

Onion Creek Flood Mitigation Feasibility Study

November 14, 2017

City of Austin
Watershed Protection Department

Presentation Topics

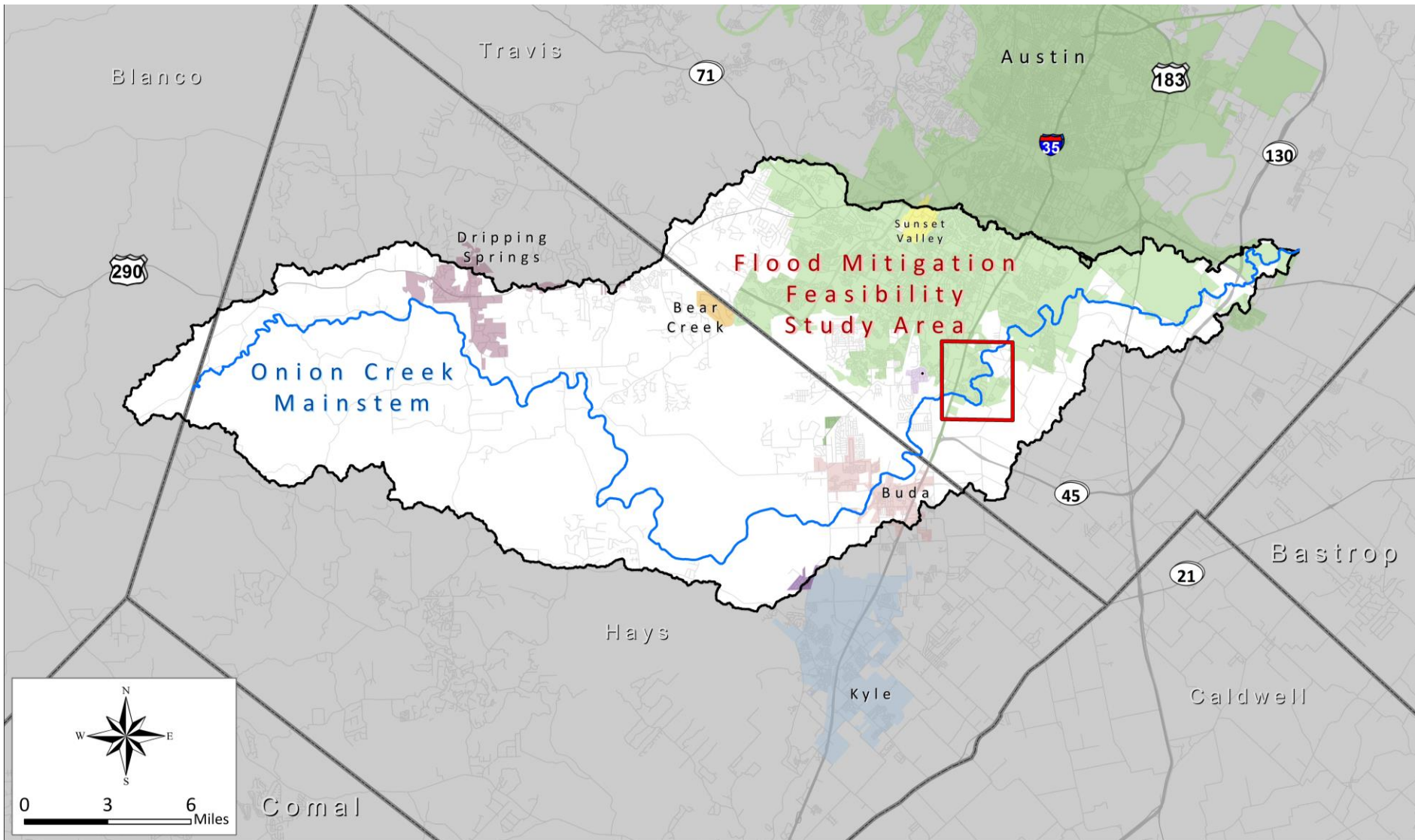
- Background & Flood Risk
- Engineering Study Results
 - Final Alternatives
 - Evaluation Criteria
 - Recommended Solution
- Next Steps



