



WELCOME

STATE HIGHWAY 53

Public Involvement Meeting

February 23, 2016

Presented by: The Oklahoma Department of Transportation  
NewTran Solutions and White Engineering Associates, Inc.

# Team Introductions

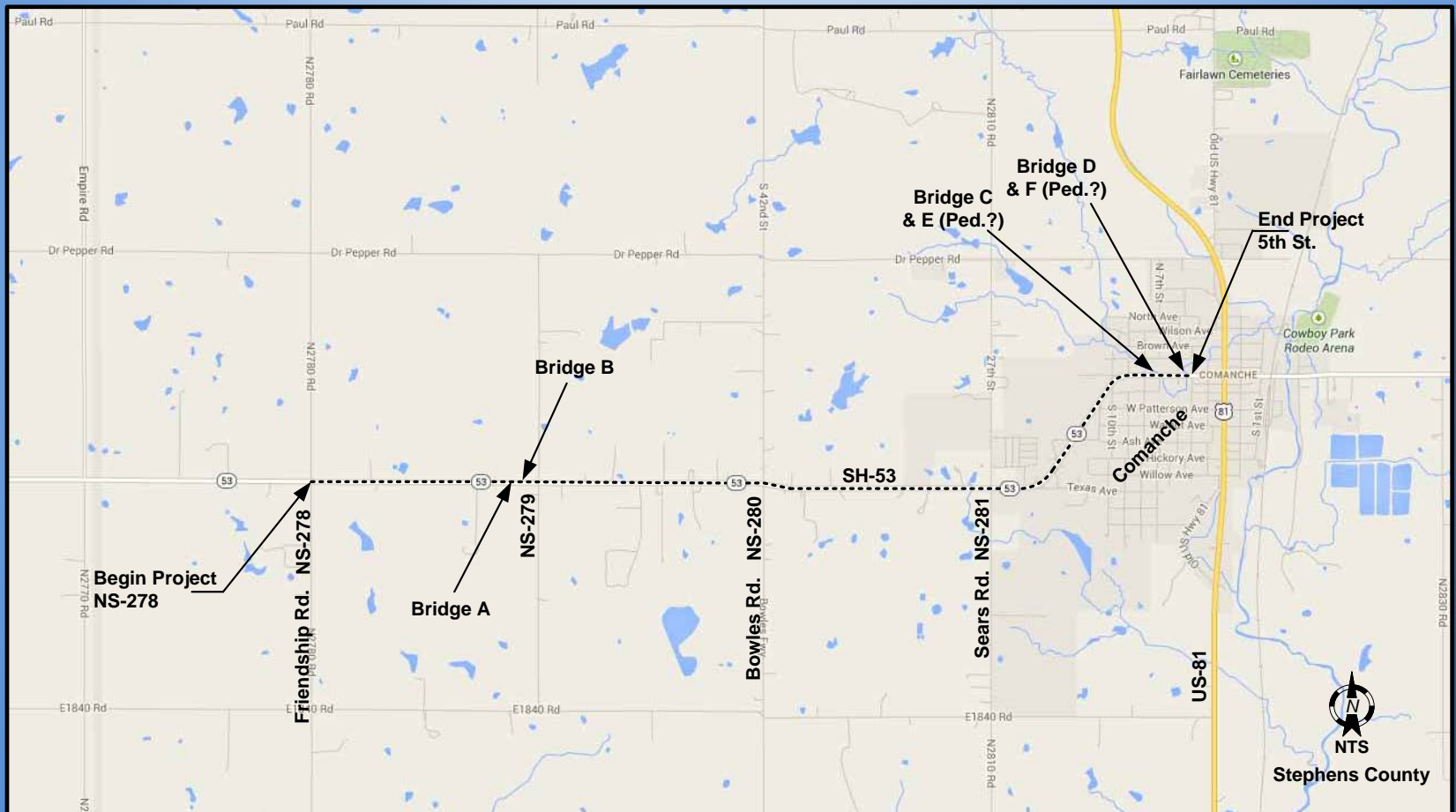


**NewTran Solutions**  
*Transportation Engineering Services*

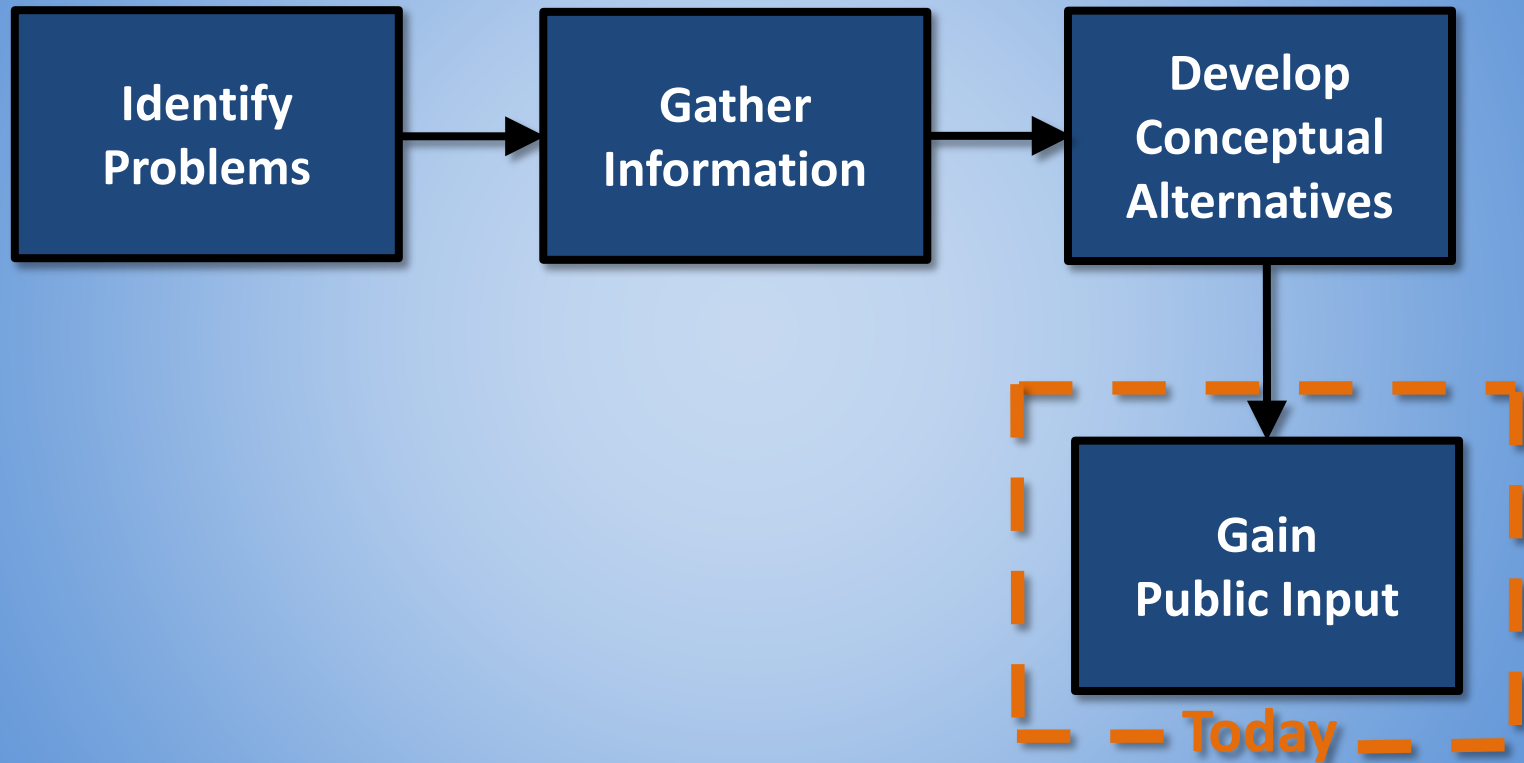
**W**HITE  
**E**NGINEERING  
**A**SSOCIATES, INC.

# Purpose of This Meeting

...is to inform the public and receive input regarding the Department's proposed improvements to SH-53 from Friendship Rd. (NS-278) to S. 5th St. in the City of Comanche.




# Project Development Process



# Purpose of The Project

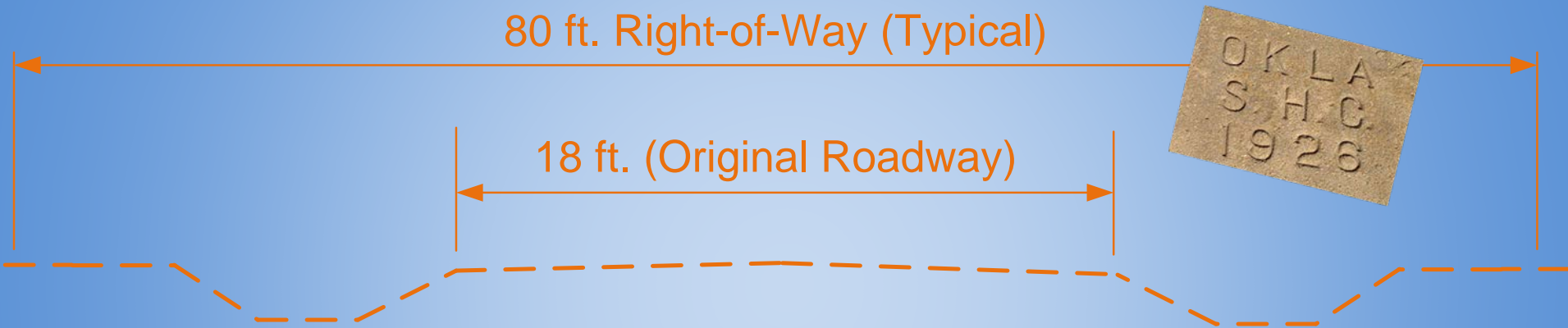
- Improve Roadway Safety and Multimodal Mobility
  - Upgrade Roadway Geometry and Intersection Sight-Distance to current design standards.
  - Replace deteriorated sidewalk in Comanche.
- Replace Deficient Bridges
- Add Shoulders
- Add Curb & Gutter in town
- Mitigate high-frequency collision locations
  - Bowles Road (NS-280)
  - Sears Road (NS-281)
  - S. 8th Street
- Improve safe ingress/egress at school

The image shows a close-up of a metal structure, possibly a roof or a large container, that is heavily corroded. The metal is a dull, greyish color, and there are extensive areas of brown and orange rust, particularly along the edges and in the joints. The surface is uneven and textured, with some areas appearing more severely damaged than others. The text "Identify Problems & Gather Information" is overlaid in a bold, black, sans-serif font, centered in the middle of the image. The background is a dark, textured surface, possibly a wall or another part of the structure, which is also showing signs of wear and discoloration.

