ZONE AO CHALLENGES IN OKLAHOMA’S PRAIRIE HEARTLAND
JANET K. MESHEK, PE, CFM, SR/WA
Woodward, Oklahoma
• Established in 1887
• County Seat Woodward County
• Population 15,000 city, 21,500 county
- Water used to move west to east/northeast
- Railroad and channelization for development sliced through it across the grain
RESULTING ZONE AO FLOODPLAIN
Channelized sections don't match historical drainage patterns

- Overflow occurs out of the channels and away from them through areas that were not designed to take the water
- Shallow flooding from overflows makes up most of the AO floodplain – most less that 1 foot in depth
- Undersized storm sewers with streets as the main component of conveyance
- Zone AO requirements for bringing buildings up to code when substantially improved is difficult with no BFEs
- Does not reflect concrete-line channel constructed along the BNRR in 19__ carrying water to Woodward Creek
- Overflow north of the BNRR does not substantially occur anymore.

And on top of that the upstream high hazard dam on the Unnamed Tributary was failing!
2D modeling allowed us to more accurately assess the overflow

- Acquired a DTM with 6-inch accuracy to obtain 1-foot contours
- Modeled east of the Unnamed Tributary, north of Tributary A and east to Woodward Creek Zone A floodplain
EFFECTIVE FIRM BOUNDARIES
EXISTING AND REVISED EXISTING
IMMEDIATE CHALLENGE - THE UPSTREAM DAM
WITH NEW CEDAR POND IN PLACE
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WITH CEDAR AND OAK AVE. PONDS IN PLACE
The Stormwater Utility Fee is not a tax, but rather a user fee.

Maintain stormwater utility system and necessary capital improvements

Users of these services are charged based on the demand they place on the system.

A property’s value does not affect runoff, so property taxes are not an equitable way to pay for stormwater services

Adopted by City Commission in April 18, 2016

$2.50 single family residential fee

$2.50 per 2650 square feet of impervious area for non-residential properties

Stormwater fees included on utility fees in May 2016
DESPITE OUR BEST EDUCATION EFFORTS......

- June 6, 2016 City Commission meeting - Yikes!
- Comments included:
  - financial impact on businesses in the current economy,
  - length of time the fee will be in place
  - if fees will be used specifically for stormwater projects
  - the utility fee should be considered a tax, and not a fee.
- City elects to forego late fees for unpaid bills and to restructure fee
- Single-family Residential - $5:00
- All other properties:
  - .05 - 4.99 ESU: $15.00
  - 5.0 - 49.99 ESU: 30.00
  - 50.0 ESU and above: 60.00
  - Businesses with multiple locations: $100.00 maximum
  - Apartments and trailer parks: $2.50 per unit/pace

- Net fee is $42,000/month or $504,000 annually
- $250,000 less than original projections
Planning a third pond to reduce/eliminate the Tributary A overflow