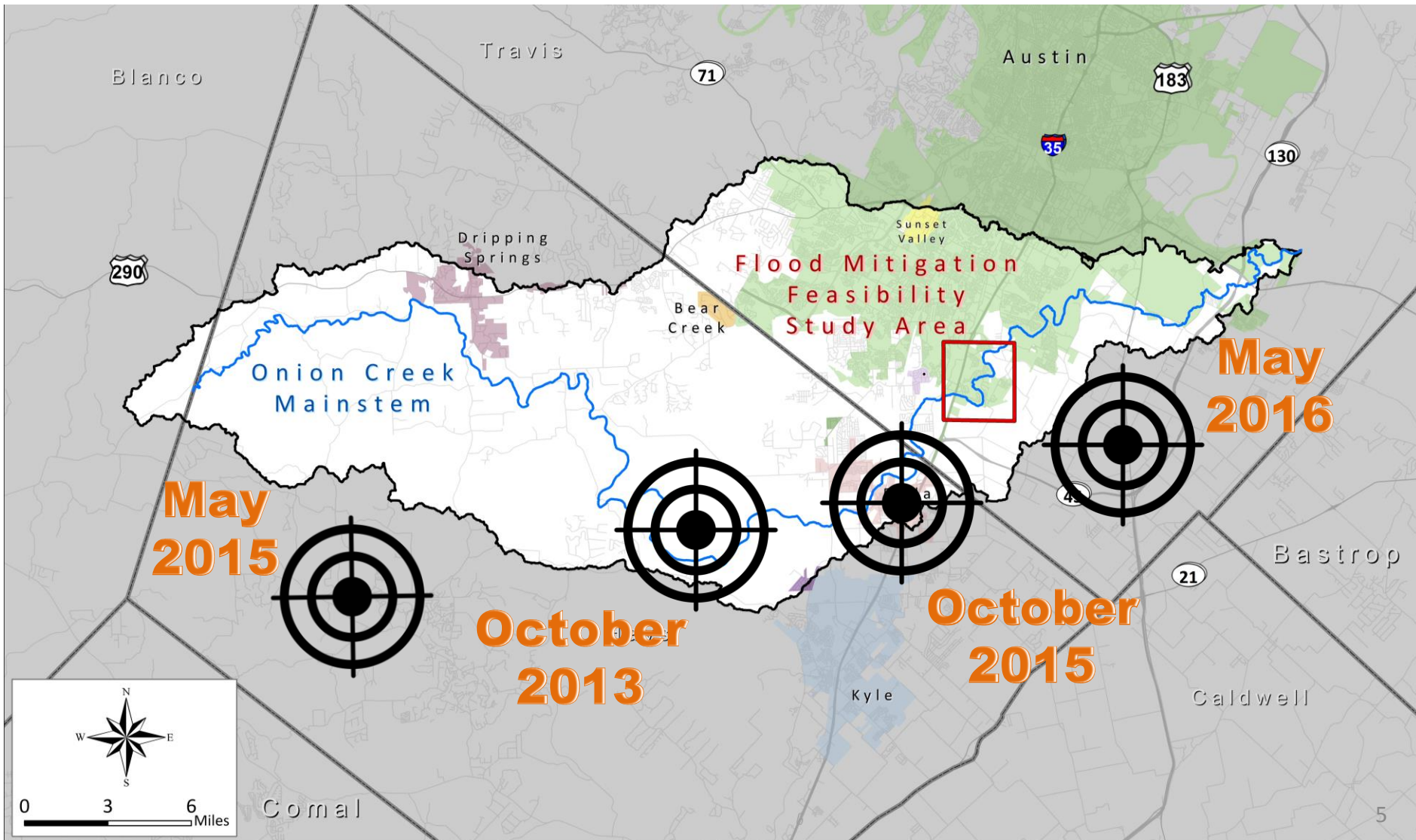


Background & Flood Risk