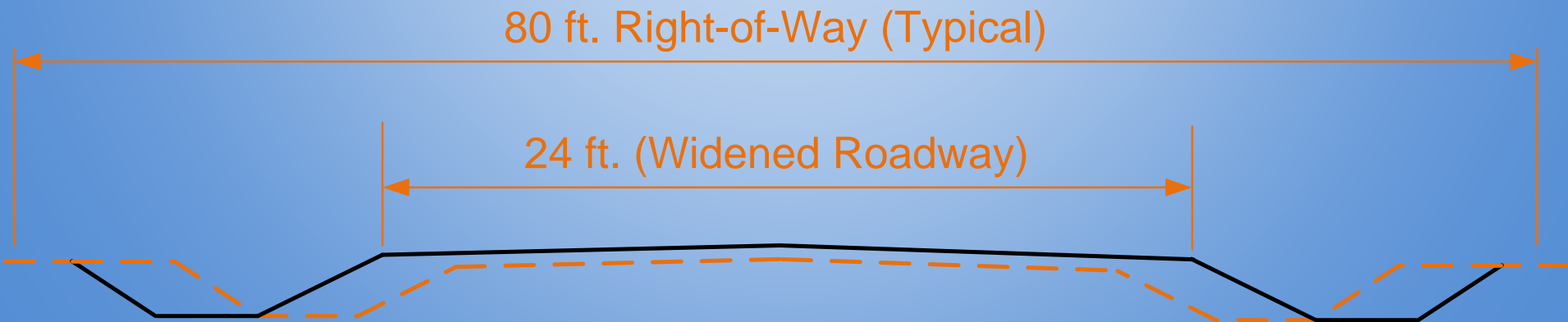
**Identify Problems &  
Gather Information**

# Existing Conditions

- Original roadway constructed in the 1926



- Widened in 1965



# Existing Conditions

- Existing traffic (2012):  
3,200 vehicles/day
- Projected traffic  
(2032): 4,500  
vehicles/day
- Percent truck traffic:  
17%
- Posted speed limit(s):  
35MPH – 65MPH





# Existing Conditions

**Obsolete roadway geometry provides inadequate sight-distance at NS-280 (Bowles Rd.)**



# Existing Conditions

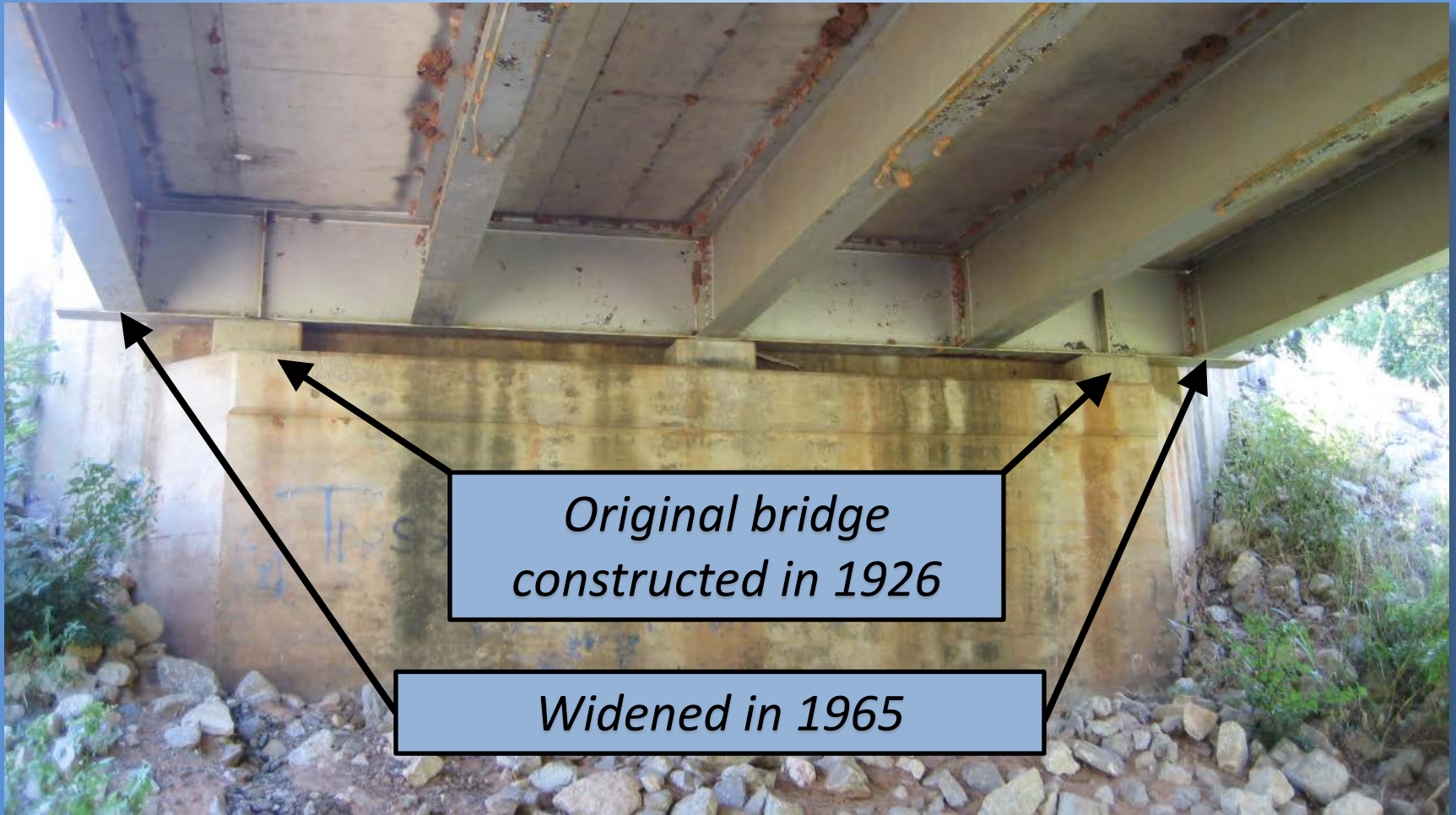
**Dry Creek Bridge (60 ft. long by 30' wide steel beam bridge)**



