

BACP-146 and Citizen Flash- Flooding Concerns

**Information primarily derived from
FEMA Flood Insurance Study, Tulsa County, Oklahoma and Incorporated Areas. Volume 1 of
7, Revised October 16, 2012**

Presented by Darin Swinney

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IN THEIR MEETING OF AUG. 13, 2015 BY
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Why Do We Care?



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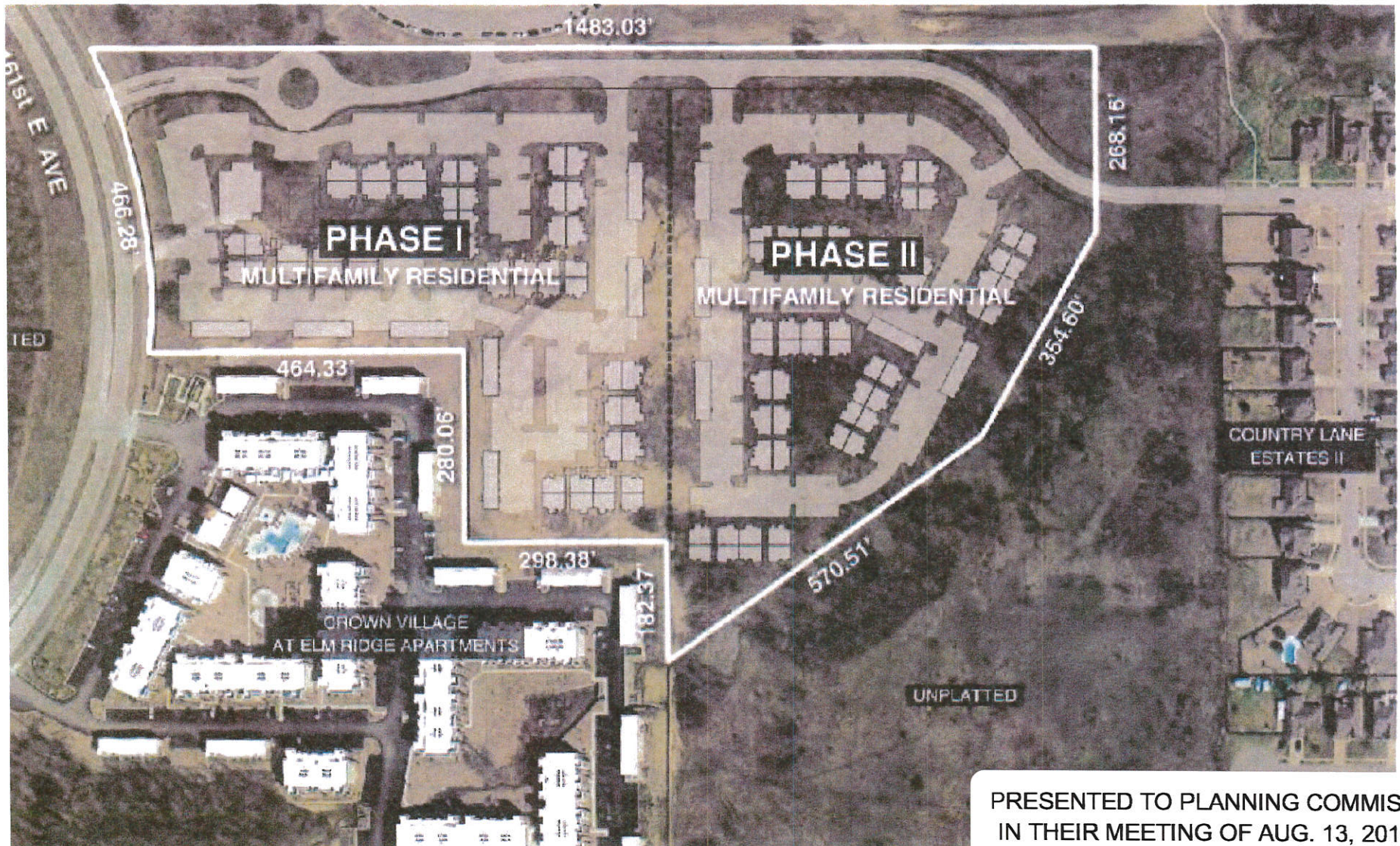
The Impact to Our Neighbors Downstream of Development

- 4.2 FLOODWAYS

- **Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself.**

- (FEMA Flood Insurance Study, Tulsa County, Oklahoma and Incorporated Areas. Volume 1 of 7, Revised October 16, 2012)

