



Lake Lewisville Dam

Transportation and Natural Resources
Committee

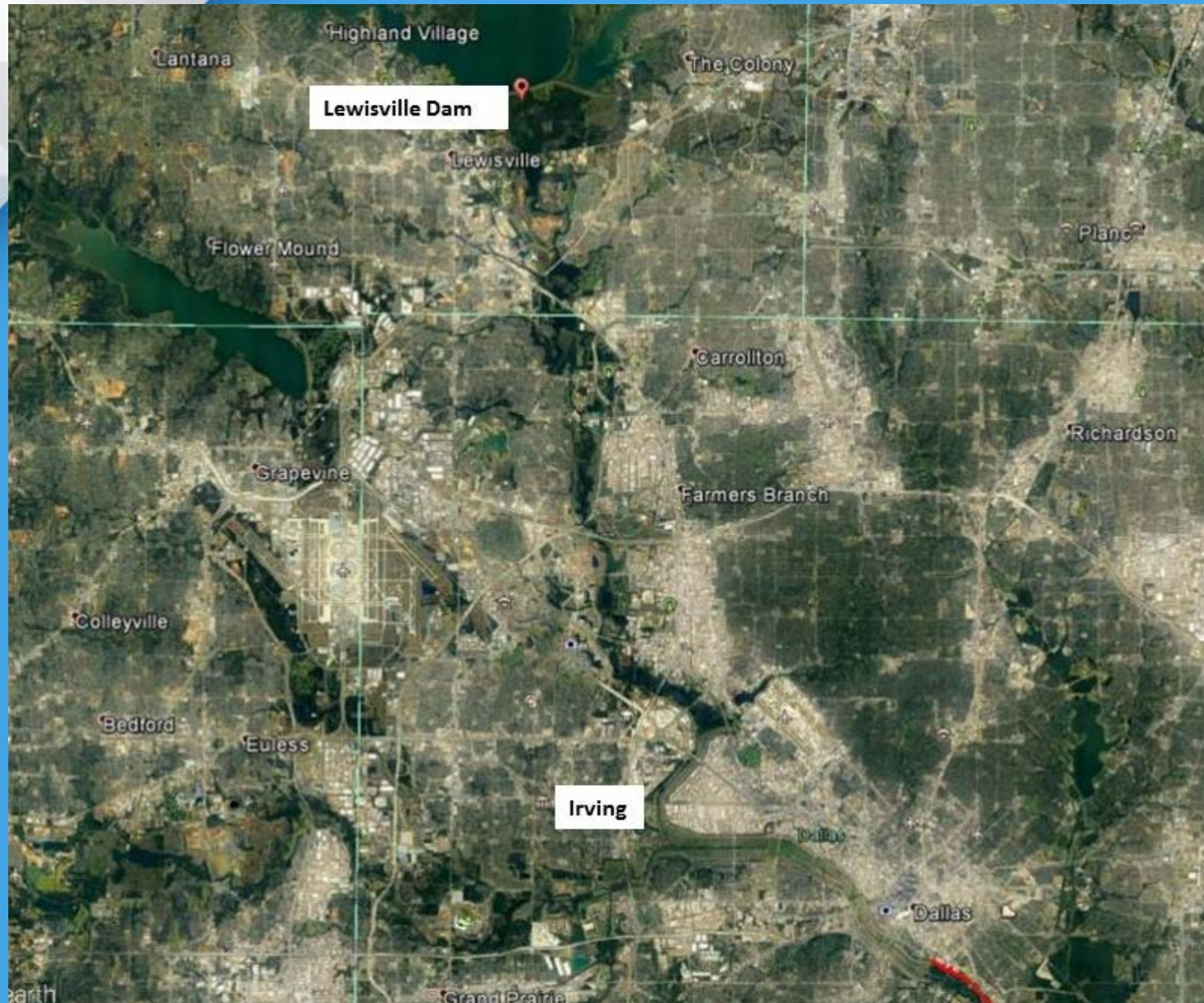
January 31, 2018

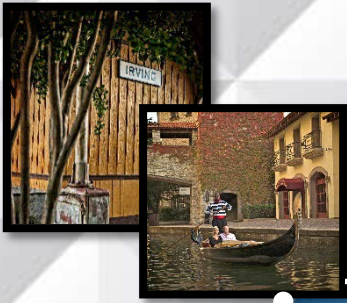


Outline

- US Army Corps of Engineers Lake Lewisville Dam Overview
- Levees/flood control districts and improvements (CIP Info)
- City of Irving Preparedness(EM Efforts)