*Includes overflow  
bridge*

# Existing Conditions

**Dry Creek Bridge (60 ft. long by 30' wide steel beam bridge)**



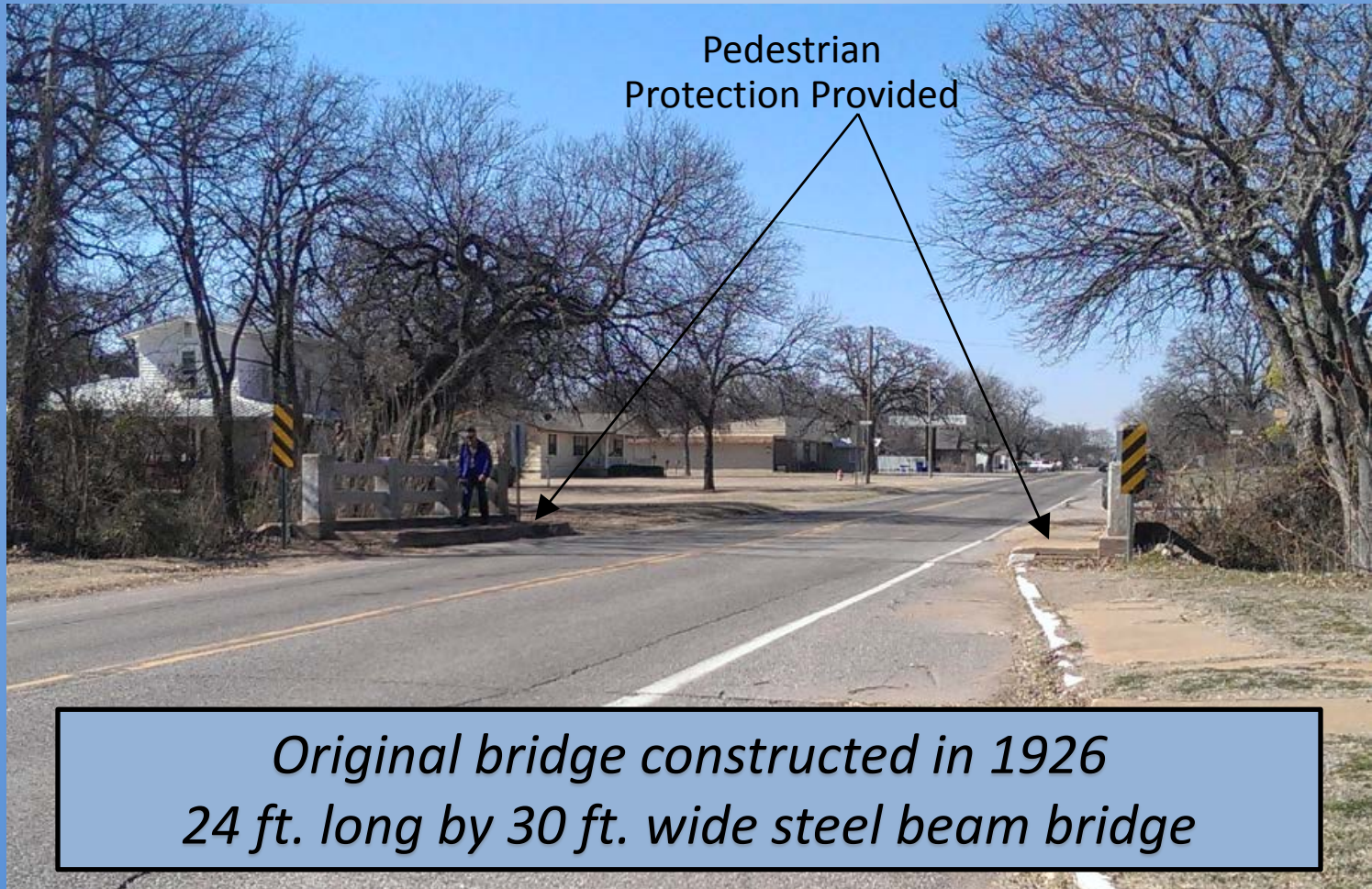
# Existing Conditions

## Bridge near S. 7th Street in Comanche



# Existing Conditions

## Bridge near S. 5th Street Bridge in Comanche



# Existing Conditions

## Roadway Culverts

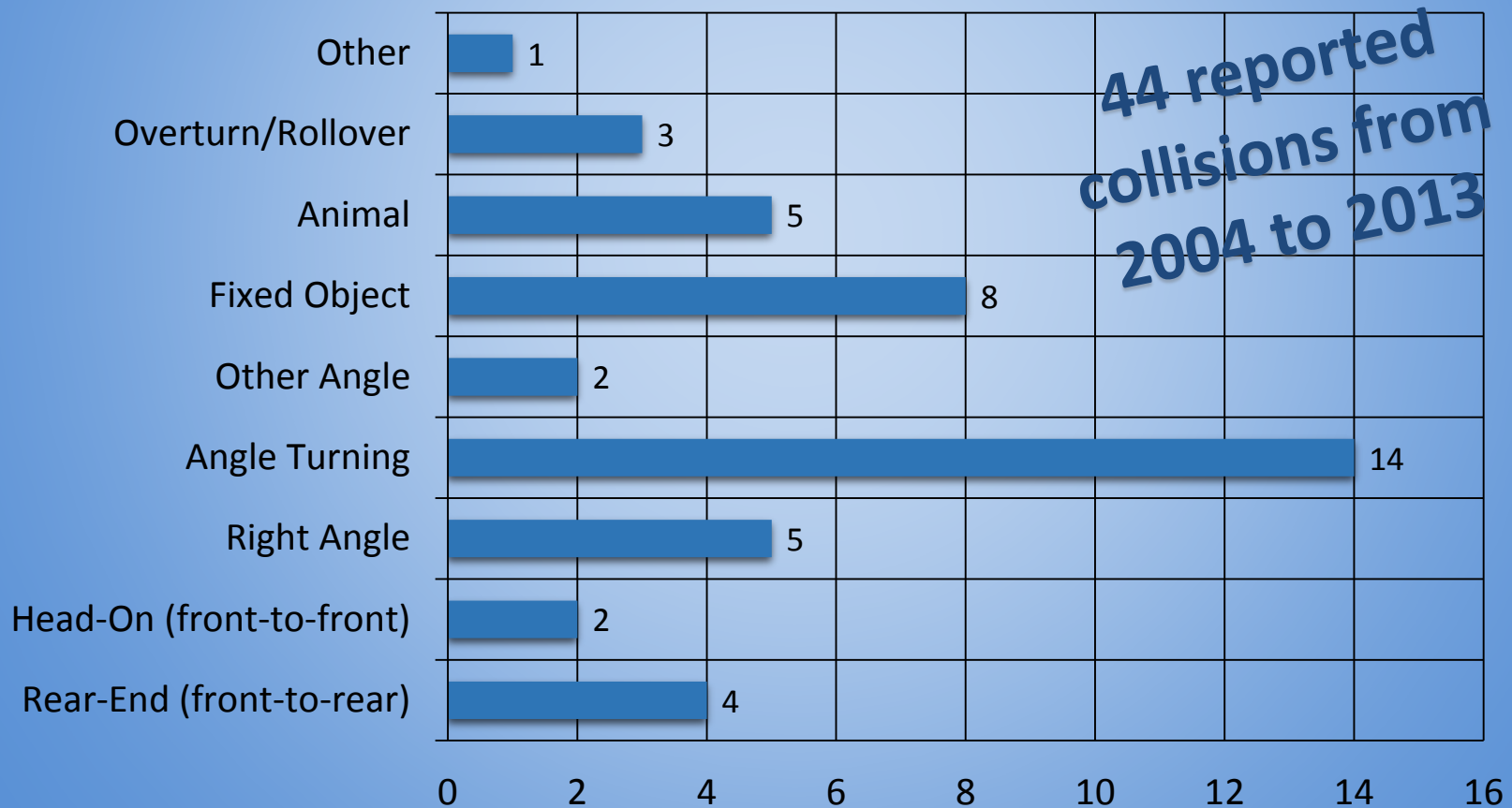


*Most existing culverts are suitable for extension*



# 10-Year Collision History

- Crash Types Reported







# Environmental Studies

## Issues Considered

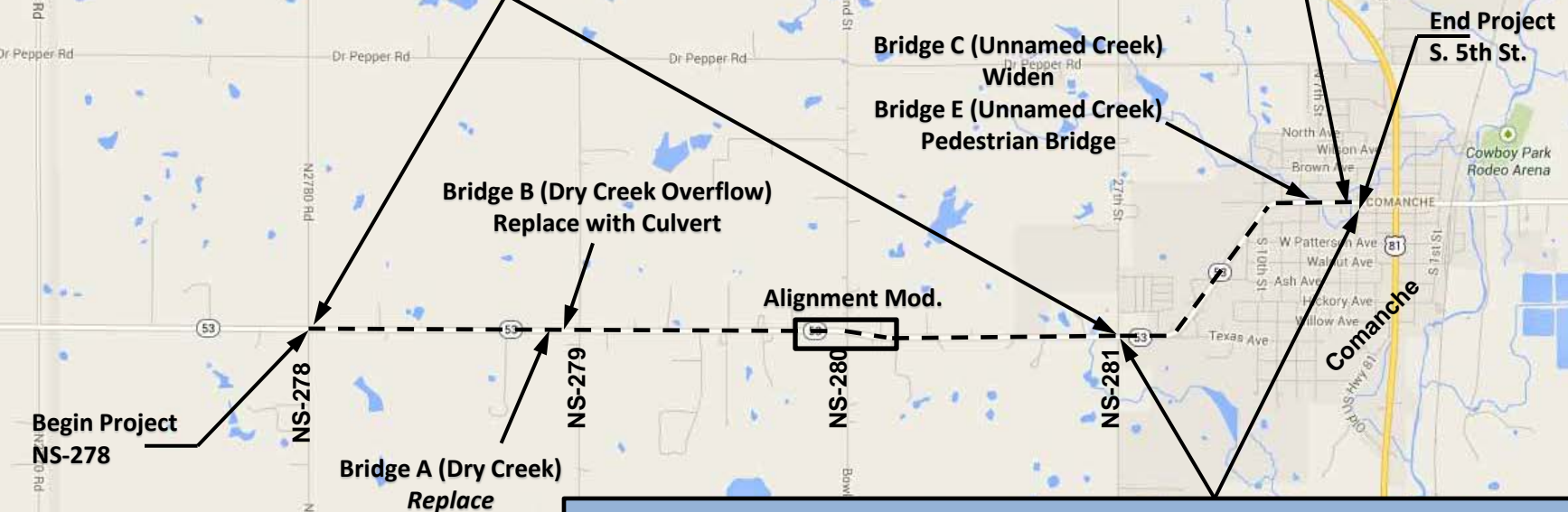
- Relocation Impacts
- Wetland & Stream Impacts
- Floodplain Impacts
- Farmland Impacts
- Threatened & Endangered Species
- Cultural & Archaeological Sites
- Hazardous Waste Sites
- Oil & Gas Sites
- Noise Impacts

# Develop Conceptual Alternatives



# Conceptual Improvements

**Section 1 (NS-278 – NS-281):** Widen and resurface to a 40 ft. open section (two 12 ft. travel lanes and 8 ft. shoulders), replace Dry Creek Bridge, alignment modification at NS-280 to improve sight distance and correct obsolete vertical curves.



**Section 2 (NS-281 – S. 5th St.):** Widen and resurface to a 42 ft. curb & gutter section (two 12 ft. travel lanes, 8 ft. shoulders and 1 ft. gutters), correct skewed intersections and include dedicated turn lane at the school (evaluate use of 3-lane section)