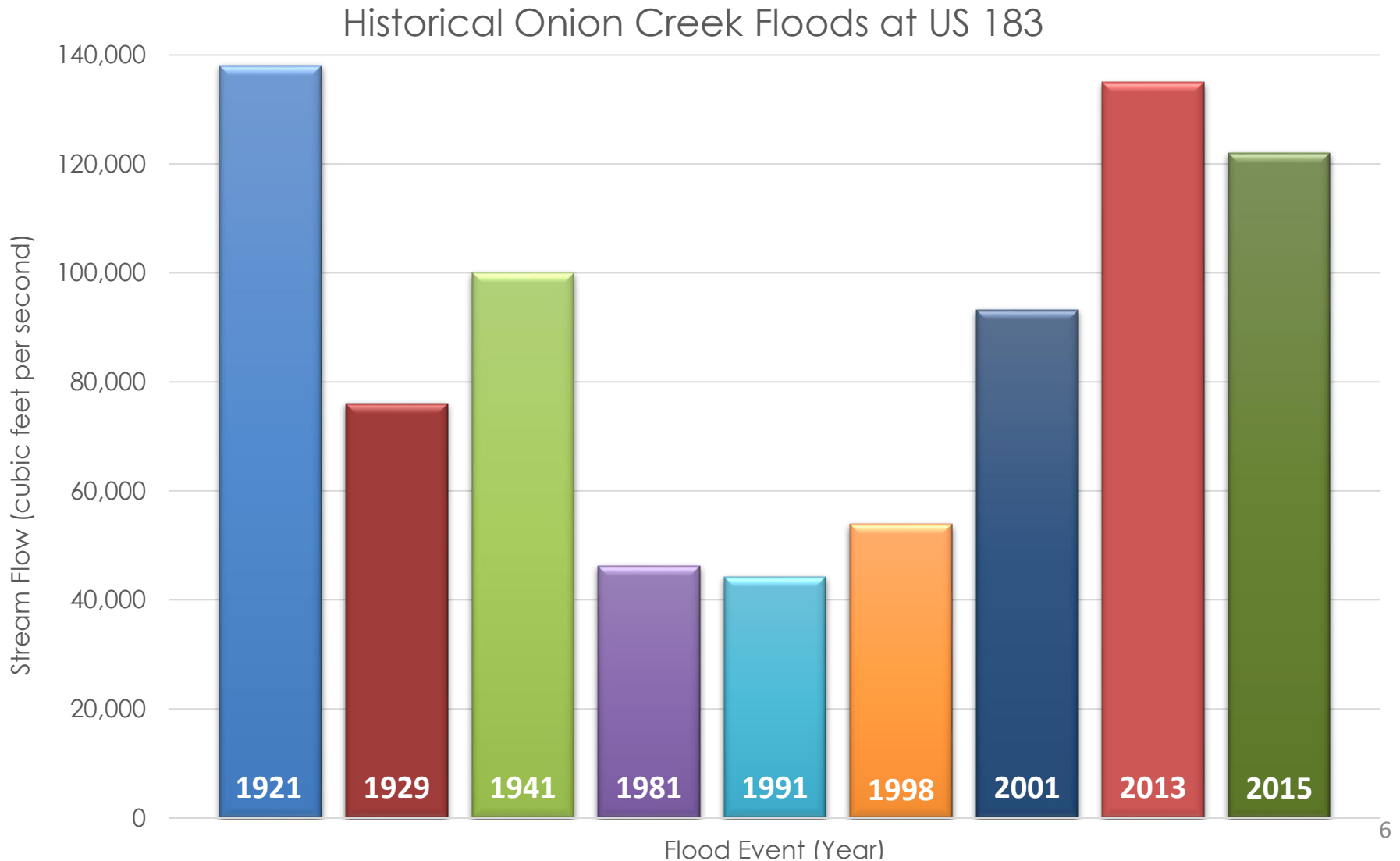
Onion Creek Watershed