Lake Lewisville Map





Lake Lewisville Dam

- The Lewisville Dam continues to operate as intended, providing critical flood damage reduction benefits, drinking water supply, recreation and natural resources conservation
- The Lewisville Dam Safety Modification Study is complete, concluding a few things need to be addressed
 - Install and/or expand seepage collection system in 2 areas
 - Install a filter around the conduit outlet
 - Anchor uncontrolled spillway slab



Lake Lewisville Dam

- The slide repair (Dallas Morning News story) is complete
- Ongoing Activities
 - Host annual dam safety meeting/drill
 - Maintain security systems and protocols
 - Annual preventive maintenance items

Lake Lewisville Dam

Slope Failure 2016



Before



Lake Lewisville Dam

Slope Failure 2016



After

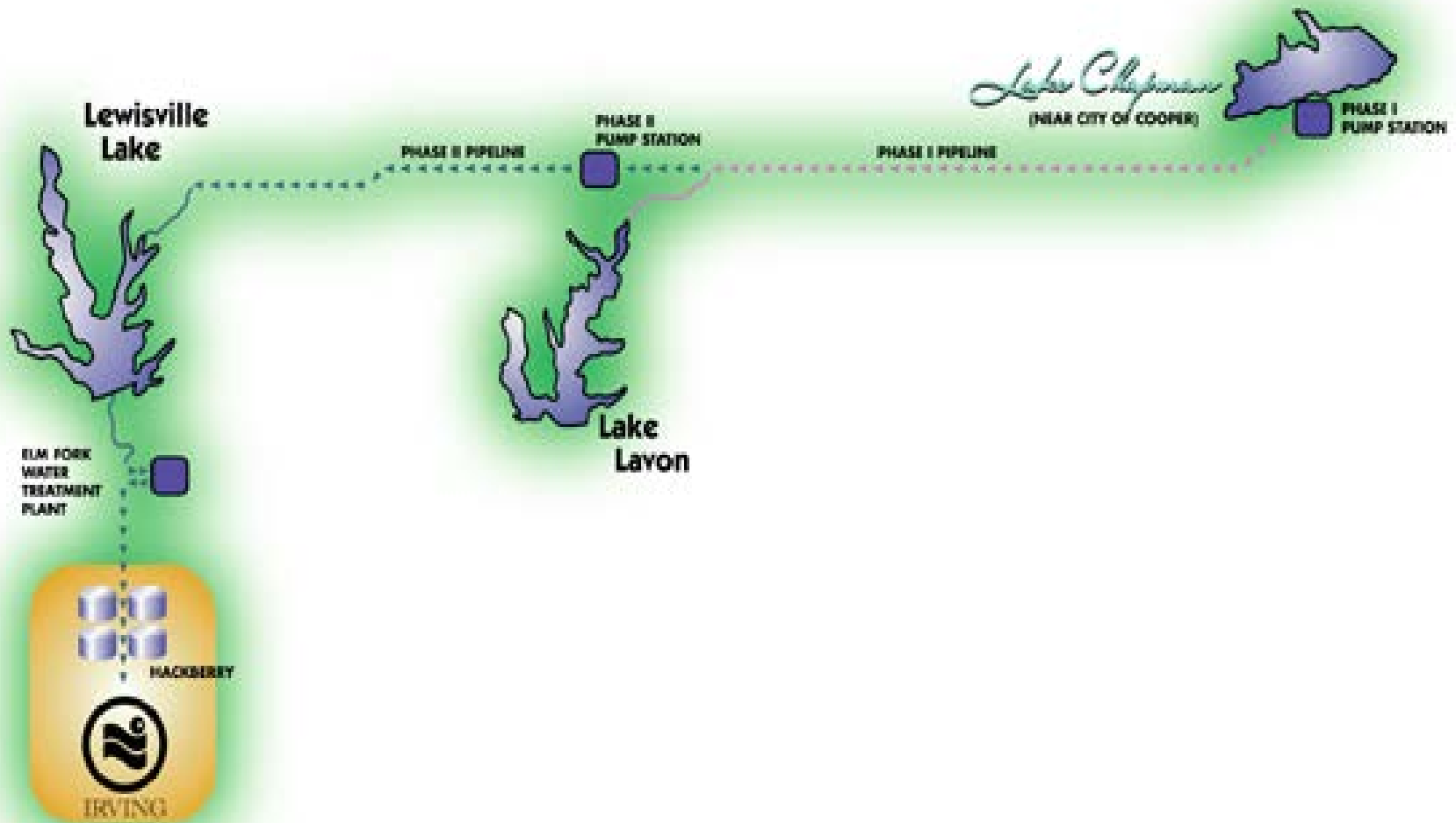




Lake Lewisville – Drinking Water

- The City of Irving uses Lake Lewisville as a drinking water supply storage facility
- Water is pumped from Lake Chapman to Lake Lewisville where it is released down the Elm Fork of the Trinity River
- City of Dallas draws the water into their Elm Fork Water Treatment Plant and treats Irving's drinking water
 - The drinking water is transported via pipelines to three Irving Pump Stations to distribute to the citizens

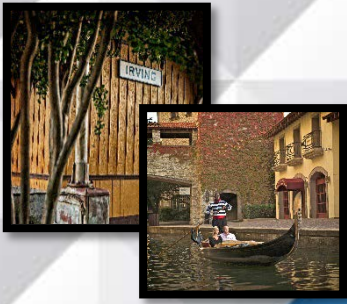
Lake Lewisville – Drinking Water





Elm Fork Drainage

- The major tributaries draining to the Elm Fork are Grapevine Creek, Hackberry Creek and Cottonwood Creek.
 - This covers all of north Irving and most of north central Irving.
- The three Flood Control District along the Elm Fork are all actively maintaining the creeks and drainage
 - Their operations to dredge and maintain the storm water drainage systems resulted in 27,000 cubic yards of silt removed from the creeks during 2017.