# Section 1 Conceptual Improvements

**Section 1  
Proposed roadway cross-section**

**Begin Project  
NS-278**

**NS-278**

**NS-279**

**NS-280**

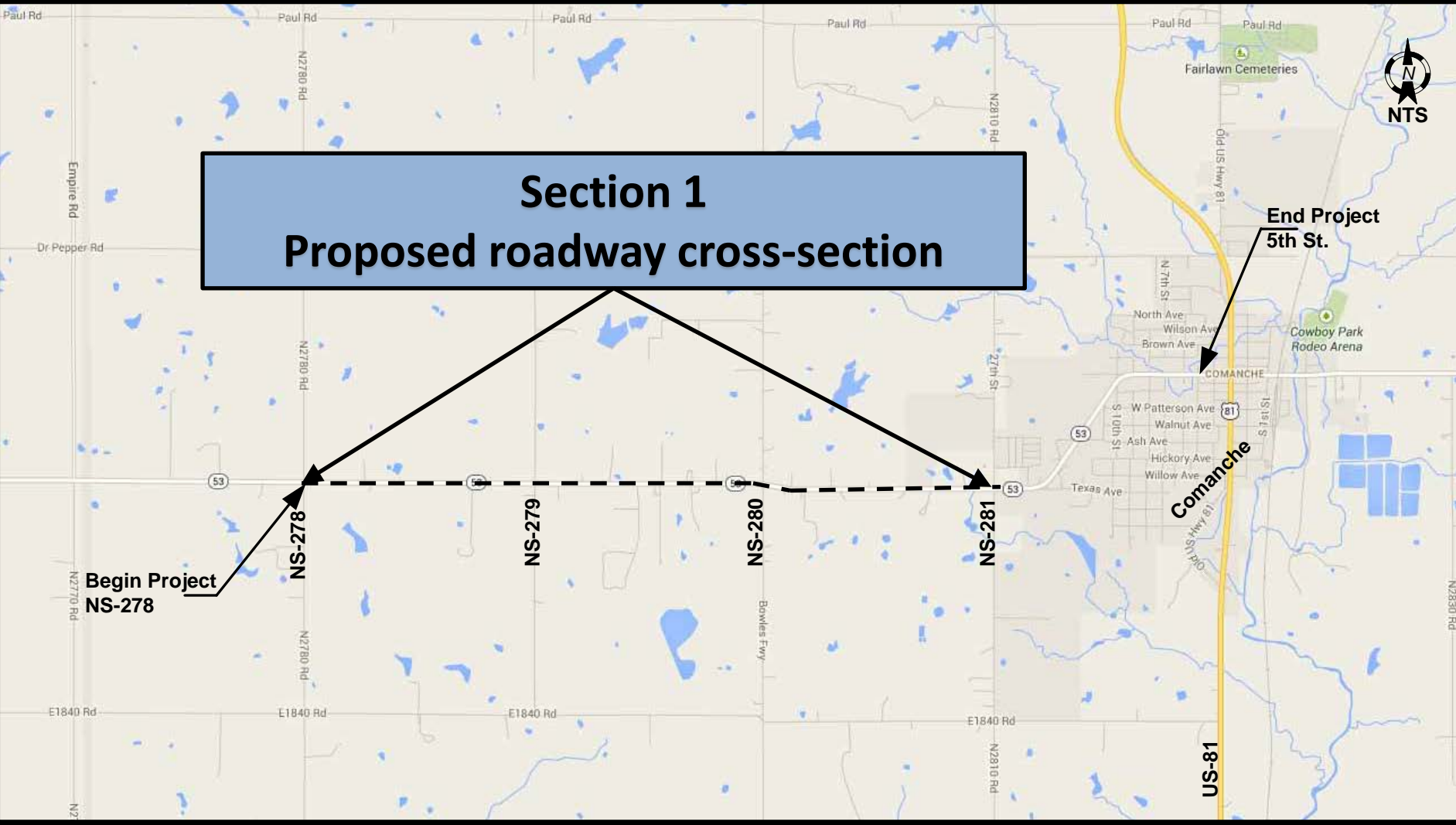
**NS-281**

**End Project  
5th St.**



**Comanche**

**US-81**

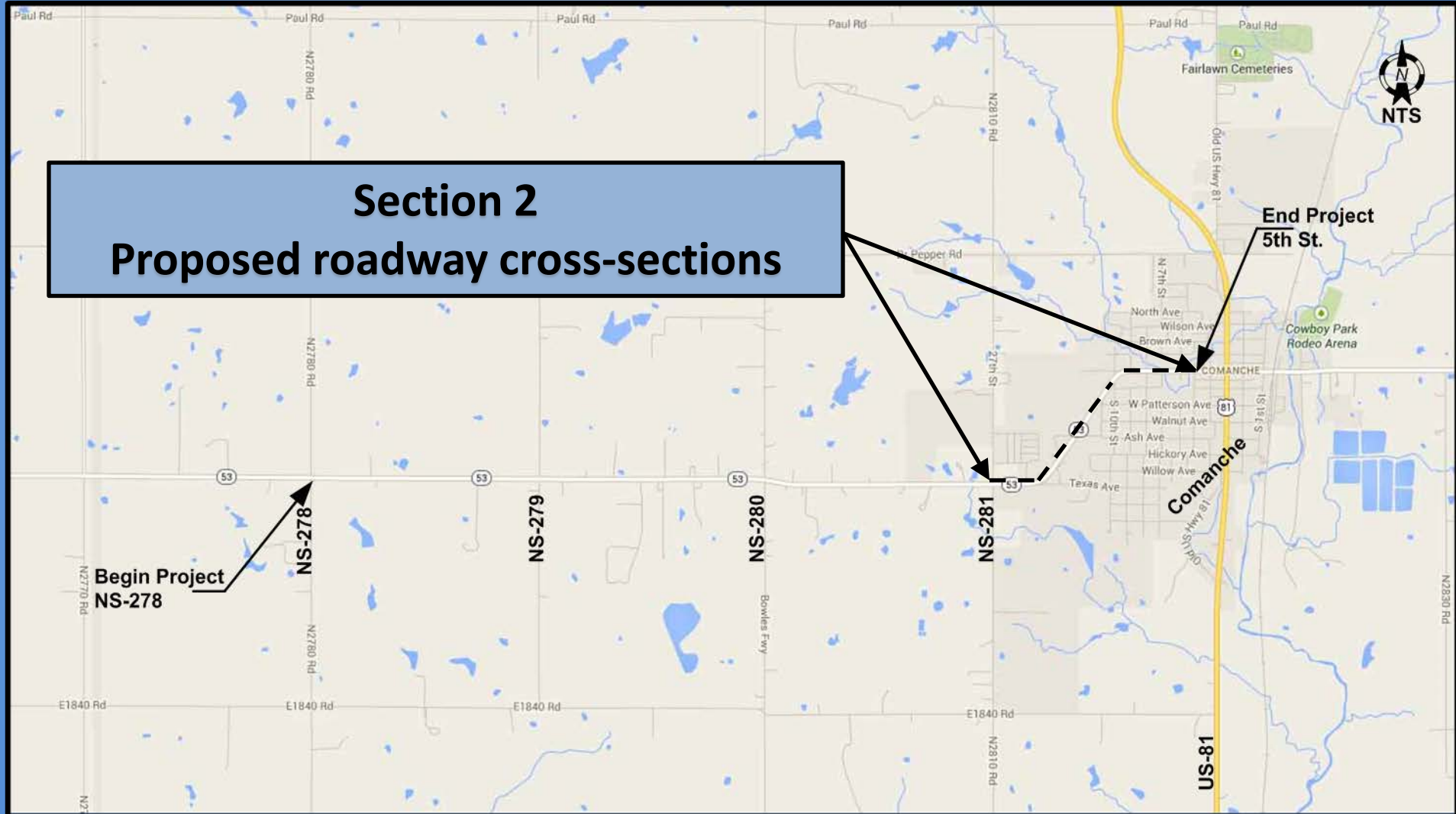


# Section 1 Conceptual Improvements



# Section 2 Conceptual Improvements

**Section 2  
Proposed roadway cross-sections**



# Section 2 Conceptual Improvements



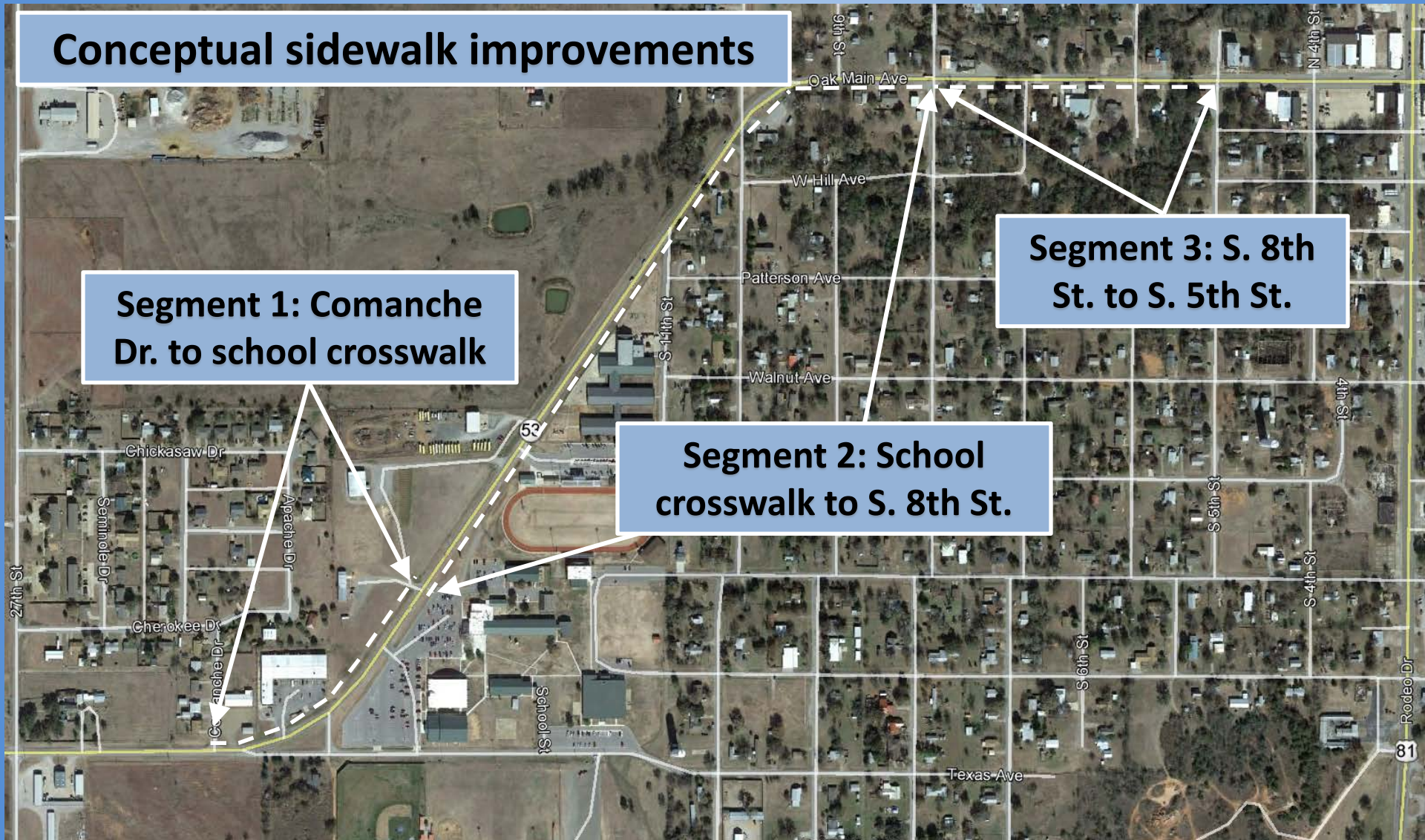
# Section 2 Conceptual Improvements

## Conceptual sidewalk improvements

**Segment 1: Comanche Dr. to school crosswalk**

**Segment 2: School crosswalk to S. 8th St.**

**Segment 3: S. 8th St. to S. 5th St.**





# Section 2 Conceptual Improvements

## Conceptual sidewalk improvement Segment 1: Comanche Dr. to school crosswalk



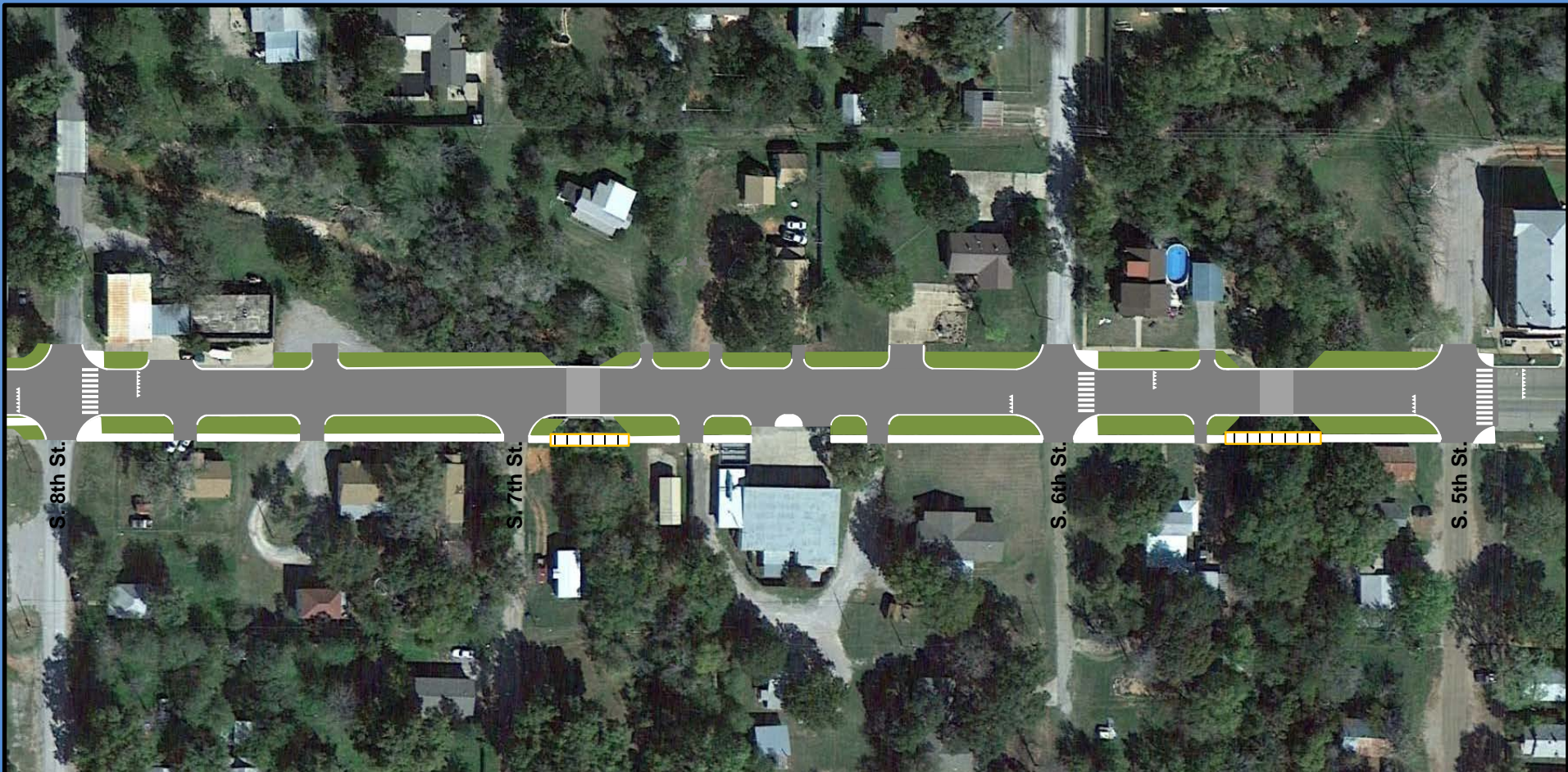
# Section 2 Conceptual Improvements

## Conceptual sidewalk improvement Segment 2: School crosswalk to S. 8th Street



# Section 2 Conceptual Improvements

## Conceptual sidewalk improvement Segment 3: S. 8th Street to S. 5th Street



# Right-of-Way

## **Section 1 (open roadway section):**

- Existing right-of-way – Approximately 80 ft.
- Additional right-of-way required – Approximately 35 ft. either side)
  - Varies based on design constraints
- Symmetrical widening (widened on both sides)
- No relocations anticipated

