

Frequency of Storm Events

Road School 2015

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Vice president

Presentation Goals

- What does storm frequency mean?
- If you get a 10-year frequency rainfall, does that equate to a 10-year frequency flood?
- Is regulating floodplains using the 100-year frequency flood event the whole story?

What Does Storm Frequency Mean?

- Basic – Probability of being equaled or exceeded in an area in any given year.

100-year frequency = 1 percent chance of exceedance

25-year frequency = 4 percent chance of exceedance

10-year frequency = ?? Percent chance of exceedance

What Does Storm Frequency Mean?

- Basic – Probability of being equaled or exceeded in an area in any given year.

100-year frequency = 1 percent chance of exceedance

25-year frequency = 4 percent chance of exceedance

10-year frequency = 10 Percent chance of exceedance

$100 / Y\text{-year frequency} = X \text{ percent exceedance}$

If you get a 10-year frequency rainfall, does that equate to a 10-year frequency flood?

- How can a 10-year rainfall = 50-year flood?

Hydrologic Variables

- Season
- Vegetation (cover)
- Ground condition (moisture)
- Conveyance condition
- Precipitation depth / duration
- Storm area of coverage

If you get a 10-year frequency rainfall, does that equate to a 10-year frequency flood?

- How can a 10-year rainfall = 50-year flood?

Hydrologic Variables

- Season
- Vegetation (cover)
- Ground condition (moisture)
- Conveyance condition

- Matching historic flood events with H and H models

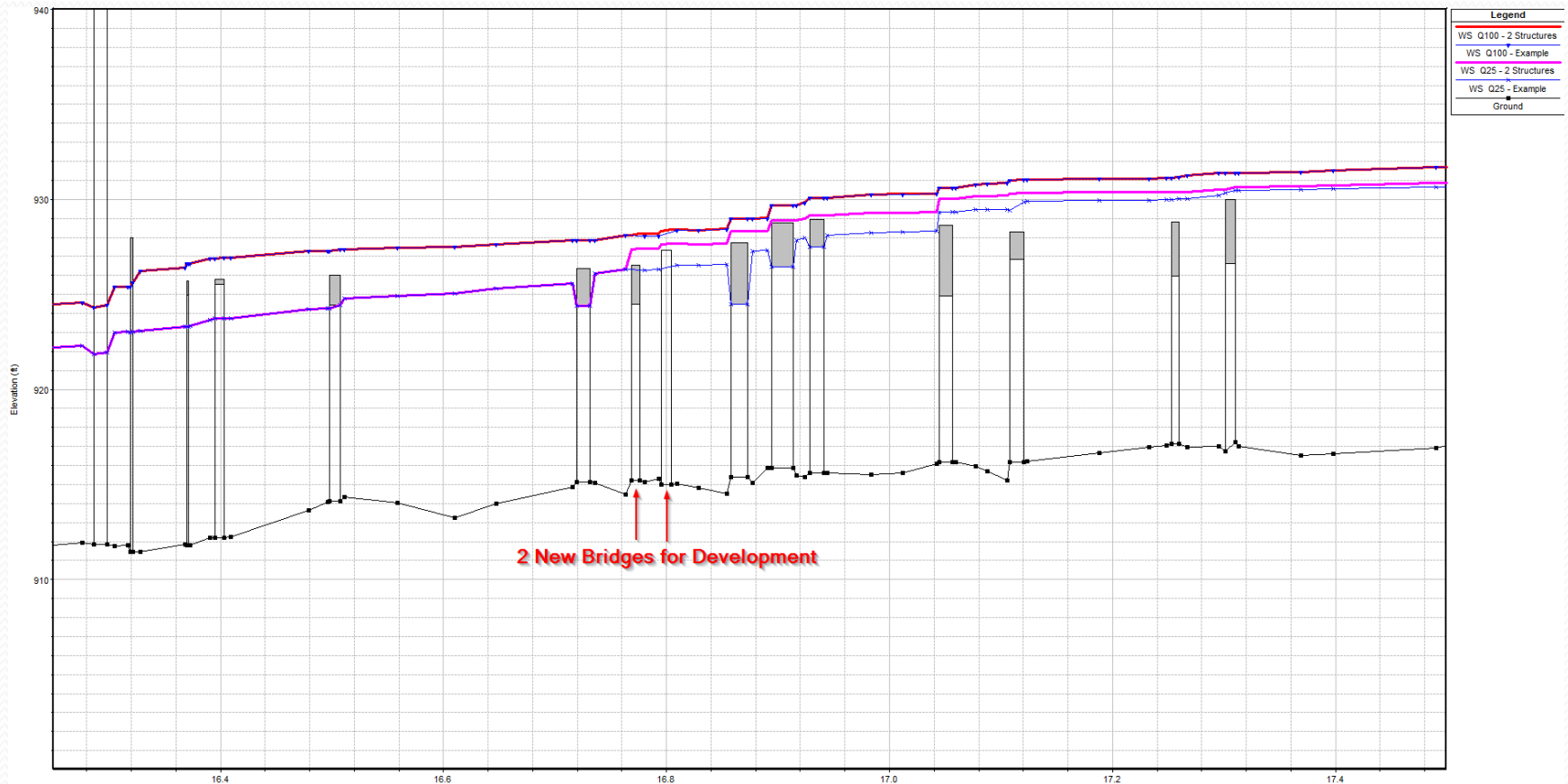
Matching historic flood events with H and H models

- Make record of Variables
 - Season
 - Vegetation (cover)
 - Ground condition (moisture)
 - Conveyance condition
- High water marks

