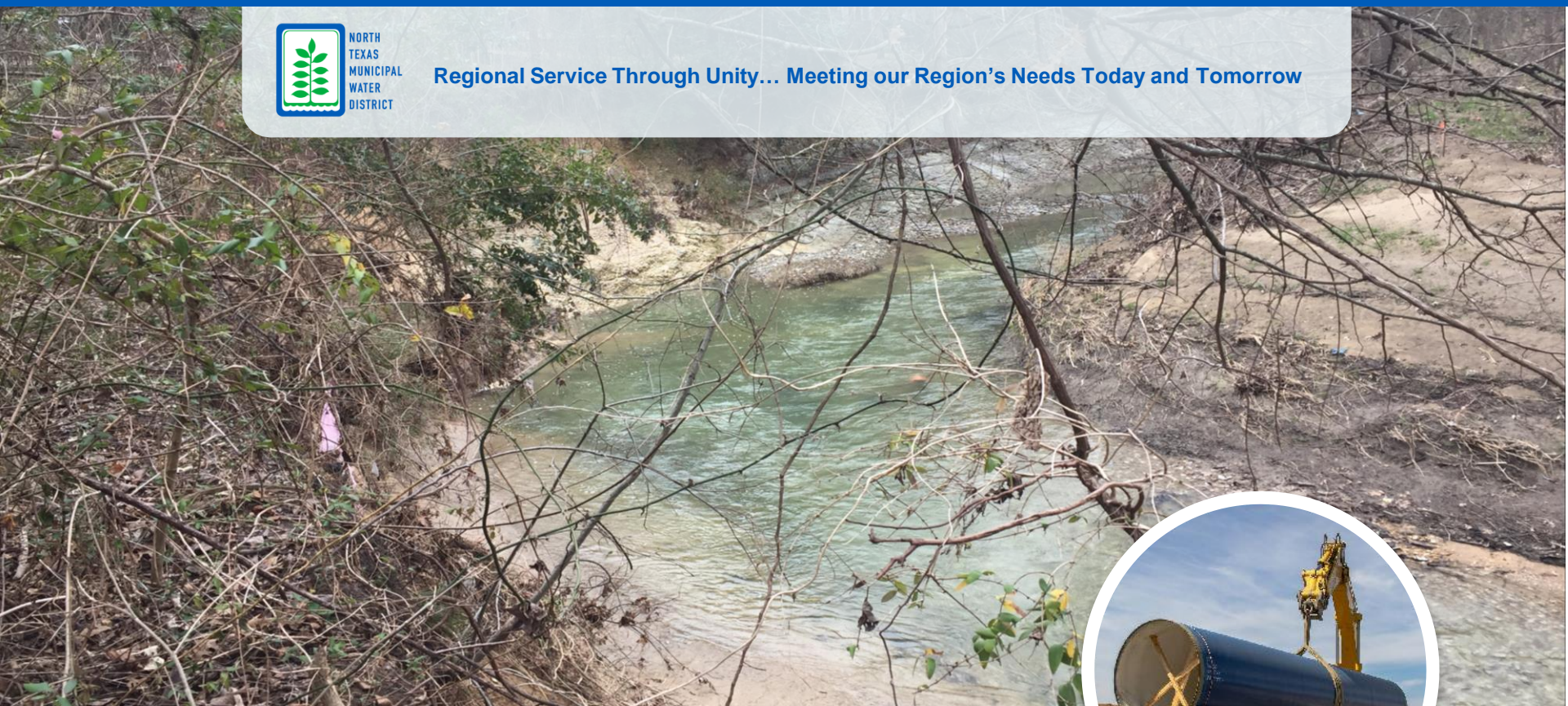




Regional Service Through Unity... Meeting our Region's Needs Today and Tomorrow



## MCKINNEY-PROSPER TRANSFER SEWER

January 21, 2020

McKinney Council





# MCKINNEY PROSPER TRANSFER SEWER PIPELINE PROJECT

## Purpose and Objective:

- Explain the NTMWD-preferred options and routing alternatives for the conveyance pipeline along Wilson Creek
- To update the City Council on the recommended alignment in order to convey wastewater for McKinney's long term needs and to avoid future projects in this corridor





# MCKINNEY PROSPER TRANSFER SEWER PIPELINE PROJECT

## Project Overview (1 of 2)

- Install Regional (NTMWD) conveyance gravity interceptor to provide wastewater capacity for projected growth for McKinney and the sewer-shed through build-out conditions
- **2015 Upper East Fork Interceptor System Evaluation by CH2M Hill**
  - Identified need for additional capacity to transport flows from western McKinney to Wilson Creek Regional Wastewater Treatment Plant
  - Proposed interceptor extended from Highway 380 and Ridge Road to Wilson Creek Lift Station (near former McKinney landfill)



# MCKINNEY PROSPER TRANSFER SEWER PIPELINE PROJECT

## Project Overview (2 of 2)

- **2017 Kimley Horn and Associates developed preliminary alignment**
  - Included one Point of Entry (POE) at Highway 380
  - NTMWD decision made in 2017 to adjust planning horizon (15 years) to accommodate buildout flow projections for the City and add additional POE, resulting in increased size of the interceptor
- October 2018 Council workshop briefing
- **2019 Halff Associates, Inc. facilitates final design and construction**
  - Phase I Wilson Creek Lift Station to US 75
  - Phase II US 75 to Hardin Boulevard
  - Phase III Hardin Boulevard to US 380