## **Section 2 (curb & gutter roadway section):**

- Existing right-of-way – Approximately 80 ft.
- Additional right-of-way required – Approximately 10 ft. either side
  - Varies based on design constraints
- Symmetrical widening but widened to west near school
- No relocations anticipated

# Conceptual Improvements At Intersections and Bridges

# Dry Creek Bridge Replacement

Replace existing 60 ft. long by 30 ft. wide Steel Beam Bridge with 120 ft. long 40 ft. wide Concrete Beam Bridge

Construct Temporary Detour

Replace existing double 10 ft. X 10 ft. overflow bridge culvert with double 6 ft. X 6 ft. roadway culvert.

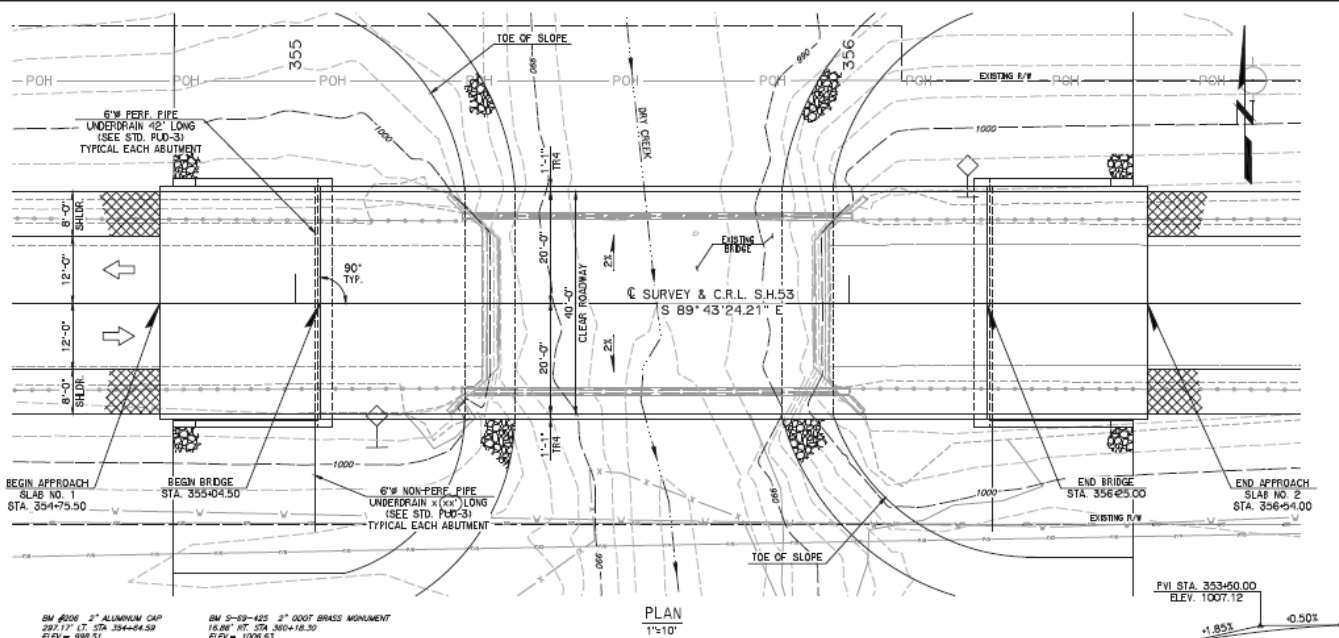


SH-53

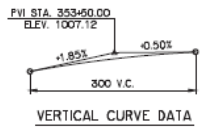
NS-279



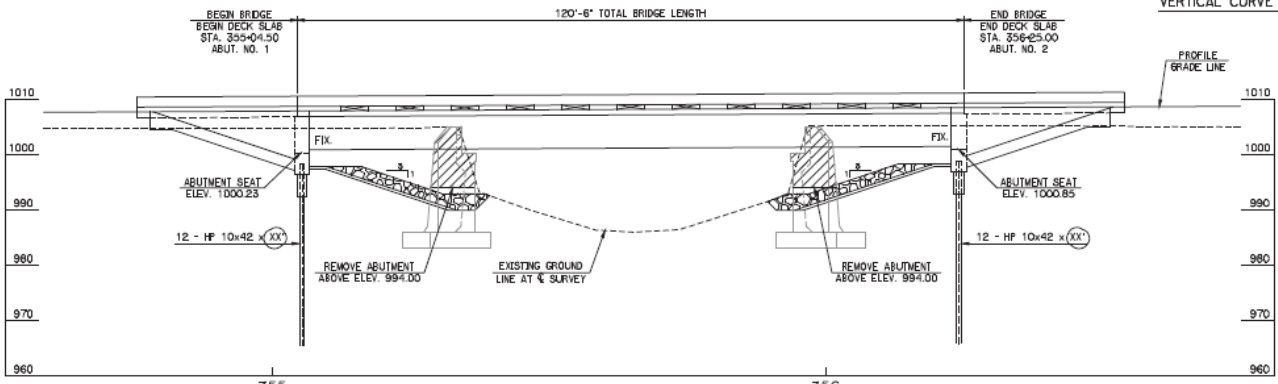
# Dry Creek Bridge Replacement



PLAN  
1"=10'



VERTICAL CURVE DATA



ELEVATION  
1"=10'

### DESIGN DATA

CONCRETE CLASS A  
 CONCRETE CLASS AA  
 REINFORCING STEEL (GRADE 60)  
 STRUCTURAL STEEL M270 (GRADE 50W)

LOADING:  
 1L-93 OR OKLAHOMA OVERLOAD TRUCK  
 20 PSF FUTURE WEARING SURFACE  
 5 PSF STAY-IN-PLACE DECK FORM ALLOWANCE

DESIGN:  
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4th EDITION  
 WITH 2009 INTERIMS  
 ANSI/AASHTO/AWS D1.9 BRIDGE WELDING CODE

LRFD OPERATING RATING - HS (XX)

THE OPERATING RATING SHOWN IS BASED ON A NOMINAL STRENGTH USING ONLY STRANDS THAT ARE BONDED FOR THE FULL LENGTH OF THE BEAM. ALL PARTIALLY BONDED STRANDS ARE NEGLECTED IN STRENGTH COMPUTATIONS.

