Pima County Regional
FLOOD CONTROL
DISTRICT

PIMA COUNTY
REGIONAL FLOOD CONTROL DISTRICT
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TUCSON, ARIZONA 85701-1797

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RE: Recent mapping of sheet flow floodplains that may impact the parcel identified on the mailing label

The Pima County Regional Flood Control District (District) constantly strives to improve the accuracy of flood hazard mapping within unincorporated Pima County in order to ensure that new development occurs in a way that is protective of public safety and minimizes damage from flooding.

The District has regulated sheet flooding in some form for many years. In order to address the hazards from sheet flooding more comprehensively, the District recently performed a study to identify those portions of eastern Pima County that may be impacted by sheet flooding. This mapping shows that your property may be impacted. **The inclusion of your property into the mapped sheet flood area does not mean that your property was not subject to flooding prior to the mapping. The floodplain mapping is the result of the identification of a condition that was already present.**

The District has written a Question and Answer fact sheet to assist you in understanding how this affects you. We encourage you read the answers to those questions for more information about this study.

What if you have other questions that aren't addressed on the Question and Answer fact sheet?
You may contact the District with other specific questions you may have regarding floodplain mapping and requirements for improvements within the floodplain, by visiting either our main office on the third floor of 97 E. Congress Street or our satellite office in the basement of the Public Works building at 201 N. Stone Avenue. District staff is limited in what information can be given out over the phone, such as specifics regarding a particular property, but general questions can also be addressed by calling the District at (520) 243-1800.

In addition to the fact sheet, the District recommends that all property owners of floodprone property purchase flood insurance. Although Federal law *requires* flood insurance only in Special Flood Hazard Areas, both the Federal Emergency Management Agency and the District *recommends* flood insurance for properties in any regulatory floodplain, including sheet flooding areas. Flood insurance is available at a discounted rate due to the fact that the floodplain is not federally mapped as floodplain and because of the District's outstanding rating with the National Flood Insurance Program.

Sincerely,

Suzanne Shields, P.E.
Director and Chief Engineer
Pima County Regional Flood Control District

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FACT SHEET: SHEET FLOOD HAZARD AREAS

1) What is sheet flooding?
Sheet flooding exists in areas that are flat or have a low slope and where there are no or few well-defined washes, or where washes are not large enough to contain all of the water delivered by large storm events. As a result, flood waters flow in a broad sheet across the entire ground surface. For this reason, sheet flooding is hard to recognize, leading many to believe there is no hazard. In a sheet flood area, the flooding is likely to affect all or most of your property. The District recommends that all property owners within the sheet flood area purchase flood insurance as flood damages to structures or home contents are not typically covered by Homeowners insurance policies. Flood insurance is available at a discounted rate due to the fact that the floodplain is not federally mapped as floodplain and because of the District's outstanding rating with the National Flood Insurance Program.

2) I've never seen water on my property, how can I be in a floodplain?
The fact that you may not have flooded in the past does not mean that there is no danger of flooding on your property. The District regulates to the 1% chance flood (often deceptively called the 100-year flood). This event has a 1% chance of occurring in any given year. However, these storms have been known to occur two years in a row, or even twice in the same year. There is a 26% chance of such a flood occurring during the 30 year term of the average home mortgage. The occurrence of a 1% chance flood in one area doesn't necessarily mean that the 1% chance flood occurred in another area. Due to the prolonged drought in the region, very few of the watersheds within Pima County have experienced 1% chance floods in recent memory. Even the "big floods" of 1983 and 1993 and 2006 only affected a small number of watersheds in Pima County.

3) Why has the District conducted this floodplain study?
The District's role and responsibility is to provide the most accurate flood hazard information possible and regulate development within flood prone areas so that development occurs in a safe manner. This study not only helps the District to better protect the residents of Pima County from flood hazards, it also gives the District the opportunity to educate the public about this very real and potentially destructive flood hazard before it happens.

4) Why is the new floodplain mapping just happening now?
Pima County covers 9,100 square miles and large portions subject to flooding. It's a large effort to identify and map all of the existing flood hazards. Mapping the sheet flood hazard areas within Pima County has long been a goal of the District, but mapping sheet flood areas is complex and it has taken a lot of time and effort to complete.

5) How deep will the water be?
Sheet flooding can range from several inches to several feet in depth. As a general rule, the District assumes that the depth of flow is approximately six inches, although due to the topography there are areas where flows will be deeper than this.