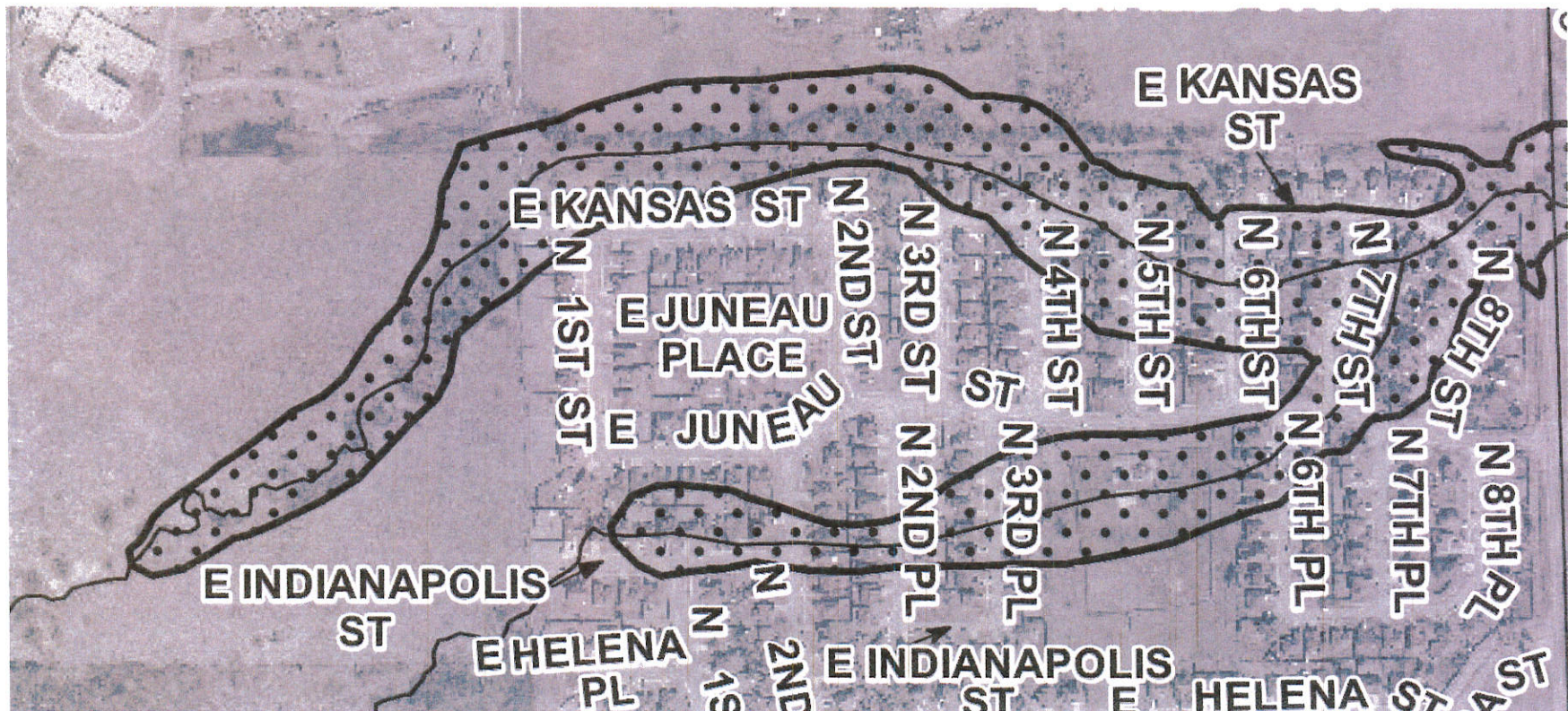
Developer Proposal



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Affected Homes and Areas in Country Lane Estates