### INDEX OF SHEETS

- xx SUMMARY OF BRIDGE QUANTITIES AND BRIDGE GENERAL NOTES
- xx GENERAL PLAN AND ELEVATION
- xx SUBSTRUCTURE LAYOUT AND SUMMARY OF BRIDGE QUANTITIES
- xx FOUNDATION REPORT

### STANDARDS

- TR4-2-00E
- HF1-2-00E
- LECS-4-1
- PLD-3-2
- 840-I-ABUT-PC5-1-01E
- 840-I-ABUT-PC5-2-01E
- 840-I-ABUT-MISC-01E
- 840-I-XSECT-PC5-02E
- 840-I-XSECT-PC8-03E
- 840-I-SFR-BLEST-PC8-03E
- 840-I-PCB-J-120-1-00E
- 840-I-PCB-J-120-2-00E
- 840-I-ADJ-PC5-1-02E
- 840-I-ADJ-PC5-2-02E
- 840-I-DA-PC8-01E
- 840-I-8RG-PCU-02E
- 840-I-SFR-QUAN-PCB-J-05E
- 840-I-AS-03E
- 840-I-TR4-D-PC45-02E

### HYDRAULIC DATA

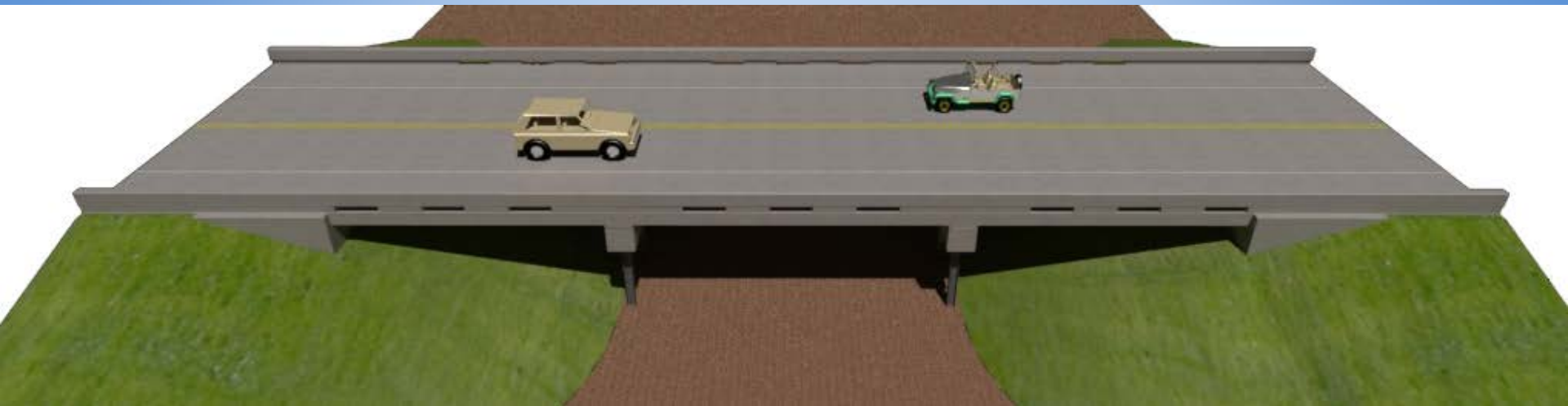
- TOTAL DRAINAGE AREA = 25.10 SQ. MILES
- CONTROLLED DRAINAGE AREA = 5.44 SQ. MILES
- EFFECTIVE DRAINAGE AREA = 19.66 SQ. MILES
- Q2 = 1,051.29 C.F.S.
- V2 = 3.20 F.P.S.
- Q2 COMPUTED HIGHWATER ELEVATION = 992.41 FT.
- Q5 = 2,126.23 C.F.S.
- V5 = 3.54 F.P.S.
- Q5 COMPUTED HIGHWATER ELEVATION = 995.59 FT.
- Q10 = 3,159.70 C.F.S.
- V10 = 4.62 F.P.S.
- Q10 COMPUTED HIGHWATER ELEVATION = 996.69 FT.
- Q25 = 4,839.28 C.F.S.
- V25 = 5.97 F.P.S.
- Q25 COMPUTED HIGHWATER ELEVATION = 998.01 FT.
- Q50 = 6,190.46 C.F.S.
- V50 = 6.33 F.P.S.
- Q50 COMPUTED HIGHWATER ELEVATION = 999.46 FT.
- Q100 = 7,854.49 C.F.S.
- V100 = 8.15 F.P.S.
- Q100 COMPUTED HIGHWATER ELEVATION = 999.85 FT.
- Q01 - 139 = 8,332.06 C.F.S.
- V139 = 8.11 F.P.S.
- Q139 COMPUTED HIGHWATER ELEVATION = 1000.10 FT.
- LOW BEAM ELEVATION = 1000.53 FT.

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL SIGNED AND SEALED DOCUMENT

SH53 OVER DRY CREEK		STEPHENS COUNTY		Design	RRW
BRIDGE "A"				DRAWN	DRB
GENERAL PLAN AND ELEVATION				Check	
120' TYPE J P.C.B. SPAN					
40'-0" CL. ROWY. WITH TR4 TRAFFIC RAILS					
0" SKEW @ STA. 355+64.75					
STATE OF OKLAHOMA DEPARTMENT OF TRANSPORTATION				WHITE ENGINEERING ASSOCIATES	
LAW FILE NO. 21720041					SHEET NO.

