



PIMA COUNTY
REGIONAL FLOOD CONTROL DISTRICT
97 EAST CONGRESS STREET, THIRD FLOOR
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History of Floodplain Management in the Picture Rocks Area

- 1. Floodplain Management prior to Sheet Flood Mapping Project**– Prior to the approval of the Sheet Flood Mapping project on August 8, 2007, the identification of sheet flood hazard areas was anecdotal and, as a result, very ambiguous and not very rigidly applied. This led to inconsistent application of floodplain related building requirements, such as providing minimum finished floor elevations. Since there were no maps available which identified sheet flood areas, the County based permitting decisions on the history of flooding problems in a particular area. In a growing area such as Picture Rocks, the lack of previous complaints of flood problems did not always mean that flood hazards were not present.
- 2. Sheet Flood Mapping Project** - In an effort more consistently and accurately apply floodplain requirements, the District identified areas that are likely to be impacted by shallow sheet flooding using topography, general land slope, and soil type. This project was consistent with the Level 1 Analysis Method of the Arizona State Standard 4-95, *Identification of and Development within Sheet Flow Areas*. This project was completed and approved on August 8, 2007. The primary purpose of this project was to ensure adequate elevation of a structure through the issuance of a Floodplain Use Permit and a requirement for the receipt of an Elevation Certificate upon completion of construction. The anticipated additional cost of construction due to the floodplain requirements was approximately \$200 - \$400 for the Elevation Certificate.
- 3. New HUD Rulemaking** - On October 20, 2008, the federal Department of Housing and Urban Development completed a rulemaking creating standards for the installation of new manufactured housing. This rule required that the foundation of any new manufactured home proposed in a floodplain be designed by a registered professional engineer or architect. The Arizona Department of Fire, Building and Life Safety's Office of Manufactured Housing (OMH) is the delegated authority to enforce the HUD requirements. OMH established that the effective date of these rules would be January 3, 2009.
- 4. Pima County Foundation Standards** - On January 5, 2009, the District created three foundations designs that were sealed by the Chief Engineer. OMH agreed that these designs met HUD's engineered foundation requirement. Since the HUD standard required foundations to be designed to address flood hazards, these foundations were more expensive. However, the use of the Chief Engineer's design saved an applicant both the cost of hiring an engineer and the time for engineering review and permitting. An applicant could still choose to hire an engineer.
- 5. Picture Rocks Concerns** - On September 23, 2009, the District met with representatives of Picture Rocks and Supervisor Bronson to discuss the impacts of the HUD standard on the Picture Rocks area. The increased foundation requirements result in an increased cost of approximately \$5800. The District agreed to provide more precise floodplain mapping in order to reduce this burden where flood hazards are less severe.
- 6. State Foundation Standards** - On October 14, 2009, OMH, understanding the benefits to its constituents, adopts the same three design standards for State-wide use. The District agrees to require OMH design standards in Pima County.

7. **Request for New Foundation Standard** - On August 13, 2010, the District is approached by Ken Anderson, President of the Arizona Housing Association, a manufactured housing trade association. Mr. Anderson acknowledges the benefits of the original three designs in reducing costs, but requests that the District consider a fourth foundation which the installers think would be more affordable than the first three designs. The District agrees to consider this design.
8. **Picture Rocks Floodplain Modeling Completed** - On November 9, 2010, the District completes the floodplain modeling for the Picture Rocks area. This modeling provides much better information than the Sheet Flood Mapping Project, and will remove areas that are subject to minimal flood hazards from any foundation requirement. Other areas will continue to be required to meet the foundation requirements, and a smaller amount of property will have more stringent requirements based on more severe flood hazards.
9. **New Foundation Design Complete** - On November 24, 2010, the Chief Engineer approves the fourth foundation design. This design is approved by OMH for use in Pima County.
10. **Technical Data Notebook Approved** - The Technical Data Notebook describing the methodology that that was used for the mapping project will be approved for use on January 14, 2011. These are now the effective floodplains.

Standards for manufactured home placement in the Picture Rocks Floodplain:

Minimal Flood Hazard Area: Setback from regulatory washes a minimum of 25 feet. Elevate bottom of structural frame 1 foot above grade, otherwise conventional MH set-up with no FPUP requirement, foundation requirement or Elevation Certificate requirement.

Sheet Flood Hazard: Maintain standards that have been applied for sheet flooding areas, including FPUP, foundation and Elevation Certificate requirements. Six inch flow depth assumed, requiring an 18 inch elevation.

Flow Corridor: Likely that site specific engineering will be required due to flood depths. In addition, many improvements will require the engineer to justify that the improvement does not cause an adverse impact to neighboring properties.

Impacted Properties:

Original Approximate Floodplain: About 3600 properties in floodplain

New Detailed Study: About 2600 properties in floodplain

- About 1000 properties in minimal hazard area
- About 1000 properties in Flow Corridor

Flood Hazard Map can be found at: www.rfcd.pima.gov on the left column.