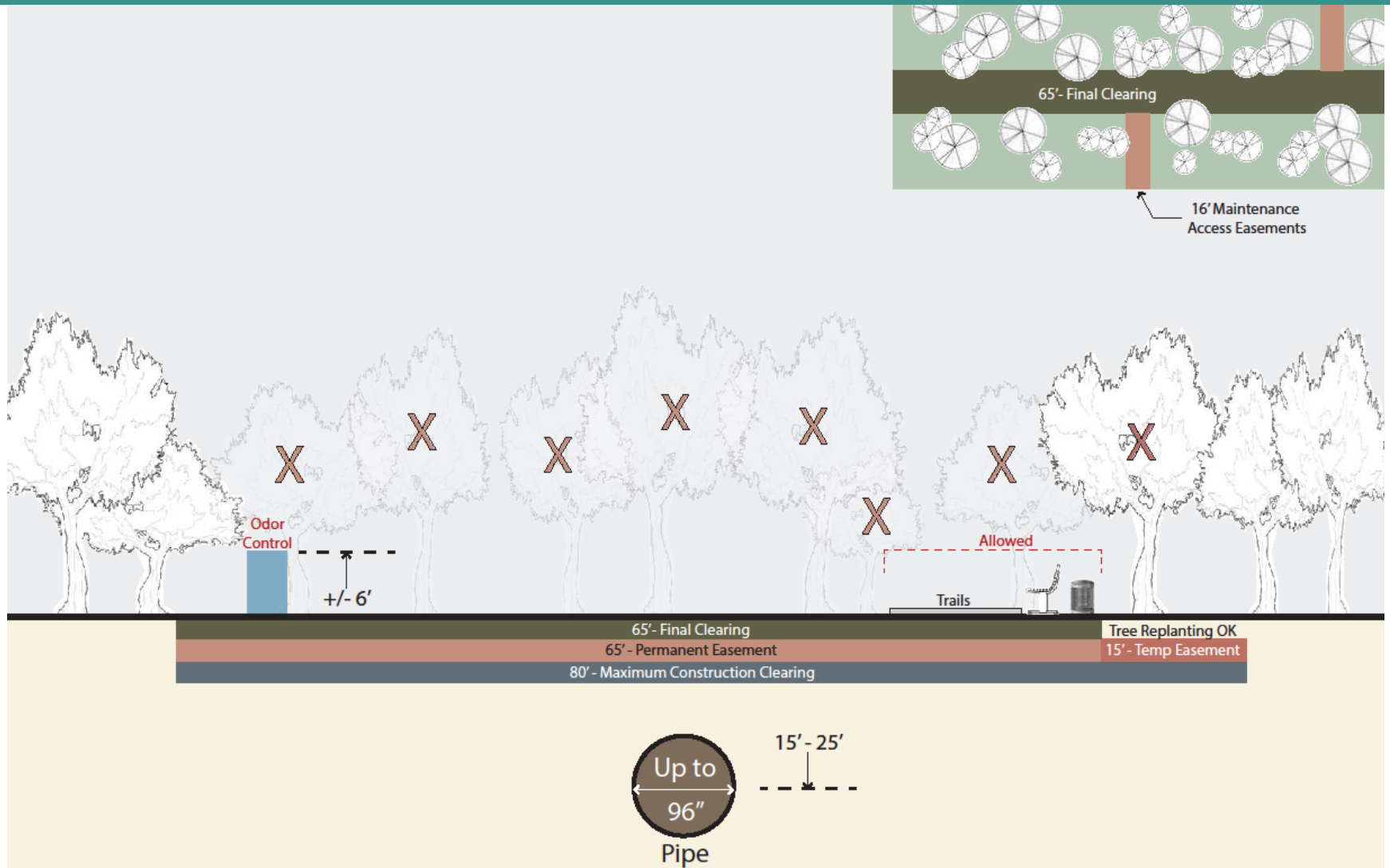
# MCKINNEY PROSPER TRANSFER SEWER PIPELINE PROJECT

## NTMWD Commitments: (Oct 2018 Council workshop)

- Identify social and environmentally sensitive areas and work with the City to select proper alignments.
- Evaluate trenchless construction methods when necessary to reduce impacts.
- Work with City to coordinate with residents during detailed design
- Mitigate tree removal, per City Standards
- Coordinate with City to understand sensitive parkland areas
- Coordinate with City on impacts to future park developments



## EXAMPLE OF CLEARING AND EASEMENT IMPACTS







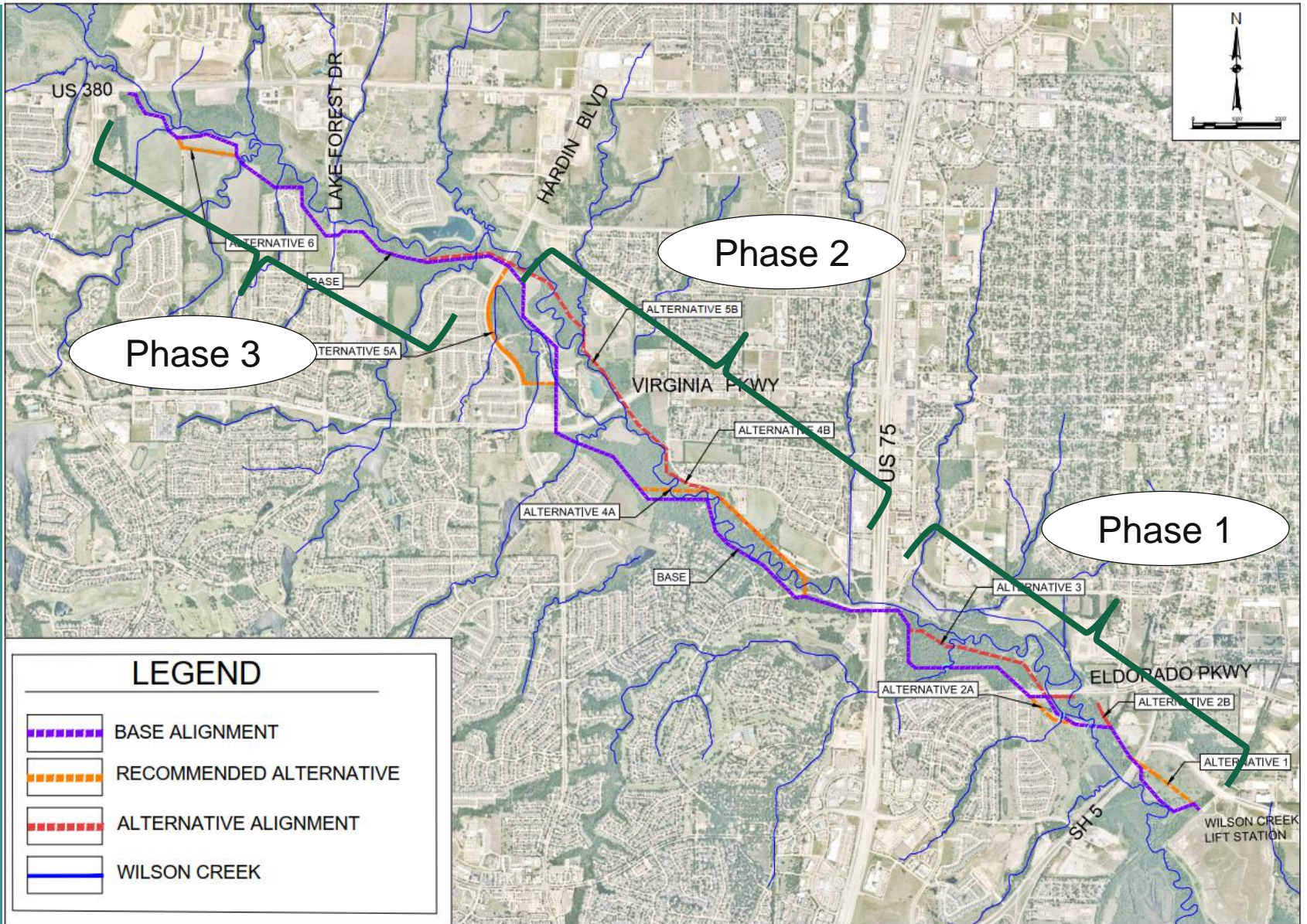
# MCKINNEY PROSPER TRANSFER SEWER PIPELINE PROJECT

## Benefits:

- Serves long term needs of McKinney and avoid future projects in the Wilson Creek corridor
- Restores existing City sewer capacity for fast-growing portion of McKinney
- Reduces surcharge, allowing improved hydraulic conditions in City sewers
- Provides opportunity to remove aerial creek crossings in City's system



# OVERALL ALIGNMENT





## Kimley Horn and Associates Pre-Design (August 2017-October 2018)

- **Identified and evaluated three corridors for feasibility**
- **Analyzed corridors based on:**
  - Developed areas, cemeteries, critical utilities, floodplain,
  - Corp of Engineers jurisdiction, areas of environmental impact, topography
- **District and City met during pre-design to identify and acknowledge sensitive parkland areas and features**
  - Assessed tree impacts
  - Reviewed potential buffers between the proposed alignment location and existing land uses
  - Documented usage, programming and activity details within the existing parks
  - Acknowledged future parks development

## Half Alignment Walk and City Workshop (January 2019- Current)

### Alignment Memo

- Base alignment surveyed
  - Identified changes needed at Creek crossings
- Tree survey complete on Phase I and II
- Alignment adjusted to acknowledge the following:
  - Impact on quality and specimen trees
  - Buffering between the proposed alignment location and existing land uses
  - Coordination required to accommodate existing park usage, programing and activity

### City Workshops

- Review revised alignment, easements, added POEs and reached consensus
- Additional feedback from City staff incorporated into Feasibility Report.