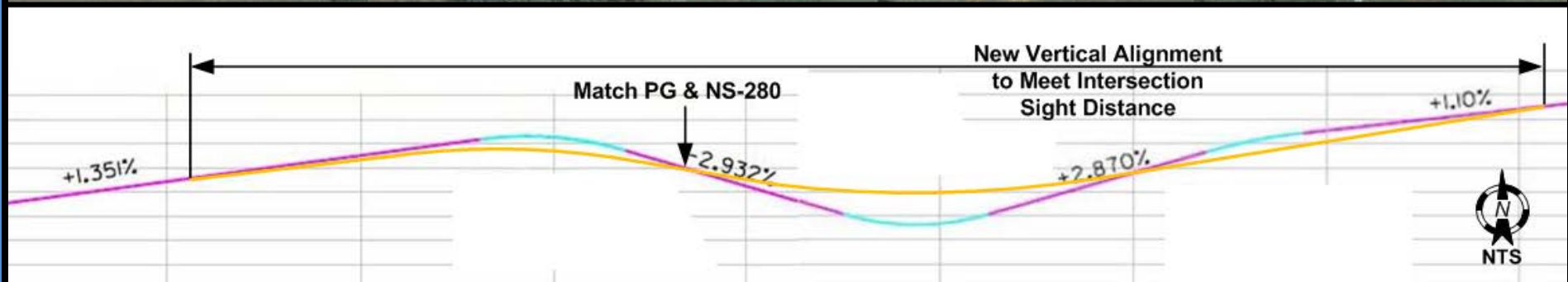
NOTE:  
 FOR FOUNDATION DATA AND SUMMARY OF BRIDGE QUANTITIES, SEE SHEET XX

# Dry Creek Bridge Replacement





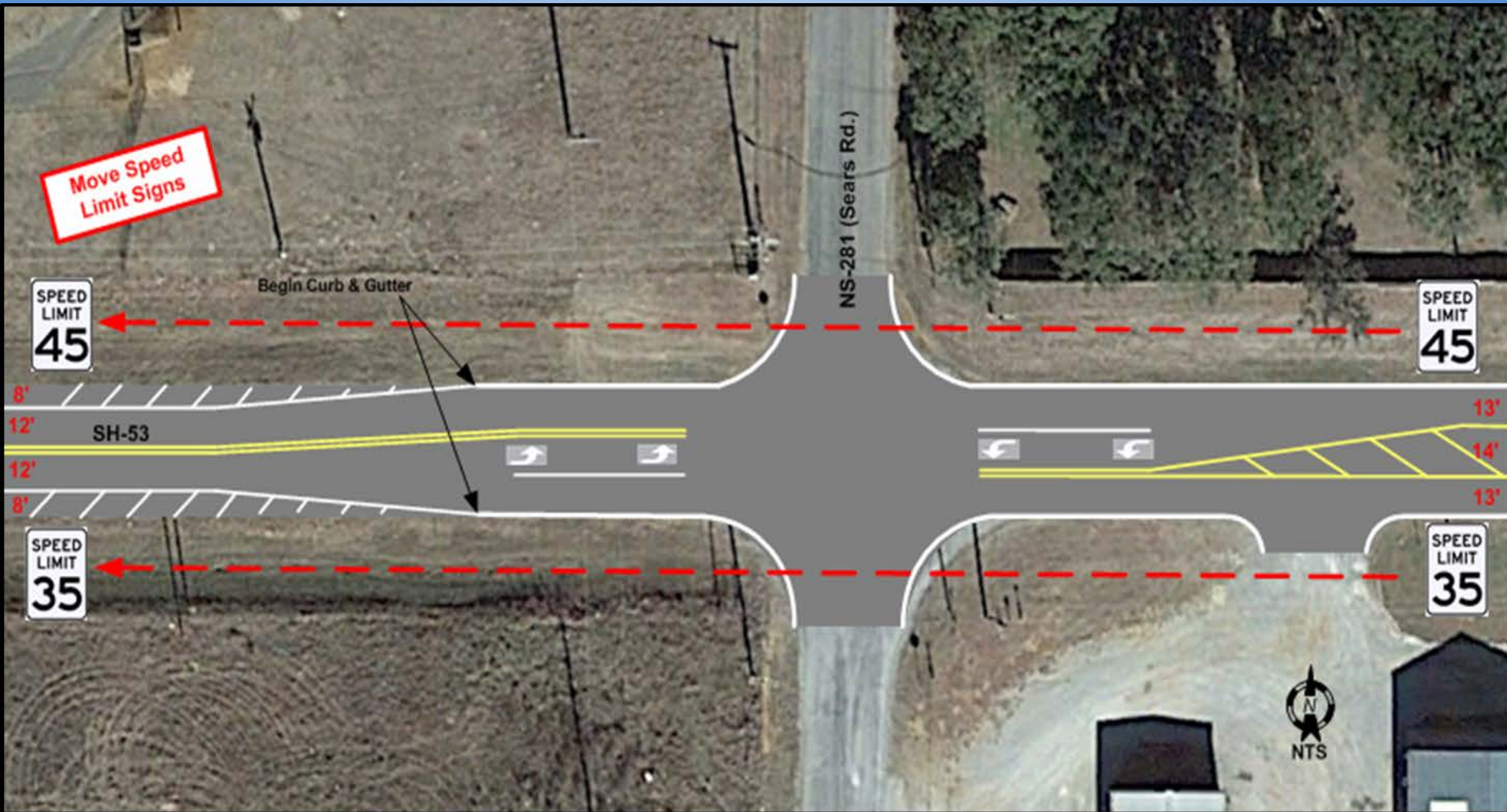
# Alignment Modification at NS-280



# Alignment Modification at NS-280



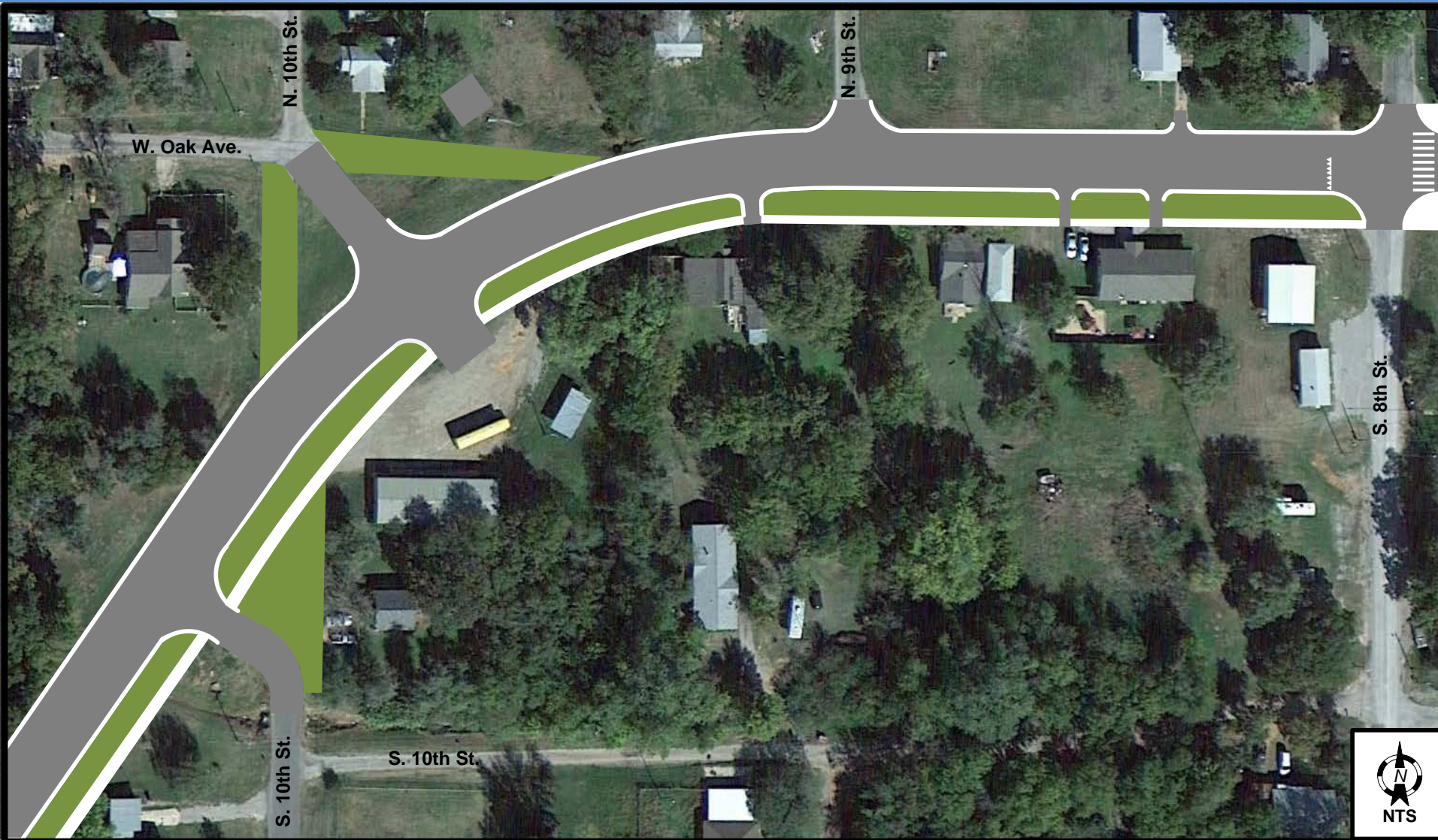
# Transition to Curb & Gutter at NS-281



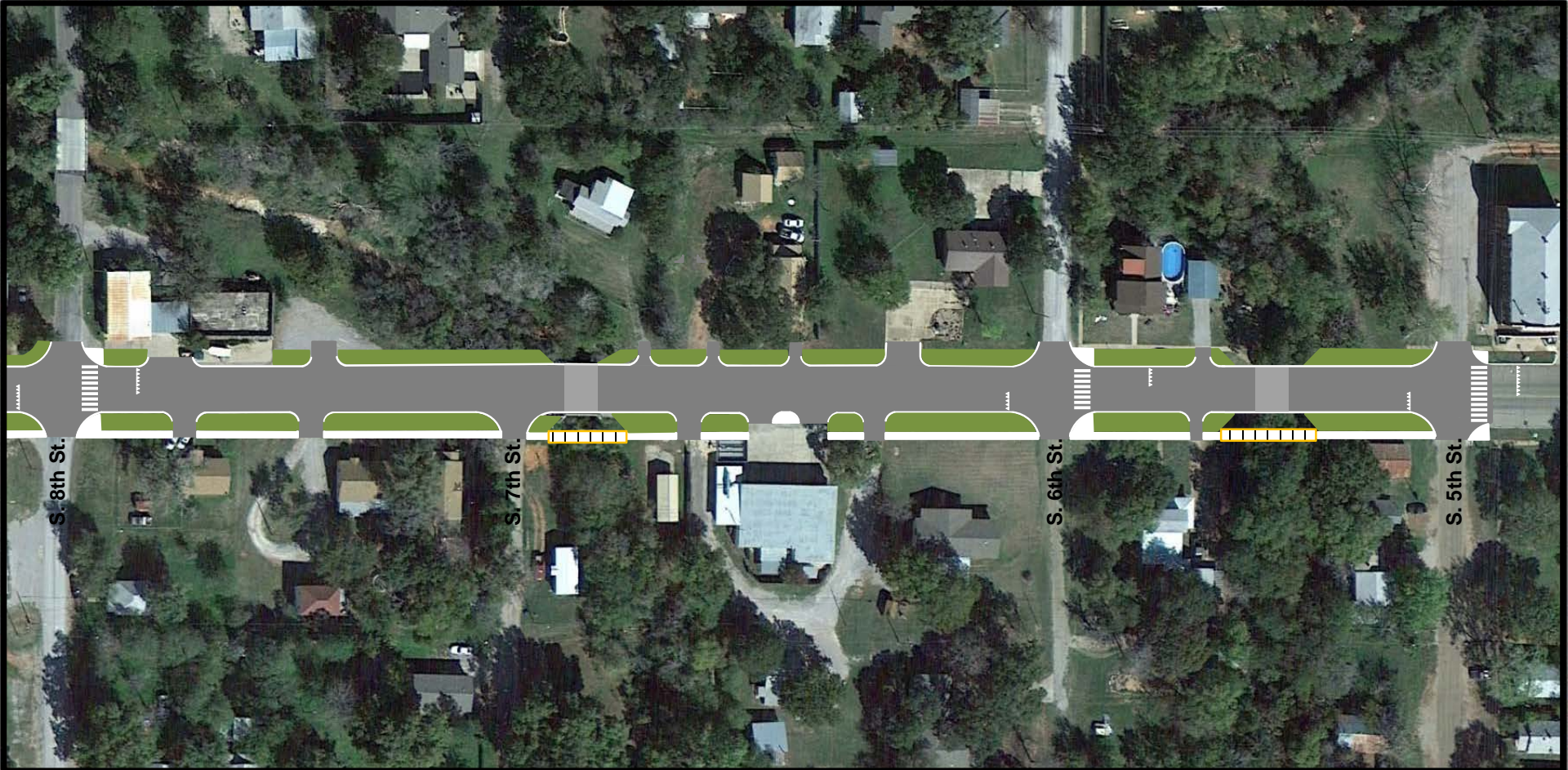
# Texas Ave. Intersection



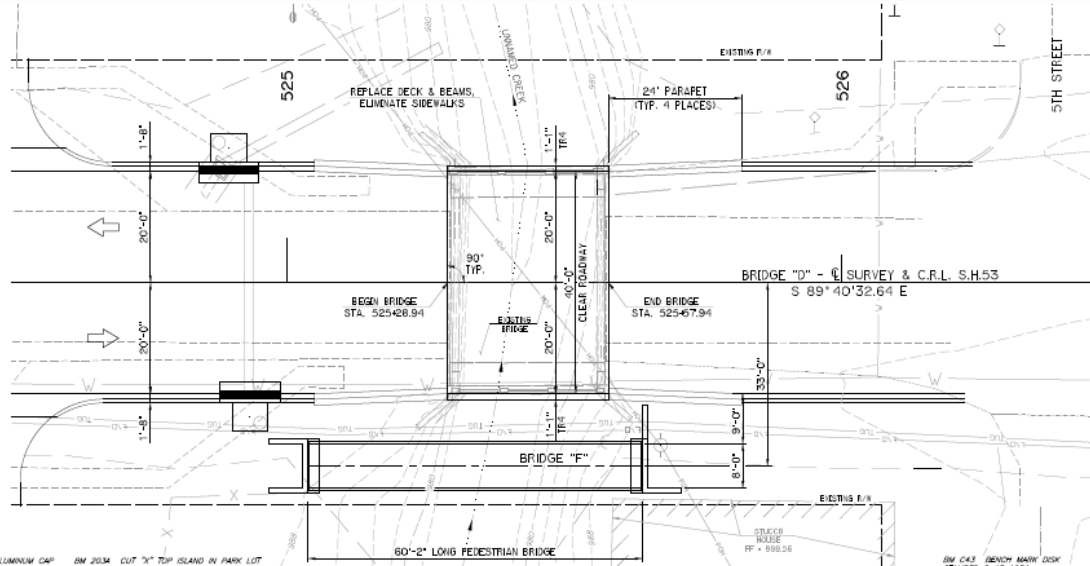
# W. Oak Ave. & N. 10th St. Intersections



# S. 8th St. to S. 5th St.



# Replace Bridge Near 5th Street



RM S-59-479 2" ALUMINUM CAP  
NE OF 4TH & HWY 53  
ELEV = 955.37

RM 2234 CUT "X" TOP ISLAND IN PARK LOT  
SE OF 4TH & HWY 53  
ELEV = 955.20

RM C43 BENCH MARK DOCK  
STAMPED C 43 1934  
ELEV = 954.20

### DESIGN DATA

CONCRETE CLASS AA  $f'_c = 4 \text{ K.S.I.}$   
 REINFORCING STEEL (GRADE 60)  $f_y = 60 \text{ K.S.I.}$   
 STRUCTURAL STEEL (A270 (GRADE 50))  $F_y = 50 \text{ K.S.I.}$

