



WELCOME



Public Meeting For US-60 Over the Spring and Neosho Rivers, Ottawa County

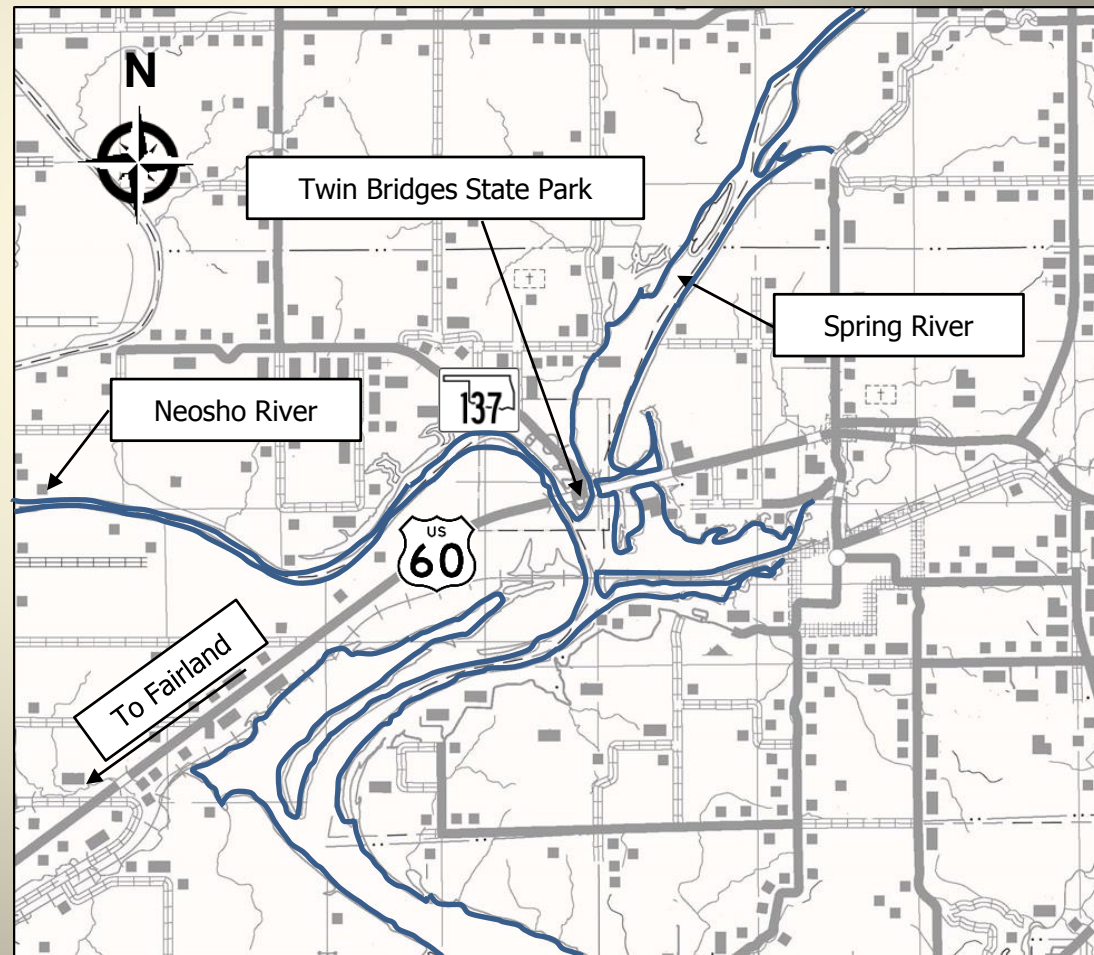
July 13, 2017

PURPOSE OF THIS MEETING

...is to Discuss the Need and Present the Preferred Alternative for US-60 over Spring and Neosho Rivers in Ottawa County