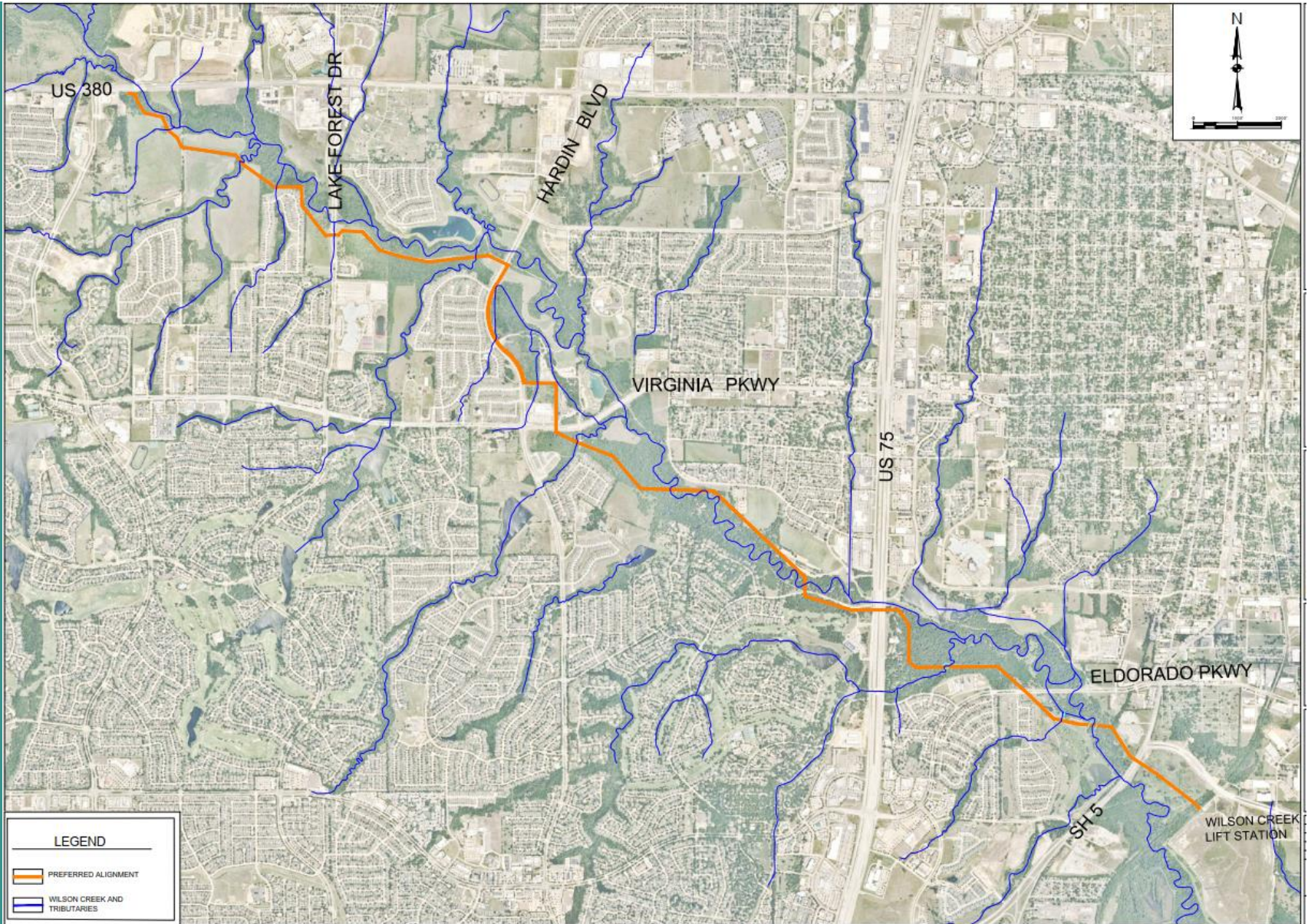


## Feasibility Report

- **Alignment alternatives evaluated on**
  - City impacts and District maintenance impacts
  - Route Visibility and Odor Control, Park Impacts
  - Tree Impacts and Long-term Erosion Control
  - Depth, Accessibility, and Hydraulics
- Alignments given weighted percent based on scoring system for each criteria, with highest weighted percent equating to most feasible alignment option



# OVERALL RECOMMENDED ALIGNMENT





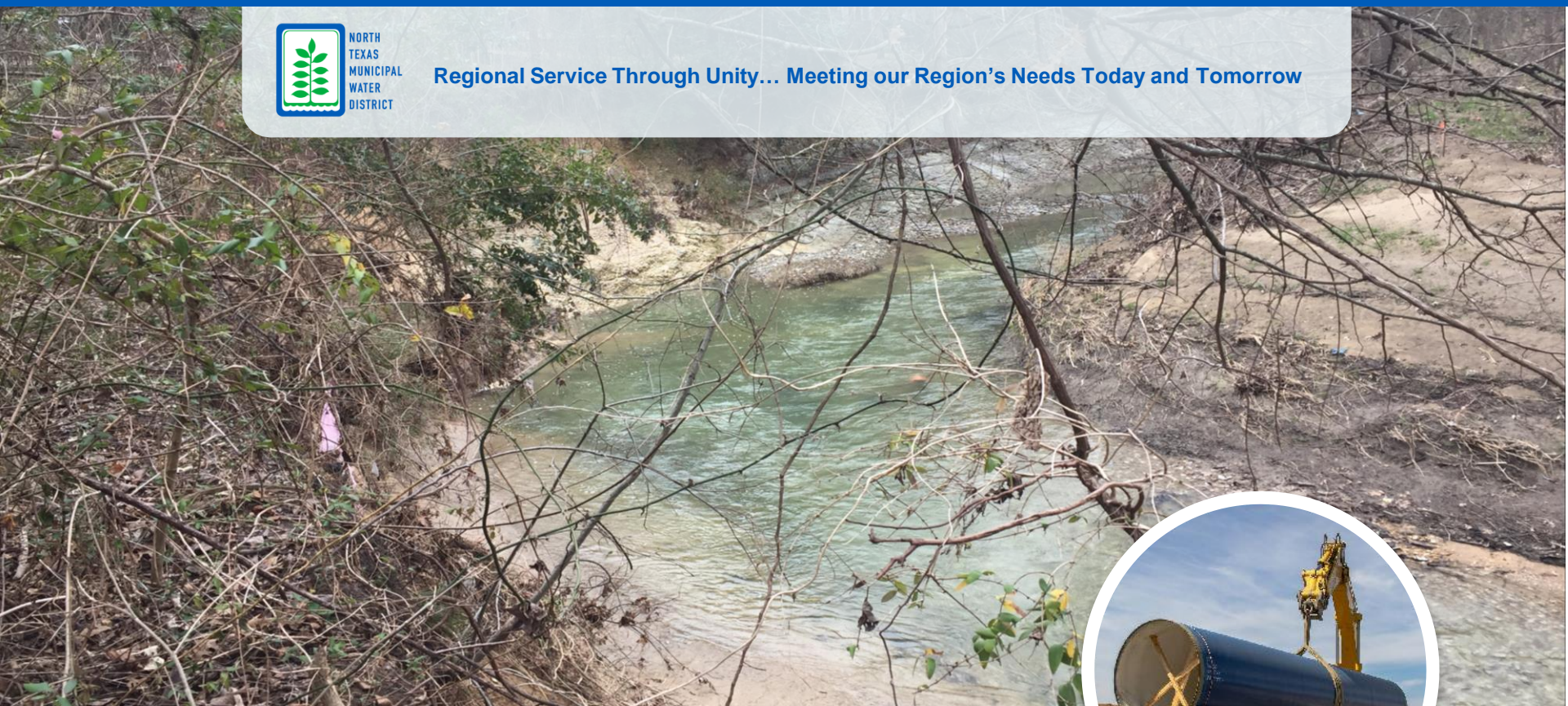
Project	Number of Points of Entry	Capacity	Project Scope	Construction Cost
Project Increased to Buildout flows and added Hardin point of entry	<ul style="list-style-type: none"> <li>One at HWY 380</li> <li>One at Hardin Blvd</li> </ul>	37 MGD from HWY 380 to Hardin Blvd  54 MGD from Hardin Blvd to Wilson Creek LS	10,500 LF of 48" pipe 10,200 LF of 54" pipe 9,000 LF of 66" pipe 3,900 LF of 72" pipe	\$30,126,000
Current Preferred Alignment after initial field investigations and City Coordination	<ul style="list-style-type: none"> <li>One at HWY 380</li> <li>One at Hardin Blvd</li> <li>Three in Phase I construction due to conflict between the existing and proposed interceptor</li> <li>Four stub-out locations for city to remove aerial crossings.</li> </ul>	37 MGD from HWY 380 to Hardin Blvd  54 MGD from Hardin Blvd to Wilson Creek LS	10,550 LF of 48" pipe 11,000 LF of 54" pipe 11,300 LF of 72" pipe 200 LF of 76" pipe 1,400 LF of 90" pipe	\$38,150,000