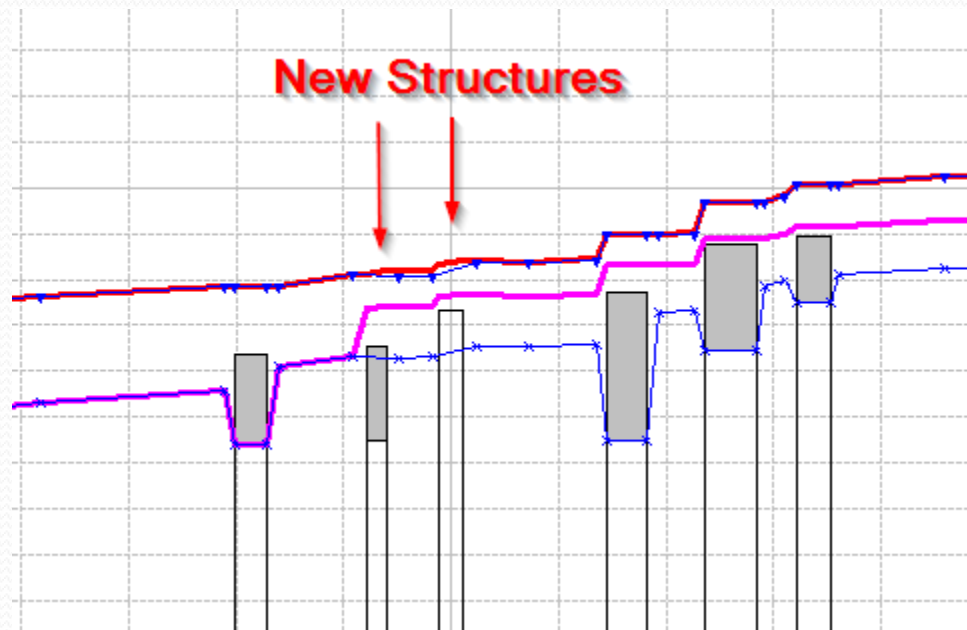
Is regulating floodplains using the 100-year frequency flood event the whole story?

- Actual Example
- Floodplain Ordinances
- What kind of things do you find in floodplains in IN?
- Frequency of Damage

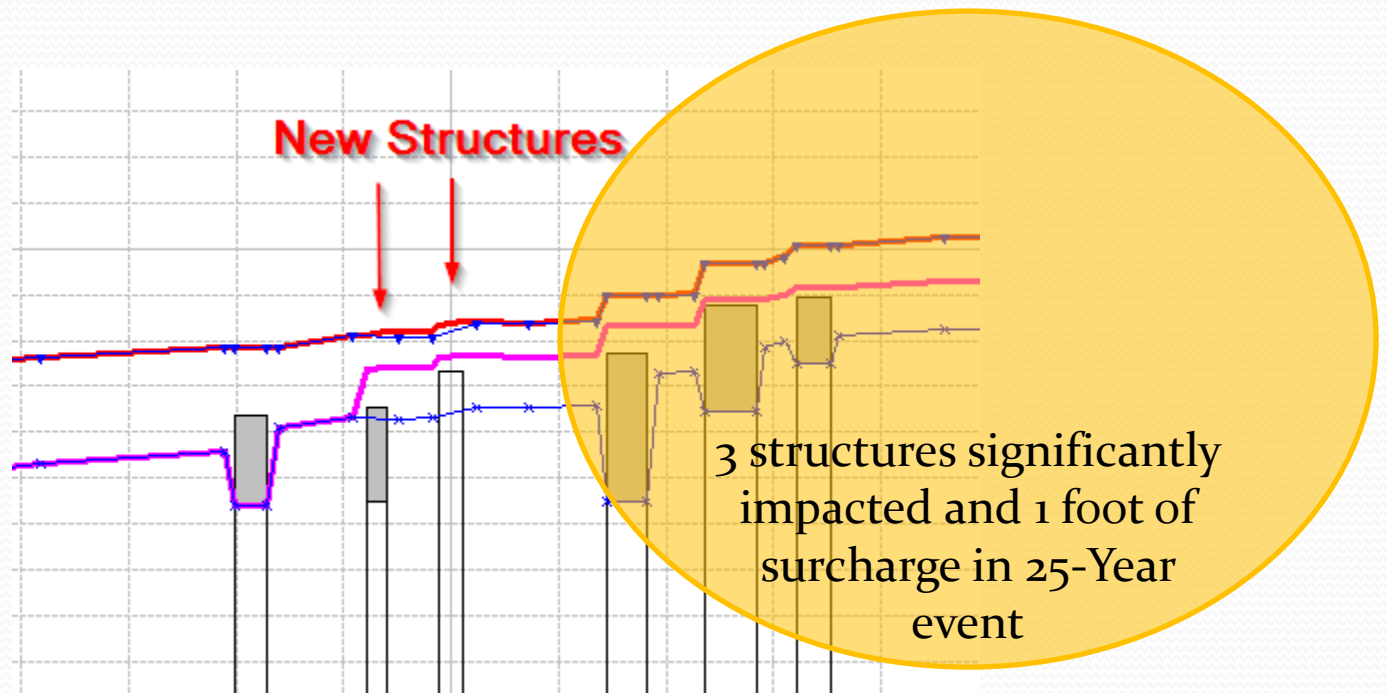
Backwater Analysis Example



Backwater Analysis Example



Backwater Analysis Example



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