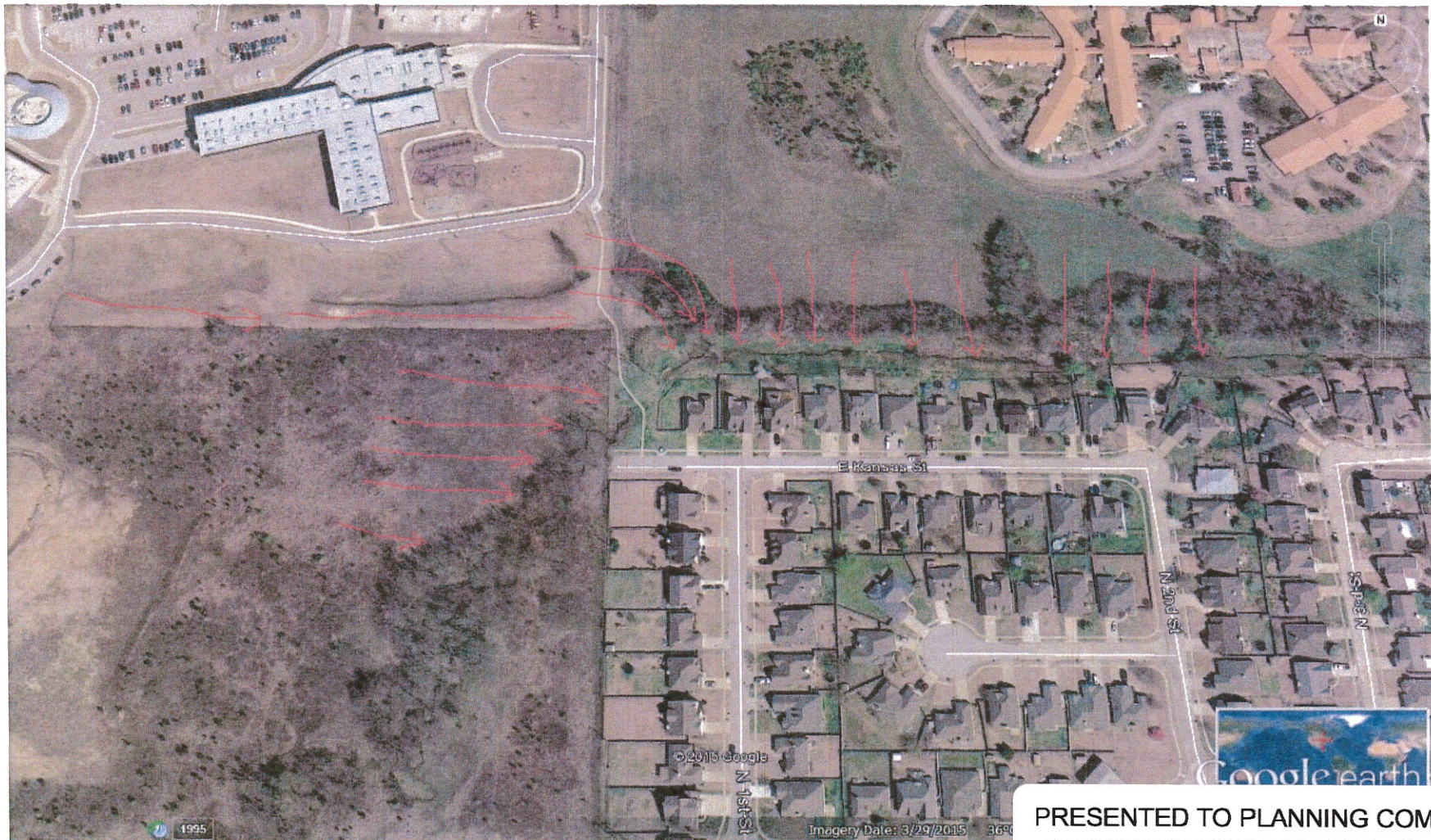
It should be noted that the land bordering Country Lane Estates, immediately to the North, belongs to St John's, and has recently been surveyed for future development. This will again, dramatically affect the speed and flow of water into the creek on Country Lane Estate's North side



What is Stormwater Runoff and Why Do We Need to Reduce It?

- **Stormwater runoff** is rainfall that flows over the ground surface. **It is created when rain falls on roads, driveways, parking lots, rooftops and other paved surfaces that do not allow water to soak into the ground. Where rain falls on paved surfaces, a much greater amount of runoff is generated compared to runoff from the same storm falling over a forested area.**
- (<http://forestsforwatersheds.org/reduce-stormwater>)

Where the Runoff into the Creek Currently Comes From



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Country Lane Estates Homeowner back yard along East Kansas Street