- February – April 2020 Additional field investigations, easement verbiage and compensation negotiations
- June 2020 – Public information meeting, 60% design submittal
- Spring 2021 – Starts Construction Phase I
- Summer 2021 – Starts Construction Phase II
- Spring 2022 - Starts Construction Phase III





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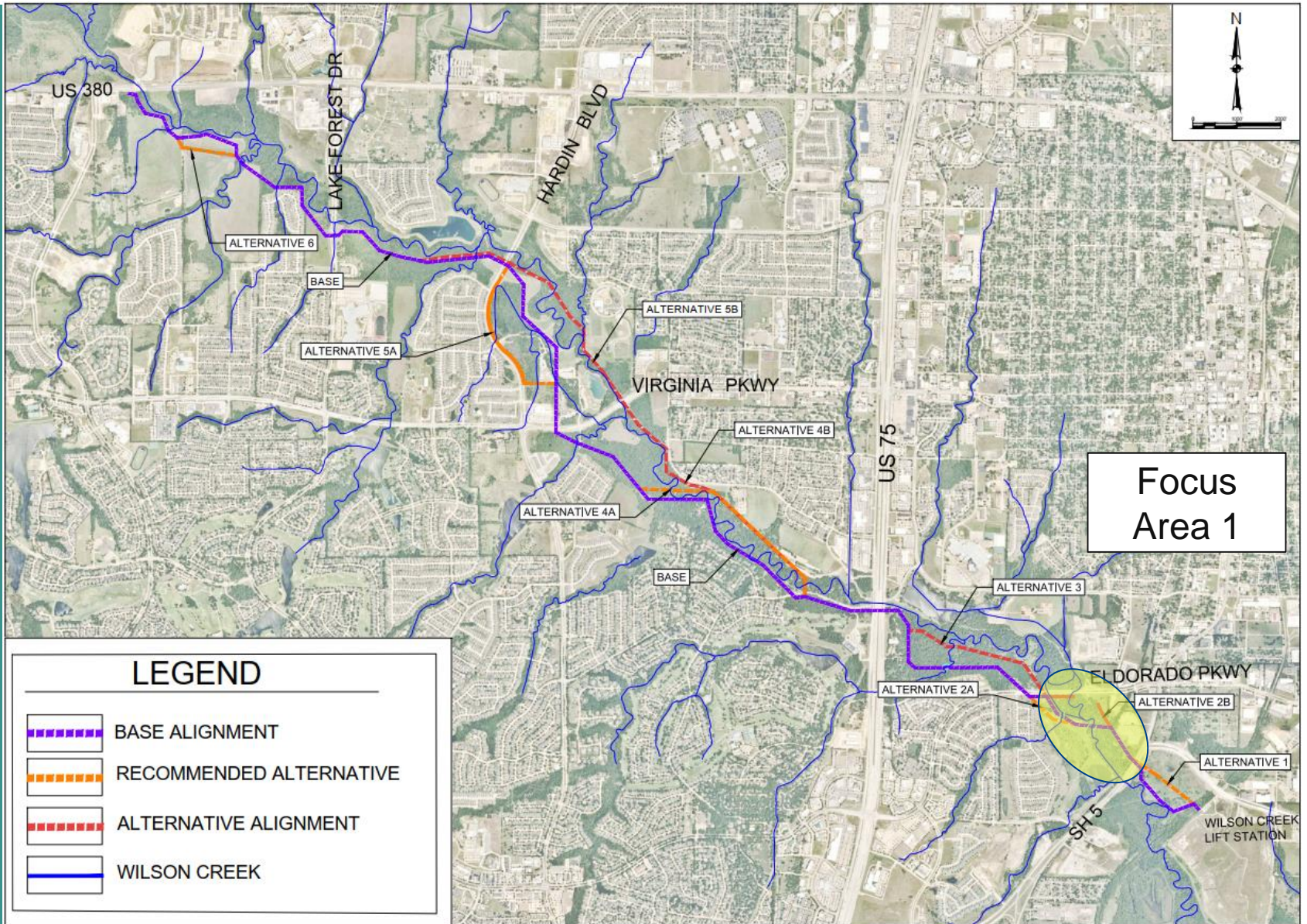