6) If water is only six inches deep, why should I worry about it?
Homes and other structures in Pima County that are not elevated have been flooded by water less than six inches deep. Sheet flooding has been known to undercut building foundations, causing potentially significant building stability problems, and rip out fences with posts buried in 2 feet of concrete and move them over 100 feet away. In addition, even shallow moving water exerts a tremendous amount of force on objects that obstruct its movement.

7) What affect does this new sheet flood mapping have on me?
The mapping will likely affect some properties more than others. Areas that were already known to be subject to sheet flooding were required to elevate structures 18 inches above natural grade. Other areas where sheet flooding hazards were just recently identified may have been subject to varied elevation requirements or none at all. The mapping will have a larger affect in those areas.

One change that will affect all property owners is that most new improvements, such as structures, fences, walls, and grading that affect the flow of water will require the District's review and approval, and will most likely require a Floodplain Use Permit (FPUP). FPUP conditions may include elevating or flood-proofing structures and

providing the District with an Elevation Certificate to show that the structure was constructed as required, elevating the bottom of fences, providing openings in walls, and/or placing fences and walls away from property boundaries.

8) How much will a Floodplain Use Permit cost me?
Currently Floodplain Use Permits are free. The services required to meet permit conditions such as hiring a surveyor or engineer to complete an Elevation Certificate are paid directly to the consultant who set their own fees.

9) What are some requirements for buildings within the sheet flow floodplain?
Before answering this, there are some definitions you should know. The first is Base Flood Elevation or BFE. The BFE is the elevation or depth that flood water is expected to reach during the 1% chance flood. The next definition is the Regulatory Flood Elevation, or RFE. According to state statute, the RFE is one foot above the BFE. The state requires habitable structures to be elevated to the RFE. This measurement is to the lowest finished floor elevation of site-built structures and to the bottom of the structural frame of manufactured homes. As a general rule, the BFE within the sheet flood area is six inches above natural grade, and the resulting RFE would be 18 inches above the highest adjacent natural grade around the structure, although the actual elevation requirement may vary. These regulations are in place to help ensure that your home does not sustain damage in a flood event.

If your proposed structure is not habitable (detached garage, shed, barn, etc.), you have the option of making the structure floodproof. The building can only be used for vehicle parking or storage and must be constructed of flood-proof materials (such as brick, block or steel) at least as high as the RFE. In addition, the walls of the structure must have openings (flood vents) in the bottom portion of the wall to equalize flood forces by allowing for the automatic entry and exit of floodwaters in order to prevent structural failure. Flood-proofed structures must remain non-habitable unless brought into compliance with the standards for habitable structures. Please contact the District for more information on protecting structures from flood hazards.

10) Why does the District regulate walls and fences within floodplains?
Walls and fences are often the biggest problems within flood prone areas because they often pose a much larger obstruction to flow than houses and other structures. Putting a wall or certain types of fence around your property will displace water onto your neighbor's property, creating flooding problems for them. In response, your neighbor may take action to protect their property, diverting water even more. As a result, the water level will rise unnaturally high creating a problem that can become extremely hazardous to everyone in the area.

In order to reduce the likelihood of this happening, the District recommends the use of smooth wire or corral-type fencing to define property boundaries. If other fencing or block wall are desired the District requires elevating fences, placing substantial openings in block walls, as well as setting them back from property lines in order to reduce obstructions.

Fences and walls that enclose small areas, such as an area for containing pets, pool enclosures, etc., may be allowed at grade depending on the location of the fence or wall. It's best to discuss your plans with the District to determine the best way to protect your pets and property while also protecting yourself and your neighbors from flood damage. Remember, actions you take that damage your neighbor could expose you to the danger of a lawsuit.

Obtain a Floodplain Use permit for all walls and fences on your property.

11) What about all of the houses and other improvements in the floodplain that have already been built?
Individuals who built before the awareness of a flood hazard may have structures that are not built with adequate protection from flood hazards. Improvements constructed legally are allowed to continue to exist, though restrictions may be placed on modifying or replacing them.

12) If I think that I'm not in a floodplain, can I get myself out of the floodplain the District has mapped?
The District's Ordinance provides the opportunity to demonstrate that your property is not subject to flooding. In order to do this, you will likely be required to provide the District with an analysis from an Arizona registered civil engineer that shows that the property is not subject to flooding. If the District agrees with the analysis, the requirements of the Ordinance will not apply to those portions of the property that the engineering analysis determined to be out of the floodplain. If you wish to pursue this option, please visit our office to obtain more information about our engineering submittal requirements. We also have a list of engineers who have successfully submitted engineering reports to the District in the past that is available as a handout.