, or install a sewage pump station.
2. Floodproof your crawl space by installing flood vents to relieve the force of floodwaters on structural walls. Install vents on at least two walls such that bottom of vent is no higher than 12 inches from adjacent ground. At least one square inch of vent is needed for every square foot of crawlspace.
3. Anchor any pre-manufactured buildings to reduce the chance of movement during a flood. Proper anchoring may also reduce the potential for tornado damage.
4. Elevate your house such that the lowest floor is at least one foot higher than the base flood elevation. You will need a building permit and floodplain development permit. You may qualify for a federal grant if you are in the floodplain.
5. Regrade your lot to provide for drainage away from your house and extend downspouts to drain away from your house and not into flower beds against your home. This may require a Floodplain Development Permit if your property is within the SFHA.
6. More information can be found in *Homeowner's Guide to Retrofitting: Six Ways to Protect Your House from Flooding*. It is available at the Ponca City Public Library and can be viewed at [www.fema.gov/media-library/assets/documents/480](http://www.fema.gov/media-library/assets/documents/480).

## FLOOD WARNING

The City of Ponca City has been designated by the National Weather Service as a "StormReady" community. When the National Weather Service issues flood warnings, the Emergency Alert System is activated which interrupts radio, TV, and cable broadcasts. Local radio stations that participate in the Emergency Alert System are

- WBBZ AM 1230
- KLVV FM 88.7
- KLOR FM 99.3
- KPNC FM 100.7
- KQSN FM 104.7

Warnings are also broadcast on NOAA Weather Radios. Every home and business should have a NOAA weather radio tuned to the local NOAA station WWF42 which broadcasts at a frequency of 162.450 MHz.

## FORECASTS

The City of Ponca City website at [www.poncacityok.gov](http://www.poncacityok.gov) provides a weather link on its home page. This is a link to the Weather Underground web page where weather conditions are available from local real-time weather stations. When rainfall intensity exceeds 2 inches/hour there will be a concern for flooding and an hourly intensity of 3 inches/hour can result in flooding. The Norman Forecast Office of the National Weather Service can be found at [www.weather.gov/oun](http://www.weather.gov/oun).

The National Weather Service also operates a River Forecast Center in Tulsa that monitors the Arkansas River Basin. Flood forecasts and real time water levels can be viewed at [www.srh.noaa.gov/abrfc](http://www.srh.noaa.gov/abrfc).

The U.S. Army Corps of Engineers operates the Kaw Lake dam. Real time data such as water levels and release rates can be viewed at <http://www.swt-wc.usace.army.mil/KAWL.lakepage.html>. As much as 52,400 cubic feet per second has been released without causing flood damage in Ponca City.



Flood water on E. Central Ave. from the Arkansas River - 1959

# During a Flood — Be Safe

Floods can happen anywhere it rains.



## MOVE TO HIGH GROUND

When it floods, go to higher ground. Avoid areas subject to flooding. Be aware of streams, drainage channels, and areas known to flood, so you are not cut off from your evacuation routes.



## WATCH OUT FOR WATER

Don't walk across flowing streams or drive on flooded roads. Moving water just 6 inches deep can knock you off your feet and cause an injury. Even 2 feet of water is enough to sweep a car off the road.



## LISTEN FOR UPDATES

Listen to the radio or TV for information. Be sure to follow the instructions of local authorities.



## TURN OFF POWER

Turn off all utilities at the main power switch and close the main gas valve if advised to do so. Don't touch any electrical devices if you're wet or in standing water.

**FloodSmart.gov**  
888-379-9785