# Back Up Slides





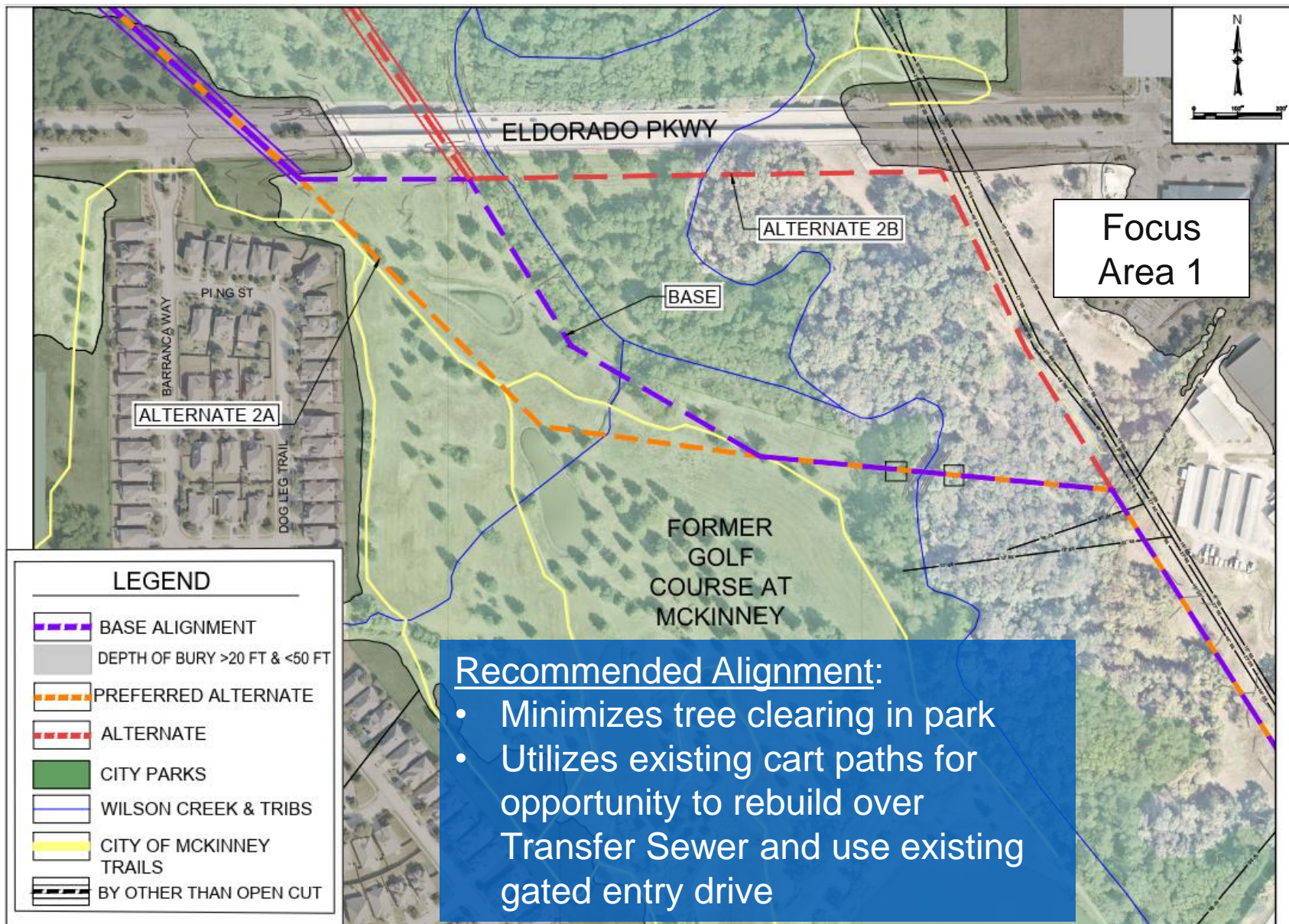
# OVERALL ALIGNMENT







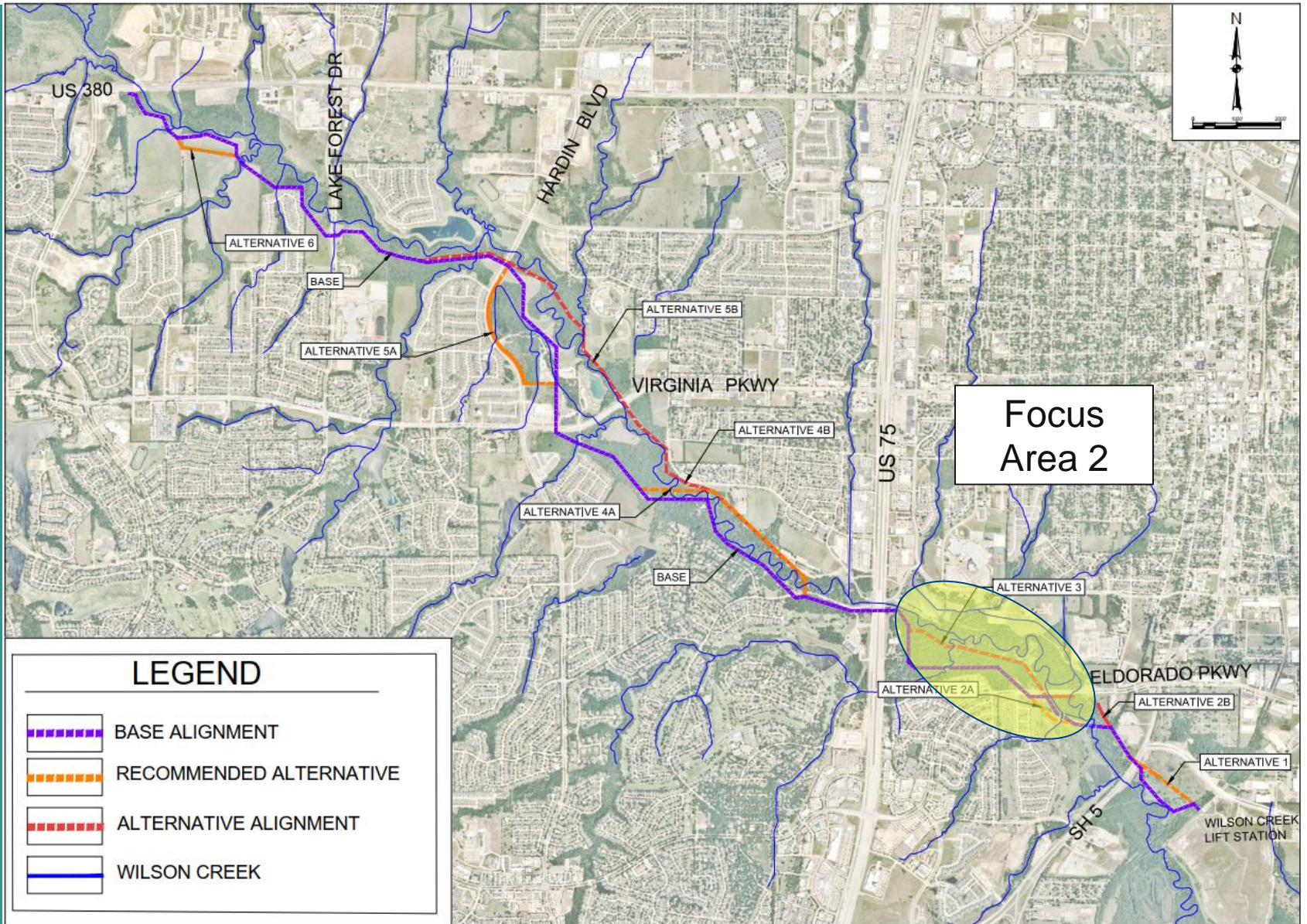
# FORMER GOLF COURSE AND RESIDENCES OF BARRANCA WAY