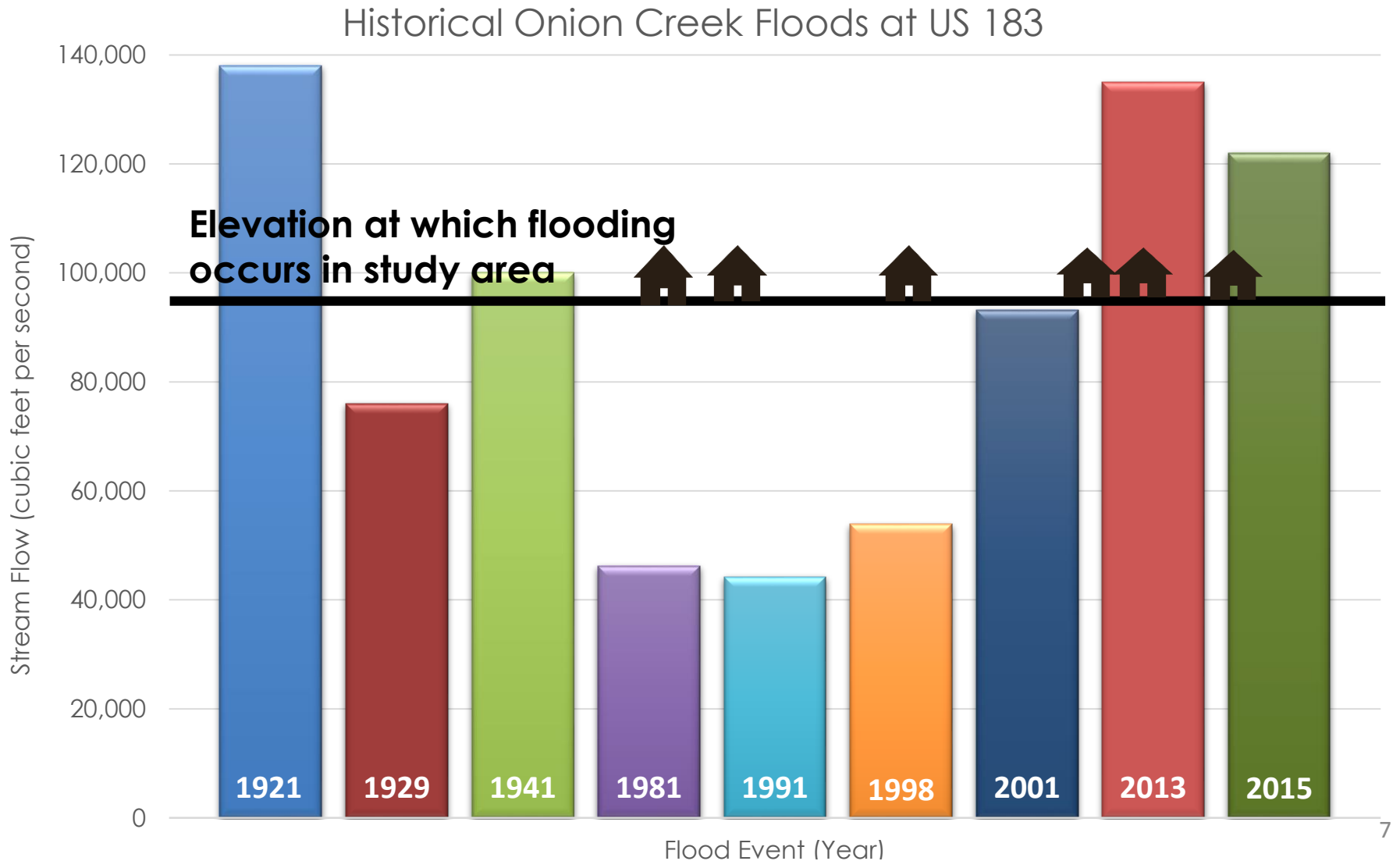
Flood Risk: Where the rain falls matters