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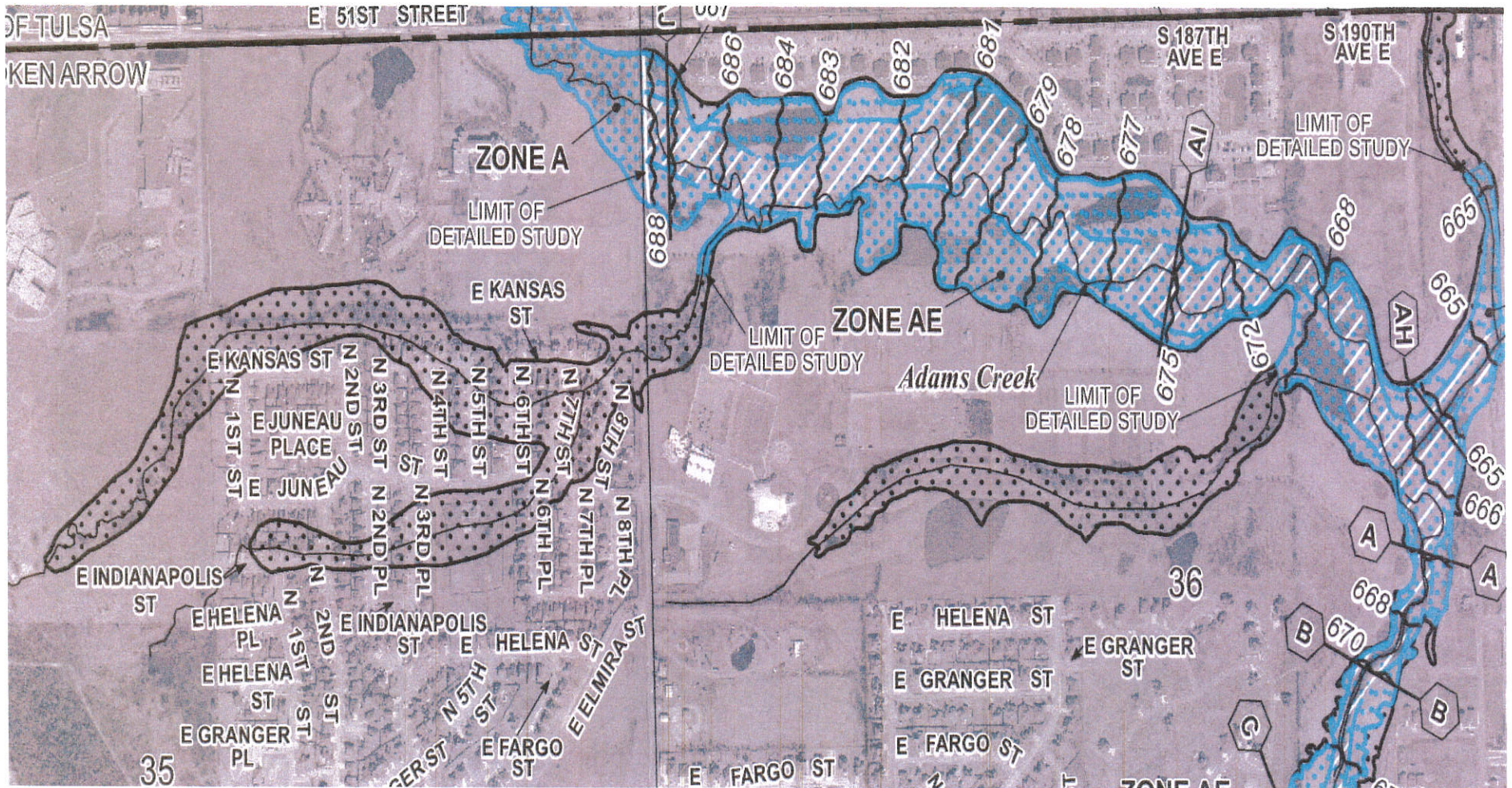
Adam's Creek, a primary drainage for the City of Broken Arrow

- **The drainage pattern of the City is dominated by Haikey and Broken Arrow Creeks and their tributaries, Adams Creek, and the Arkansas River.** The Haikey Creek and Broken Arrow Creek stream systems flow south to the Arkansas River (which flows generally east in this area), approximately 6 miles south of the City. Adams Creek flows to the east to its confluence with the Verdigris River, approximately 12 miles east of the City of Broken Arrow.
- (FEMA Flood Insurance Study, Tulsa County, Oklahoma and Incorporated Areas. Volume 1 of 7, Revised October 16, 2012)

It Happens, and it Will Again

- **Because there are no stream gages on the smaller streams in the City of Broken Arrow, limited flood data is available for Adams, Broken Arrow, and Haikey Creeks.** However, local records show that significant flooding occurred along these streams in 1943, 1970, 1974, and
- 1976. High-water marks are available for the floods of June 8, 1974, and May 30, 1976. These two floods were the largest recorded along the previously mentioned streams.
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Where our water goes and where FEMA indicates flooding risks



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Summary

- The proposed development and paving of a natural drainage into the headwaters of Adam's Creek places Country Lane Estates homeowners and many other Broken Arrow Citizens living downstream of the development at greater risk of flood, especially flash flooding due to the increased speed of water runoff. **How great is this risk? That fact is entirely unknown since FEMA's own flood maps indicate that we live outside of the area of detailed studies.** This is due to the fact that there are no stream gages in the headwaters of Adam's Creek. I urge you to reject BACP-146 until such time as a new flooding impact study is done and more detailed city plans are developed to deal with those waters