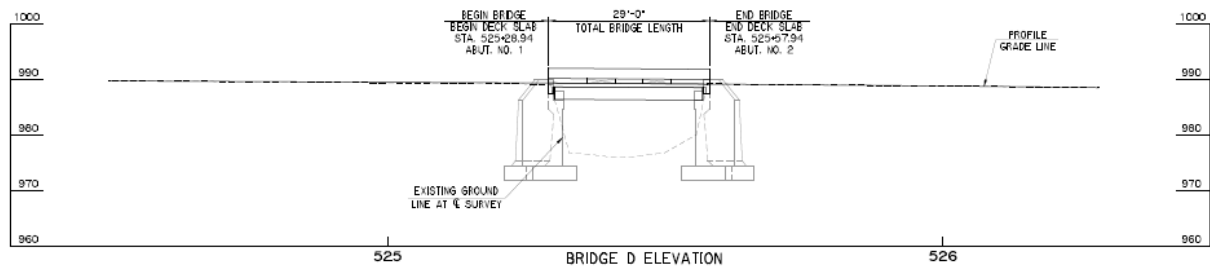
LOADING:  
 HL-93 OR OKLAHOMA OVERLOAD TRUCK  
 20 PSF FUTURE WEARING SURFACE

DESIGN:  
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION  
 ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE

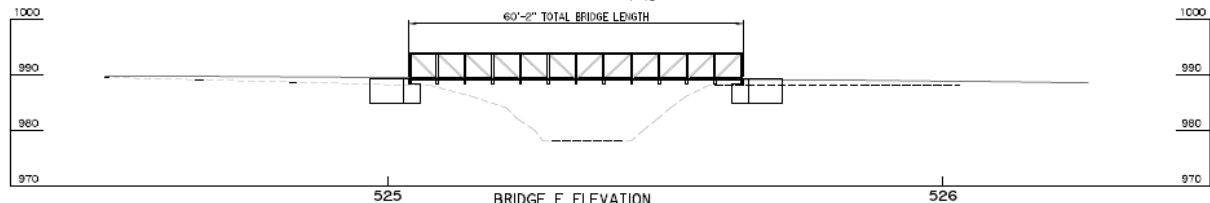
LRFD OPERATING RATING: **H5**

### INDEX OF SHEETS

- xx SUMMARY OF BRIDGE PAY QUANTITIES AND BRIDGE GENERAL NOTES
- xx GENERAL PLAN AND ELEVATION



BRIDGE D ELEVATION  
1"=10'

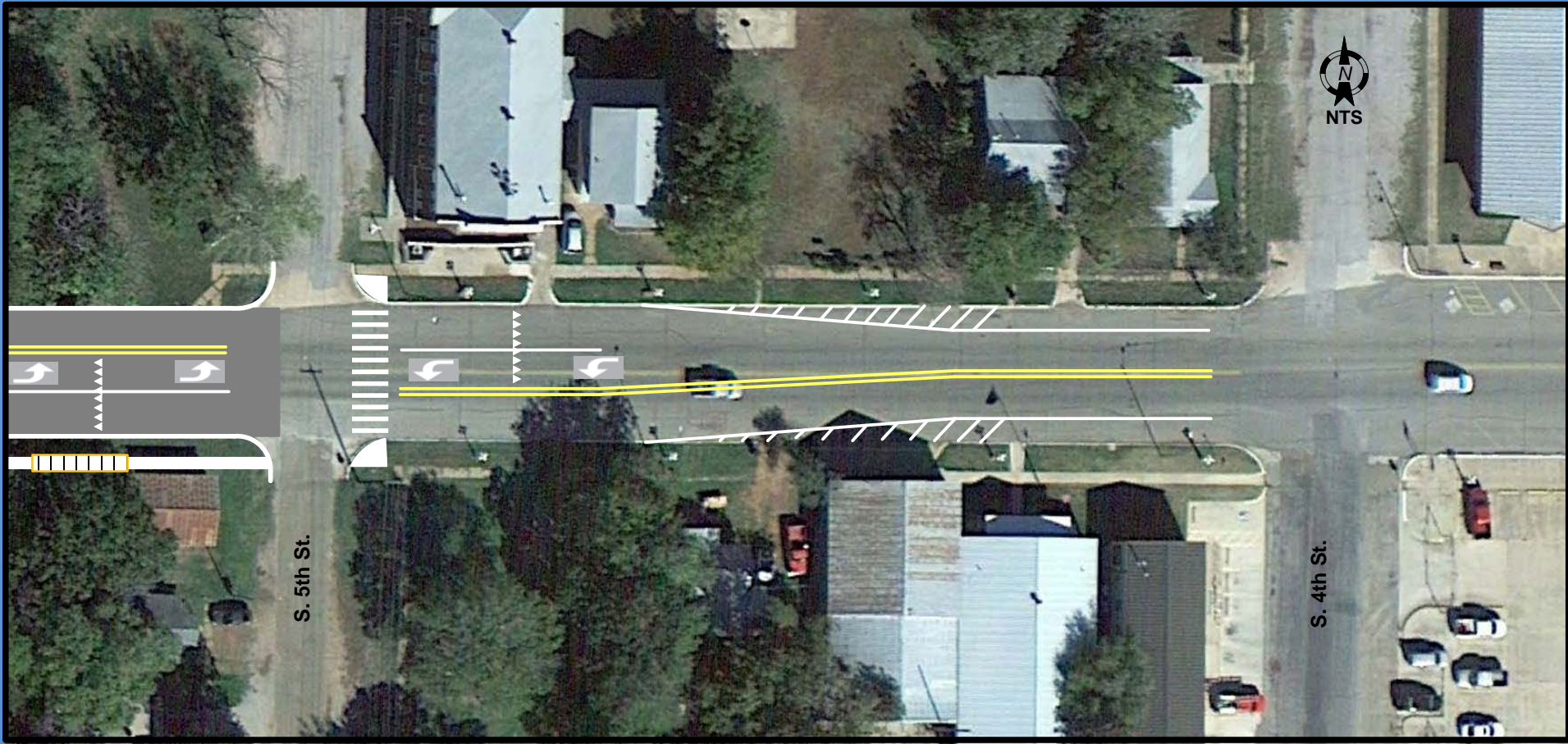


BRIDGE F ELEVATION  
1"=10'

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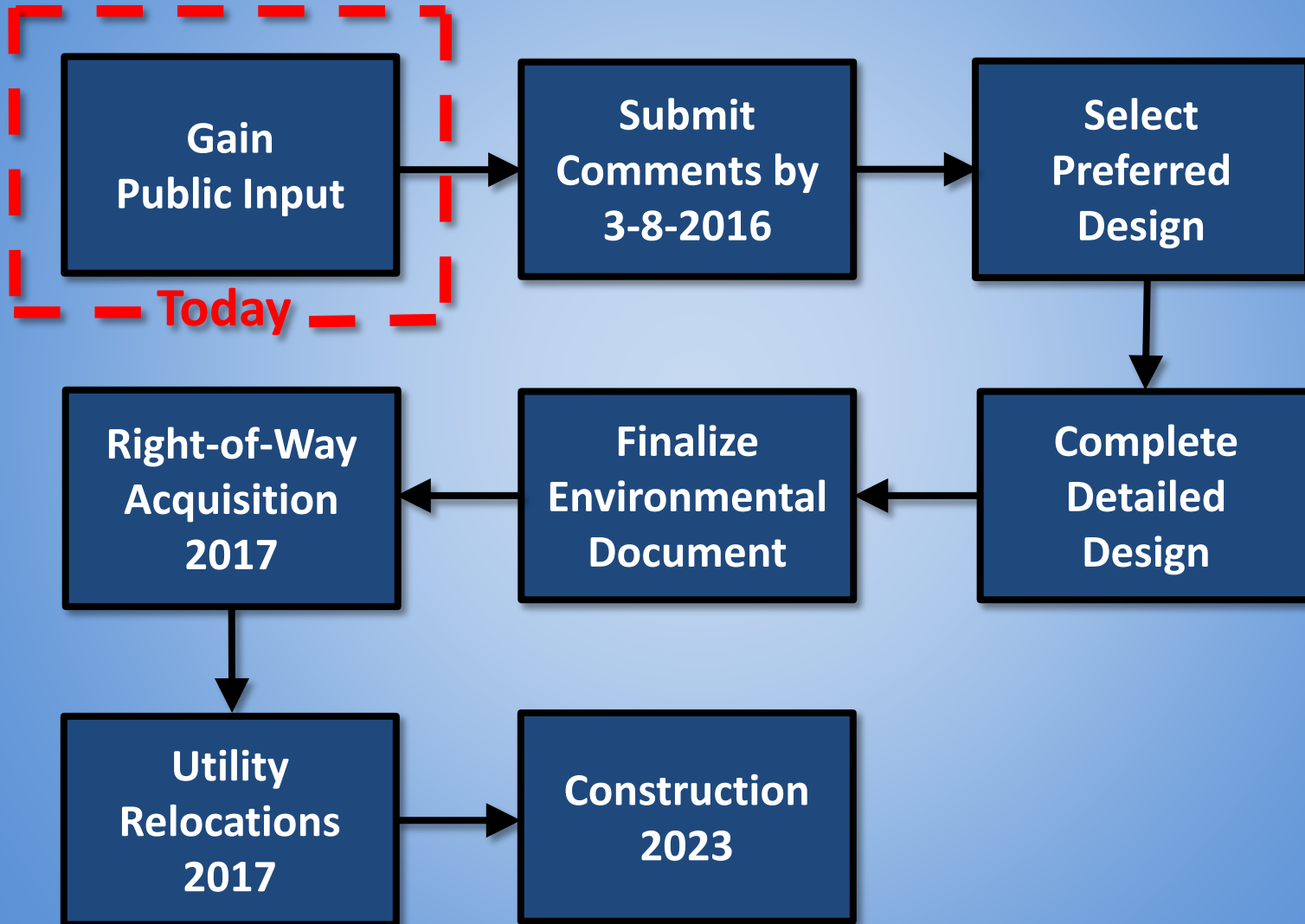
SH53 OVER UNNAMED CREEK		STEPHENS COUNTY		Design:	RRW
BRIDGE "D" & BRIDGE "F"				Detail:	DRB
GENERAL PLAN AND ELEVATION				Check:	
				WHITE ENGINEERING ASSOCIATES	
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION			
		PROJECT NO. 21720043		SHEET NO.	

# Transition to Angle Parking (EOP)





# Next Steps



# Thank You!

**Please Submit Your Comments by:**

**March 8, 2016**

- Comments may be provided as follows:
  - Leave your comment form here tonight
  - Mail comment form to:
    - Oklahoma Department of Transportation
    - Office of Public Involvement
    - 200 NE 21st Street
    - Oklahoma City, OK 73105
  - Fax comment form to (405) 521-6917
  - Email comments to: PUBLICMEETINGS@ODOT.ORG
- Information is available at [www.odot.org/publicmeetings](http://www.odot.org/publicmeetings)