Ottawa County, Oklahoma

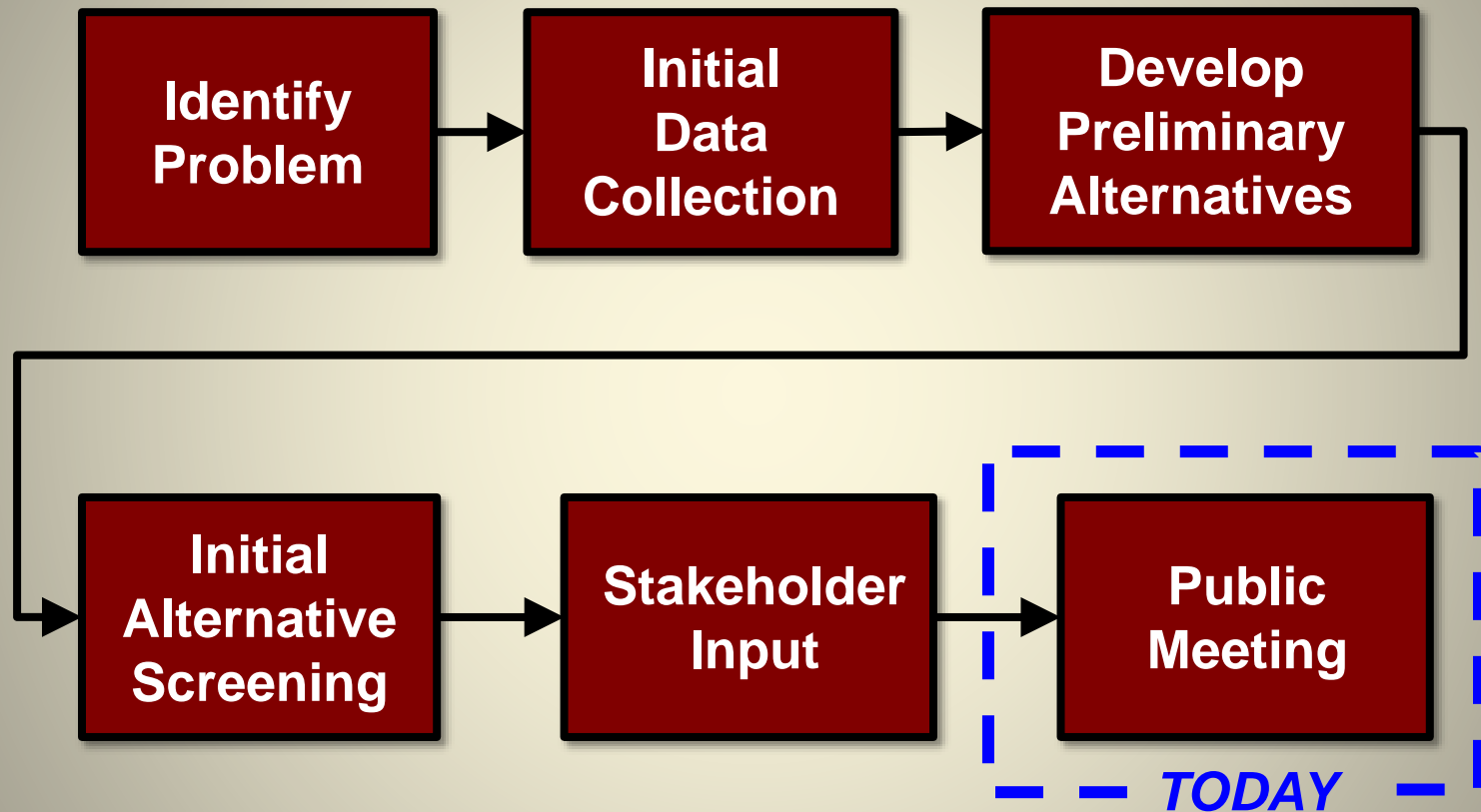


PURPOSE OF THE PROJECT

...is to Correct the At-Risk Bridges on US-60 Over the Spring and Neosho Rivers and Improve Geometrics at the SH-137 Intersection