Flood Control Districts

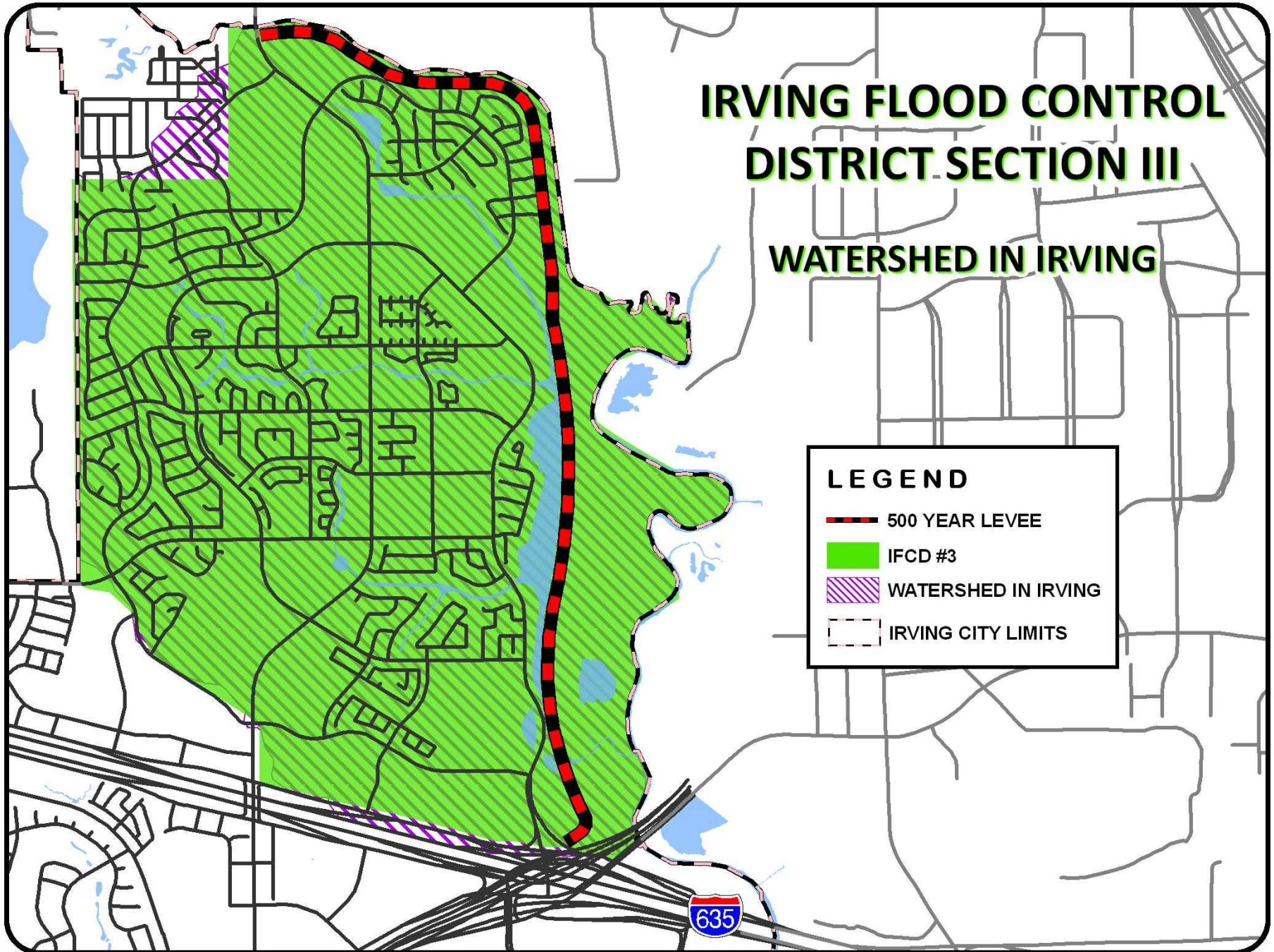
- There are three flood control districts along the Elm Fork
 - Irving Flood Control District #3 – Valley Ranch Area
 - Dallas County Utility and Reclamation District – Las Colinas Urban Center
 - Irving Flood Control District #1 – Dr. Pepper area
- All three have certified FEMA levee's to protect each district's property
- City staff attends the district meetings and is an active partner with the districts.