# OVERALL ALIGNMENT







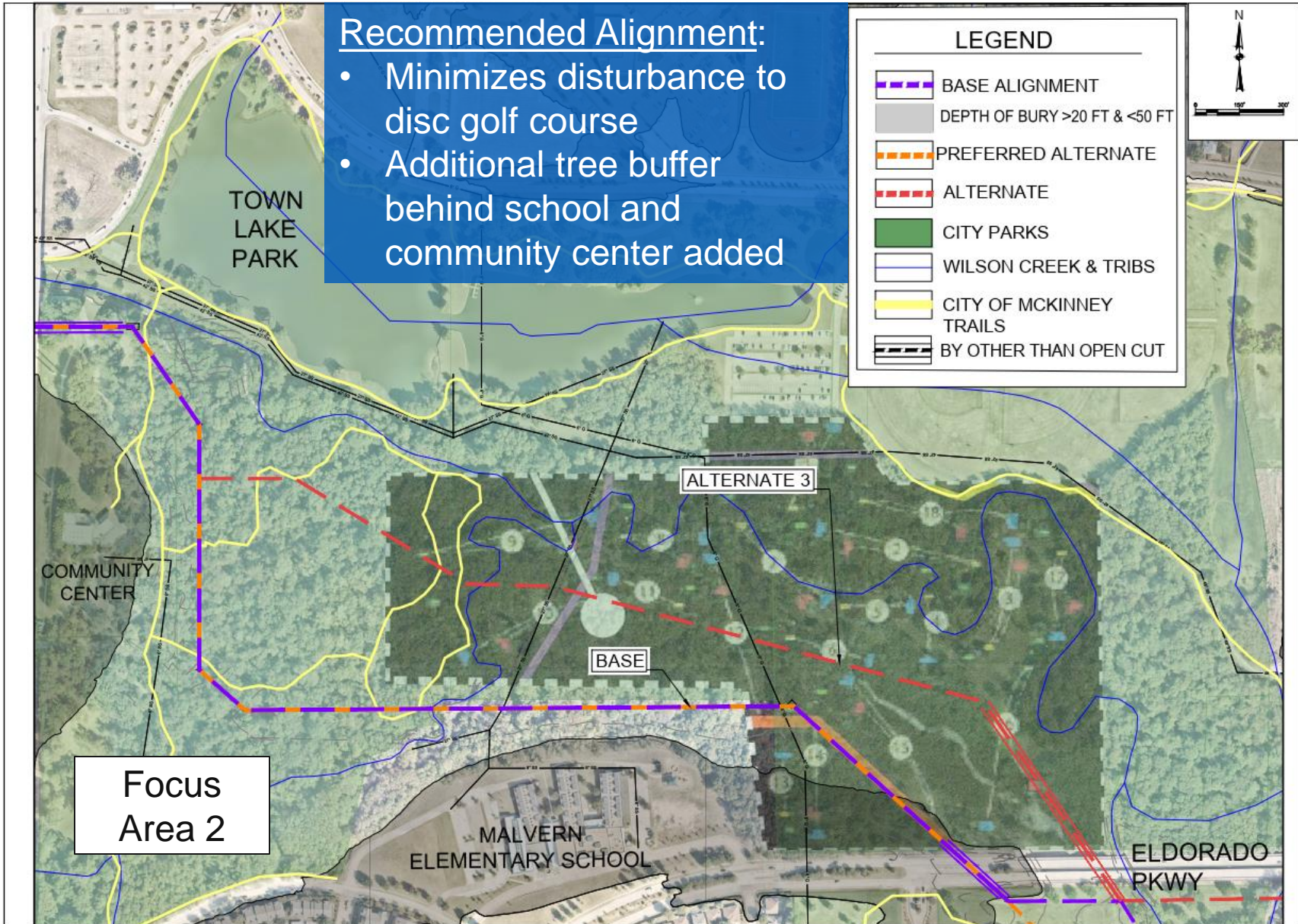
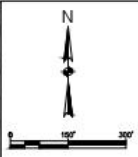
# TOWNE LAKE DISC GOLF COURSE AND MCKINNEY COMMUNITY CENTER

## Recommended Alignment:

- Minimizes disturbance to disc golf course
- Additional tree buffer behind school and community center added

### LEGEND

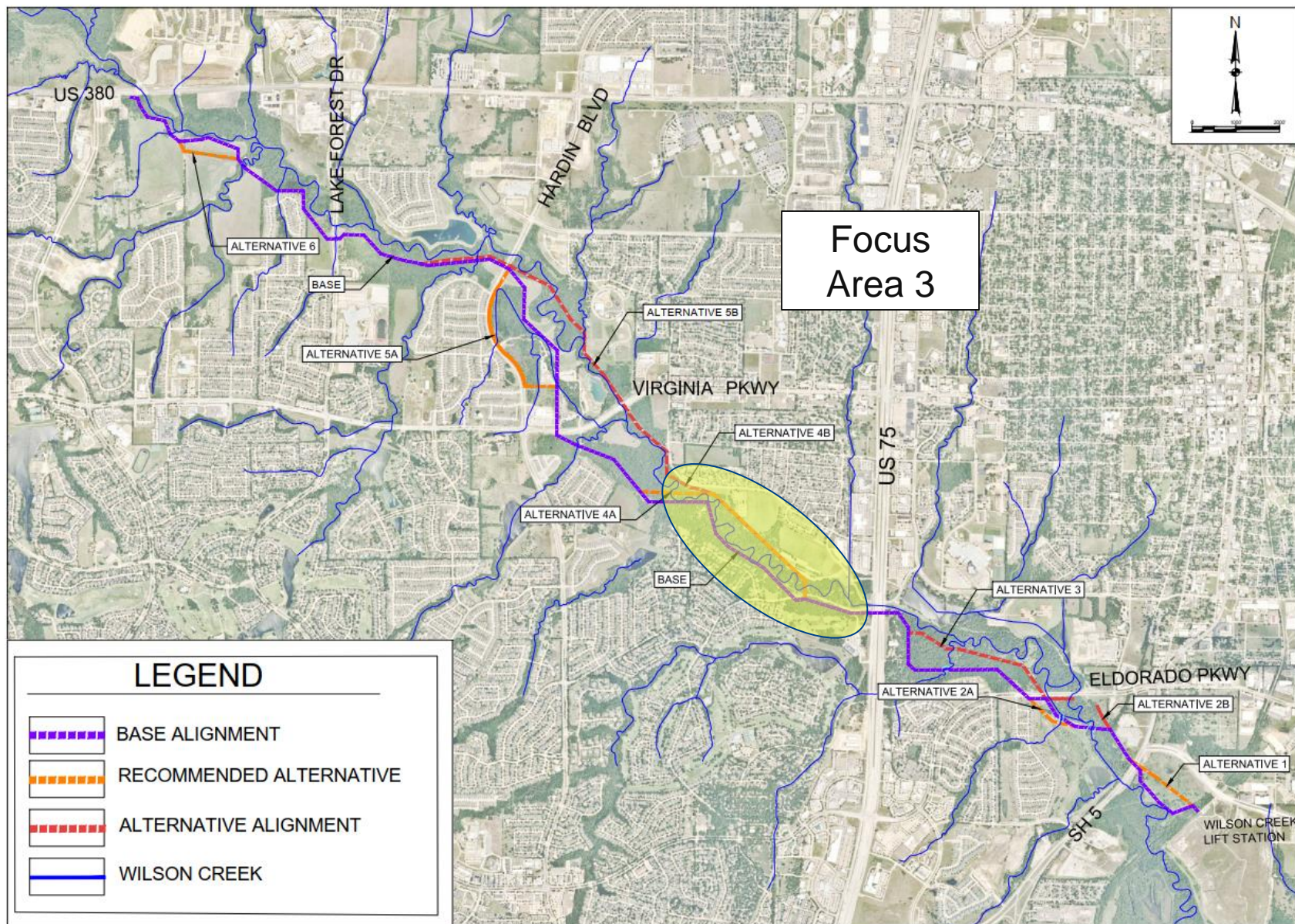
	BASE ALIGNMENT
	DEPTH OF BURY >20 FT & <50 FT
	PREFERRED ALTERNATE
	ALTERNATE
	CITY PARKS
	WILSON CREEK & TRIBS
	CITY OF MCKINNEY TRAILS
	BY OTHER THAN OPEN CUT