Flood Risk: How much rain matters

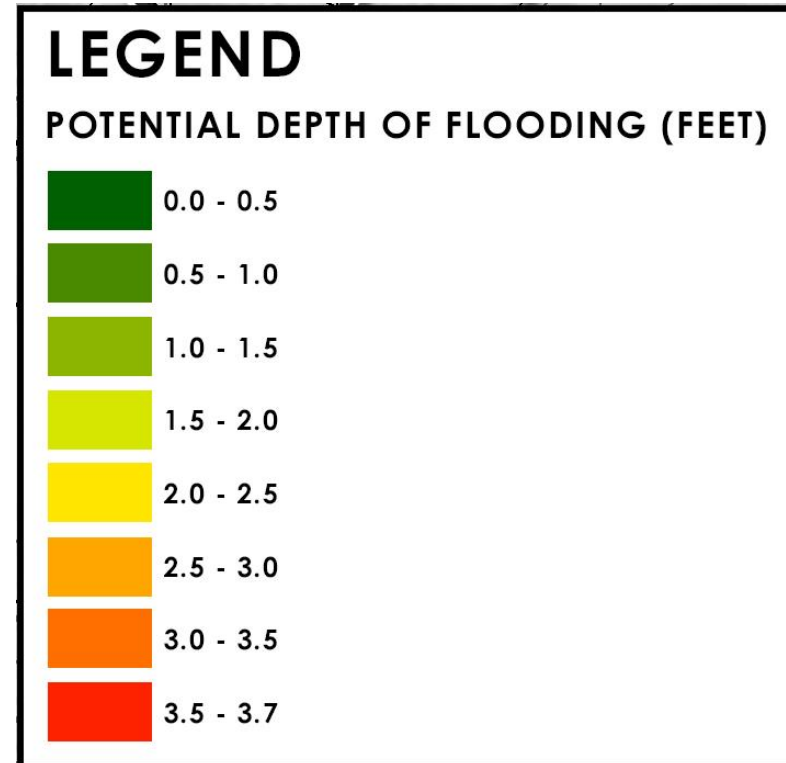


Flood Risk: How much rain matters



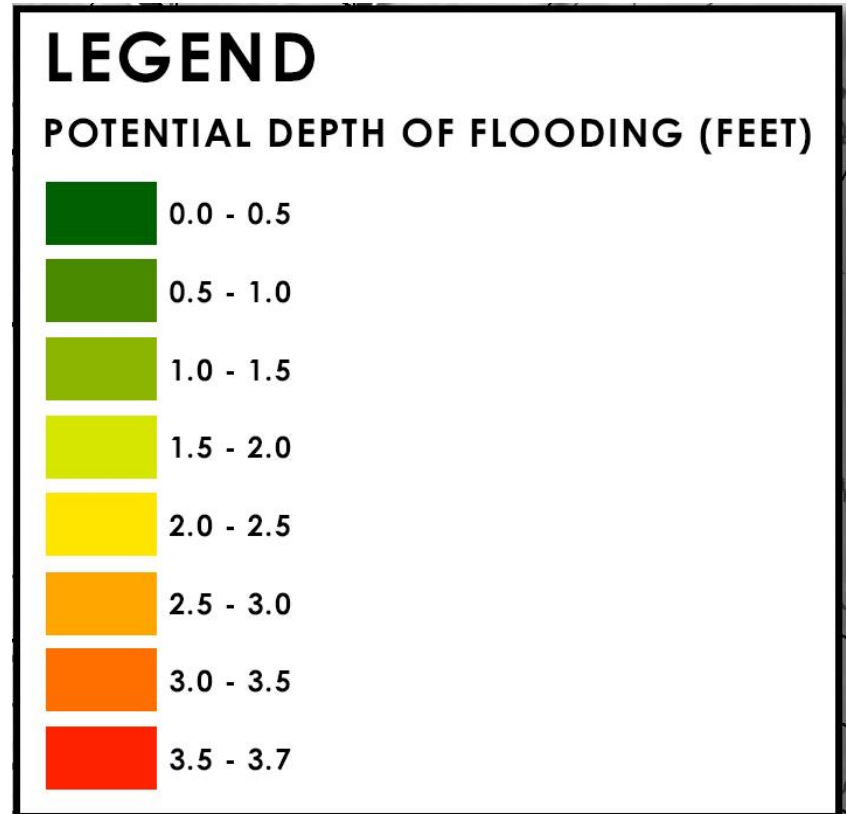
Existing Condition 100-year Flood Risk

Pinehurst Neighborhood (115 houses at risk of interior flooding)