IRVING FLOOD CONTROL DISTRICT SECTION III

WATERSHED IN IRVING

LEGEND

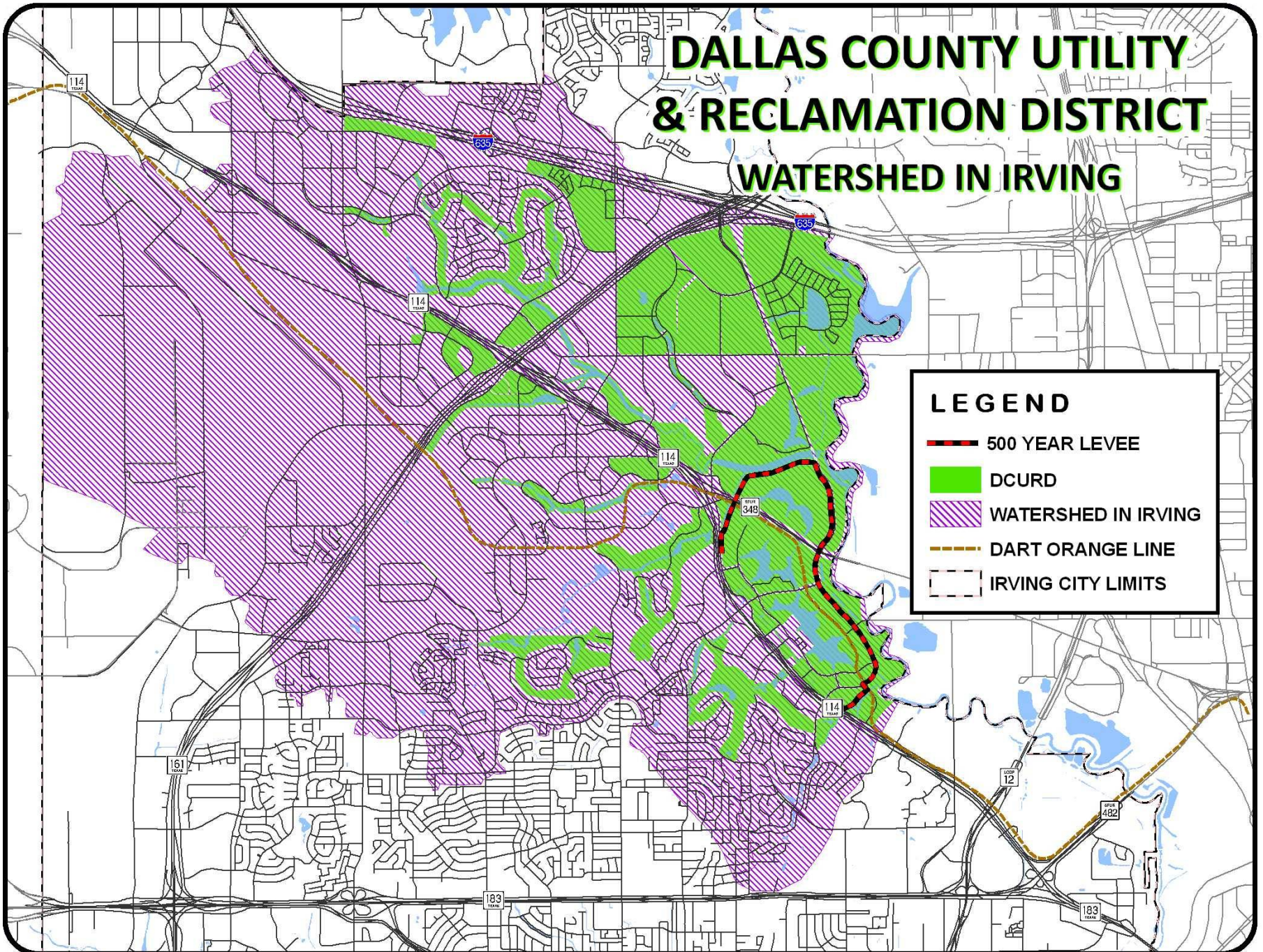
- 500 YEAR LEVEE
- IFCD #3
- WATERSHED IN IRVING
- IRVING CITY LIMITS



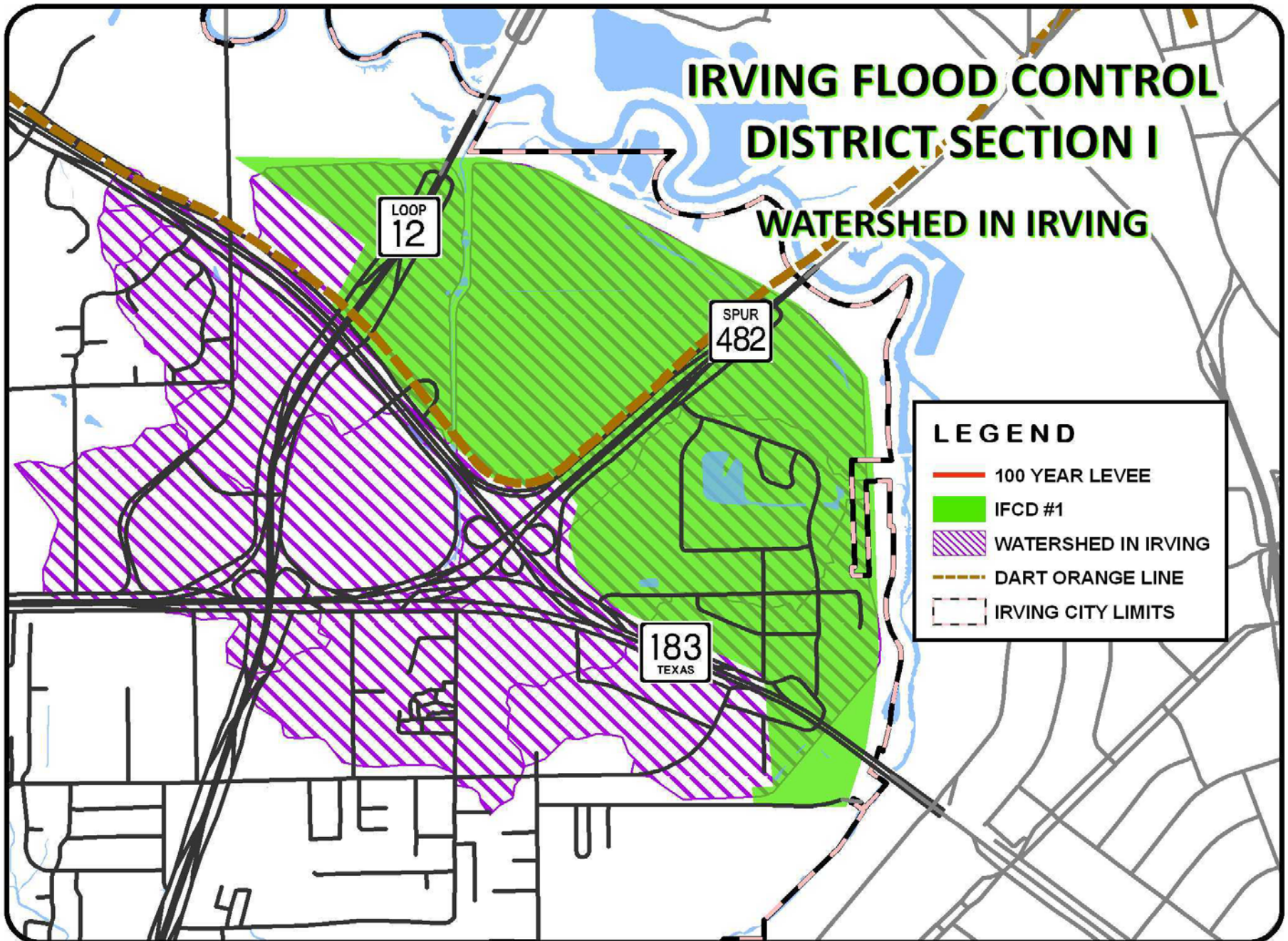
DALLAS COUNTY UTILITY & RECLAMATION DISTRICT WATERSHED IN IRVING

LEGEND

- 500 YEAR LEVEE
- DCURD
- WATERSHED IN IRVING
- DART ORANGE LINE
- IRVING CITY LIMITS



IRVING FLOOD CONTROL DISTRICT SECTION I WATERSHED IN IRVING





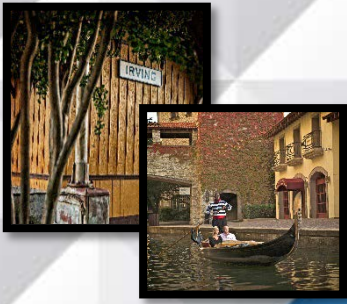
Flood Control Improvements

- All three flood control districts along the Elm Fork maintain their levees very well
 - Districts are quick to respond to soil slides
 - The districts keep their levees in a clean mown condition to insure they are aware of any cracking, settling or wet areas
 - All districts are proactive in dredging their interior sumps to insure adequate storm water retention
 - City of Irving contributes to the districts to assist in maintenance operations
- All have continued to make repairs and upgrades to the pumps and sluice gates
- The districts have long term plans to address ongoing equipment upgrades to insure they are in a high level of readiness



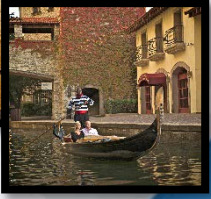
Emergency Management Efforts

- City of Irving Emergency Operations Plan
 - Basic Plan with 22 functional annexes
 - Addresses the effect from any disaster “all-hazards approach”
- USACE Lewisville Lake Dam Emergency Action Plan (EAP)
- DCURD Flood Control District EAP



Emergency Management Efforts

- Communications and procedures in place via the planning process to notify impacted entities as well as the public
- Ongoing relationships with local, state and federal partners
- Table-top exercises to test response capabilities to flooding events



Discussion