PROJECT DEVELOPMENT PROCESS



EXISTING CONDITIONS

Existing Conditions - Roadway

- US-60

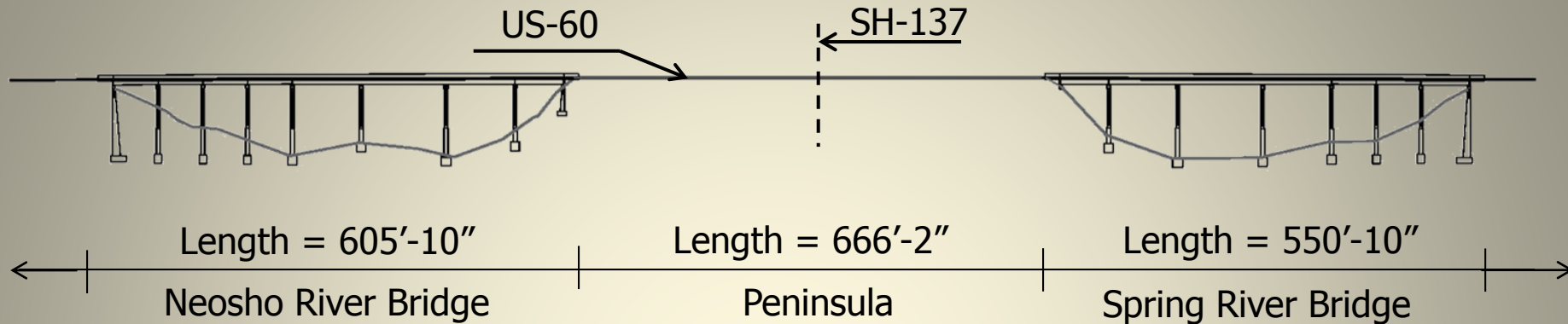
- Rural Minor Arterial
- 12' Lanes With 6' Shoulders
- Posted Speed 55 mph
- Existing Deficiencies
 - Shoulder Width
 - Superelevation on Horizontal Curve at West

- SH-137

- Rural Major Collector
- 12' Lanes With no Shoulders
- Posted Speed 35mph
- Existing Deficiencies
 - Shoulder Width
 - Horizontal Curves
 - Steep Grade
 - Sight Distance



EXISTING CONDITIONS

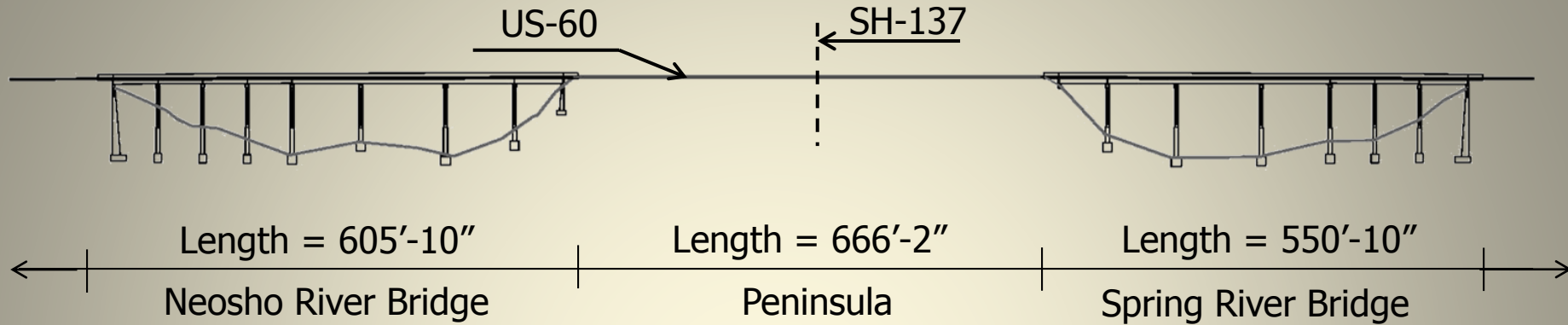


■ Existing River Bridges

- Built in 1940 (Approx. 75 years)
- Neosho River – 605'
- Spring River – 550'
- Multiple I-Beam Girder System
- 28' Clear Roadway Width
- Condition Ratings
 - Deck: 7/10
 - Superstructure: 5/10
 - Substructure: 5/10