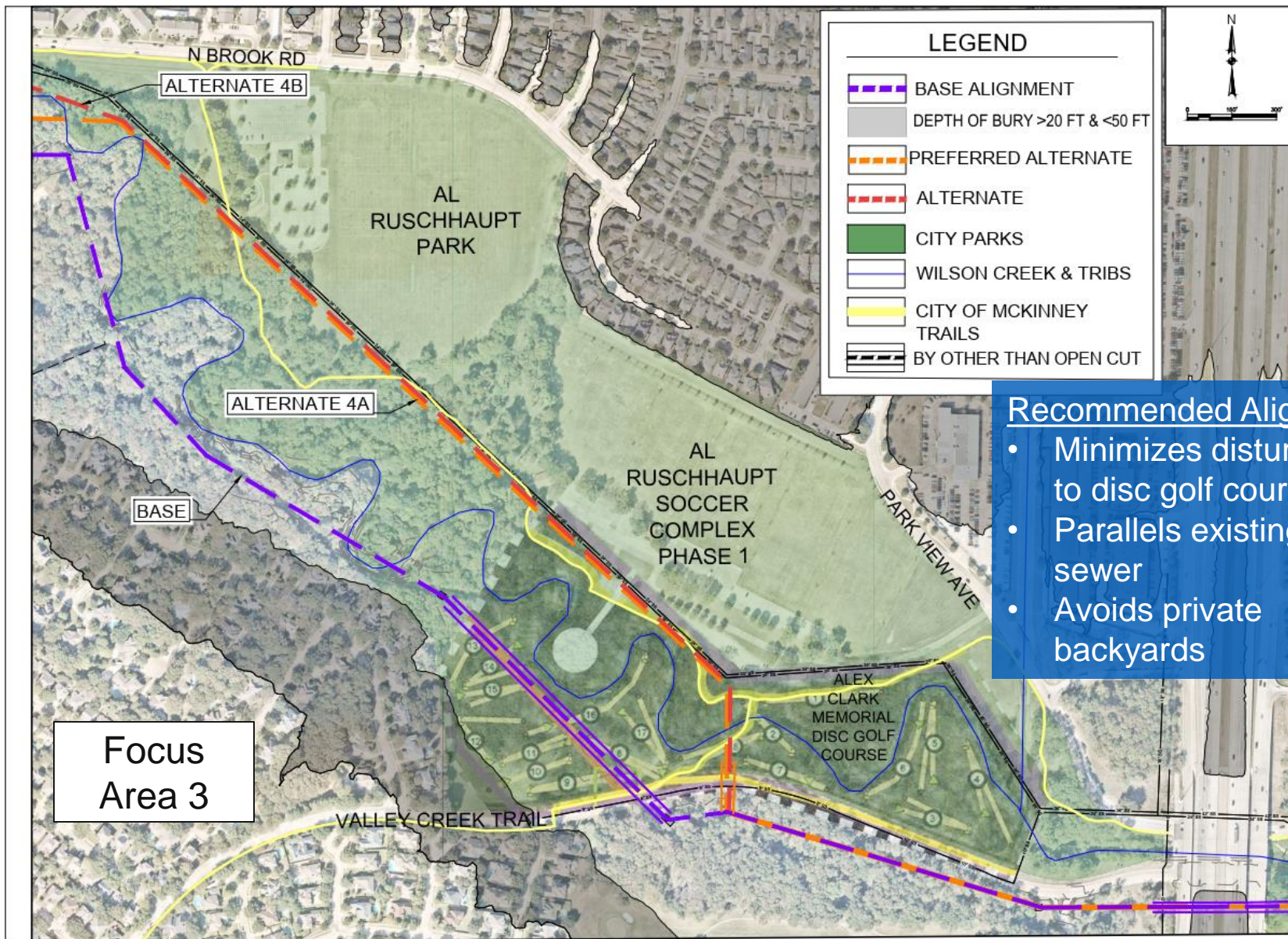
# OVERALL ALIGNMENT







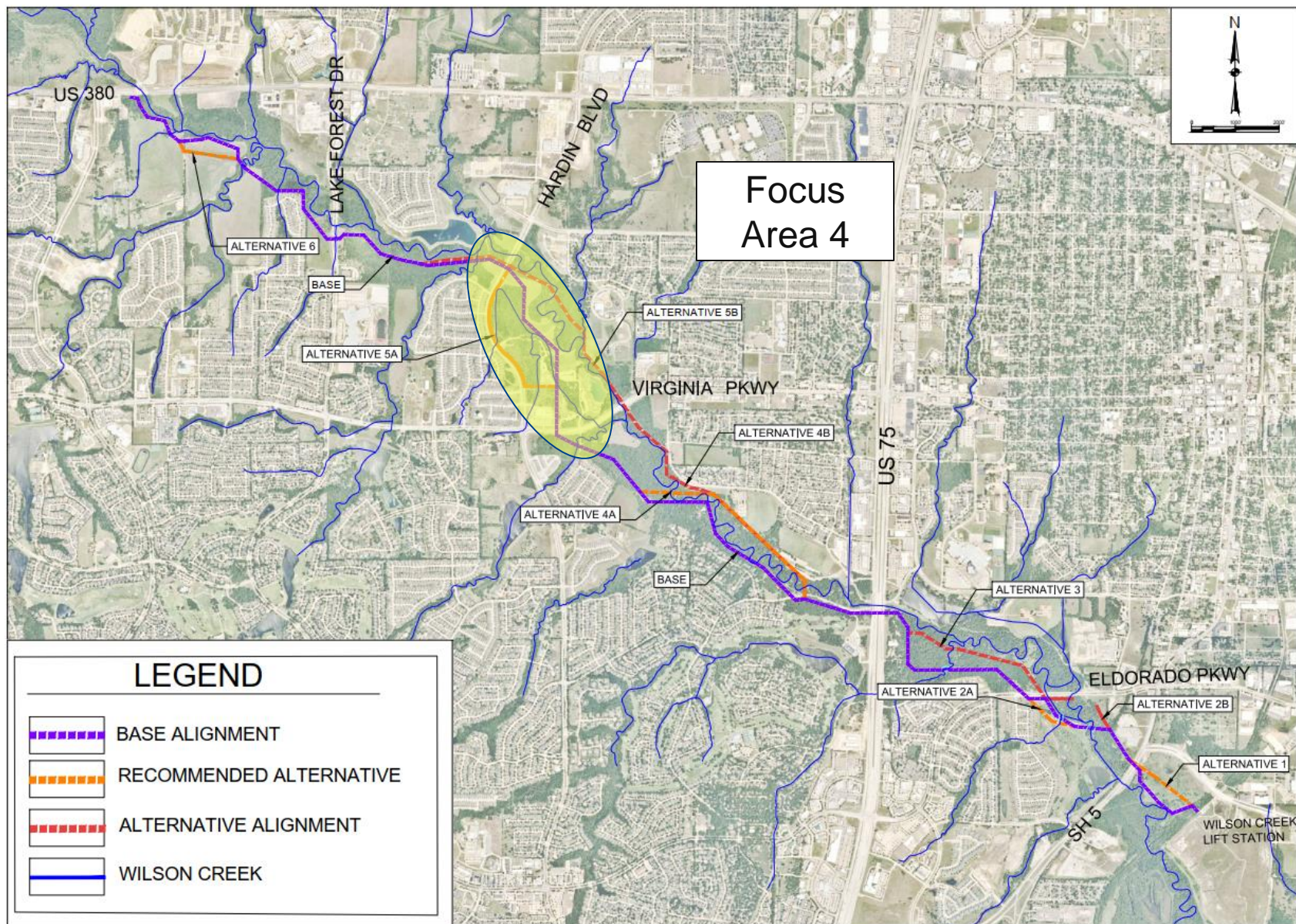
# OVERALL ALIGNMENT







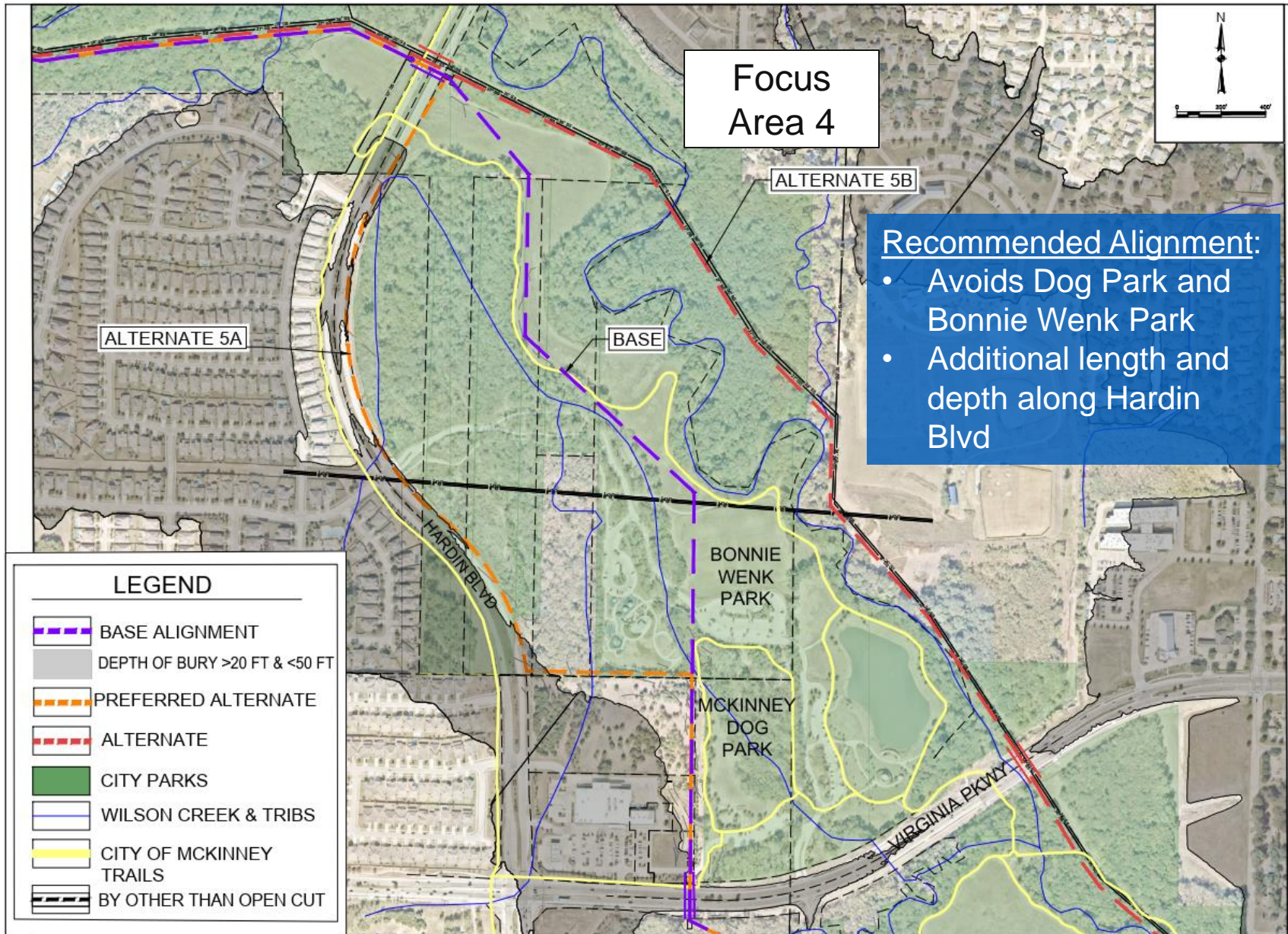
# OVERALL ALIGNMENT







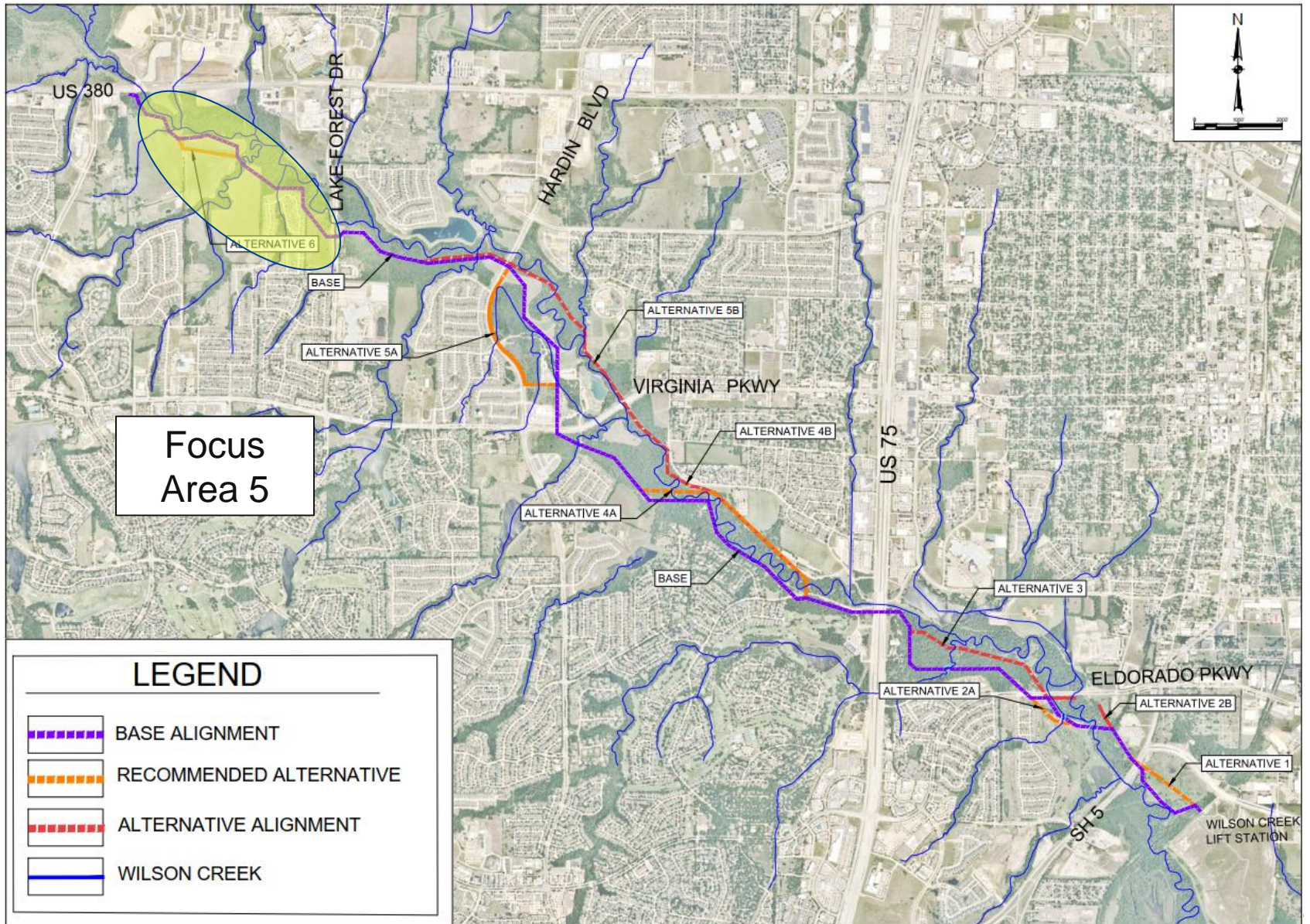
# MCKINNEY DOG PARK AND BONNIE WENK PARK







# OVERALL ALIGNMENT



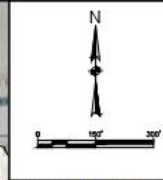


# SCENIC HILLS DRIVE AND GRAY BRANCH PARK

**Focus Area 5**

## Recommended Alignment:

- Minimizes disturbance to future soccer field by minimizing number of manholes and following tree line



ALTERNATE 6

PROPOSED SOCCER FIELDS

BASE

PROPOSED GRAY BRANCH PARK

LAKE FOREST DR

WILLOW TREE DR

ANNALISA DR

SCENIC HILLS DR

## LEGEND

- BASE ALIGNMENT
- DEPTH OF BURY >20 FT & <50 FT
- PREFERRED ALTERNATE
- ALTERNATE
- CITY PARKS
- WILSON CREEK & TRIBS
- CITY OF MCKINNEY TRAILS
- BY OTHER THAN OPEN CUT