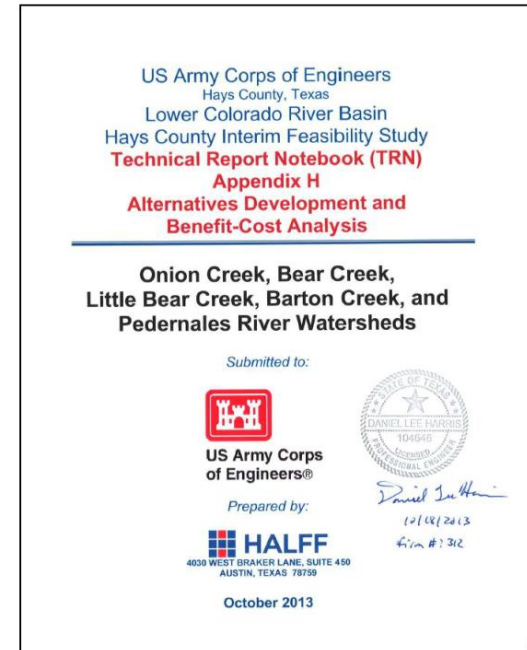
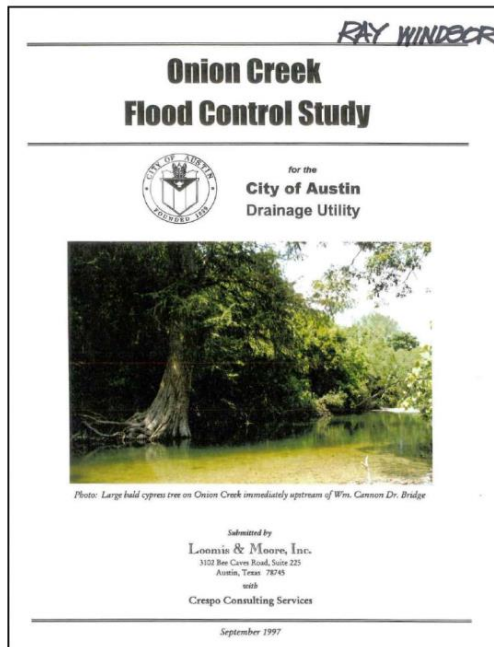
Existing Condition 100-year Flood Risk

Wild Dunes Neighborhood (23 houses at risk of interior flooding)



Previous Studies

- 1997 – Loomis and Moore (City of Austin)
- 2006 – U.S. Army Corps of Engineers (Travis County, City of Austin)
- 2013 – U.S. Army Corps of Engineers (Hays County)



Engineering Study Results

Final Alternatives

- **Stand-Alone Options**

- Centex West Detention Pond
- Channel Clearing
- Buyouts
 - Pinehurst Neighborhood
 - Wild Dunes Neighborhood

- **Combined Options**

- Centex West Detention Pond with Channel Modifications
- Pinehurst Flood Protection Wall with Channel Modifications
- Pinehurst Flood Protection Wall with Wild Dunes Buyouts

Evaluation Criteria

- Flood Risk Reduction Benefits & Costs
- Time of Implementation
- Neighborhood Input
- Funding Constraints
- Environmental Impacts
- Land & Easement Acquisition Required
- Complexity of Permitting

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100-year Flood Risk Reduction

| | |
|--|-------------------|
| Buyouts | 138 houses |
| Floodwall with Wild Dunes Buyouts | 138 houses |
| Floodwall with Channel Modifications | 138 houses |
| Centex Pond with Channel Modifications | Up to 110 houses* |
| Centex Pond | Up to 78 houses* |
| Channel Clearing | 51 houses |

* Dependent upon rainfall being located upstream of pond

Time of Completion Once Funded

| | |
|--|---------------|
| Buyouts | 2 years |
| Channel Clearing | 2 to 5 years |
| Floodwall with Wild Dunes Buyouts | 5 to 7 years |
| Floodwall with Channel Modifications | 7 to 10 years |
| Centex Pond with Channel Modifications | Over 10 years |
| Centex Pond | Over 10 years |

Final Evaluation Scores

| Alternative | Score |
|--|-------|
| Buyouts | 455 |
| Pinehurst Floodwall & Wild Dunes Buyouts | 350 |
| Channel Clearing | 270 |
| Pinehurst Floodwall & Wild Dunes Channel Modifications | 245 |
| Centex West Regional Pond | 235 |
| Centex West Pond & Wild Dunes Channel Modifications | 180 |

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Recommended Solution – Buyouts

- 138 houses at risk of interior flooding in a 100-year event
 - 10 buyouts currently underway per Council direction
 - 128 houses remaining at risk
- Contingent upon Council approval of use of funding
- Funding is available to begin buyout process for 45-50 additional houses in 2018 (Phase 1)
- Prioritization based on flood risk

Next Steps

Next Steps

Neighborhood Meeting

November 14

Update to Environmental Commission

December 6*

City Council Discussion & Consideration

TBD

* Date not yet confirmed

Questions?

City of Austin
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