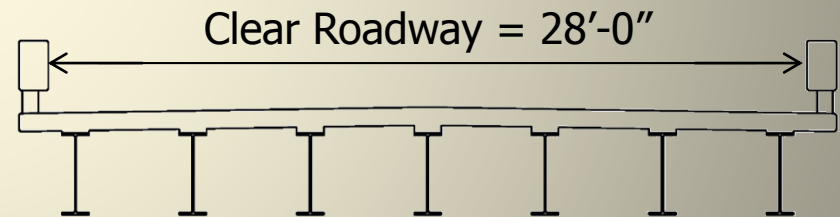


EXISTING CONDITIONS

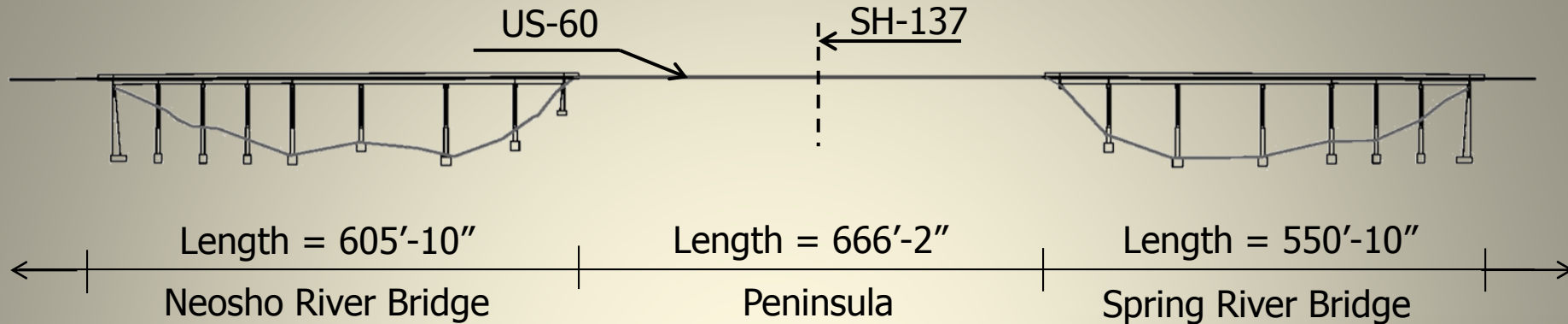


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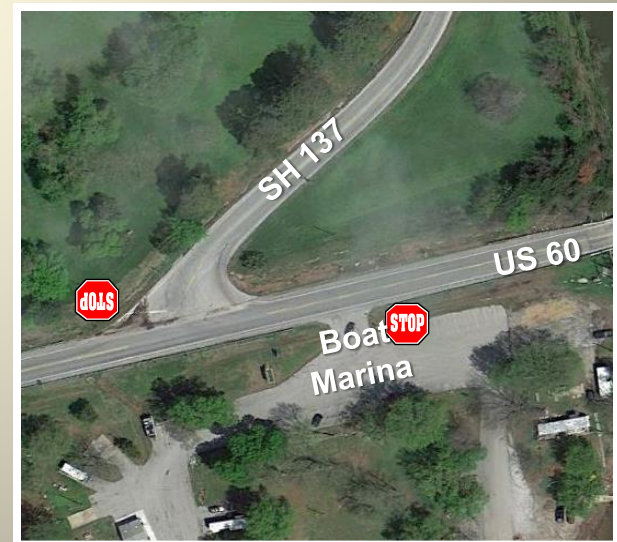
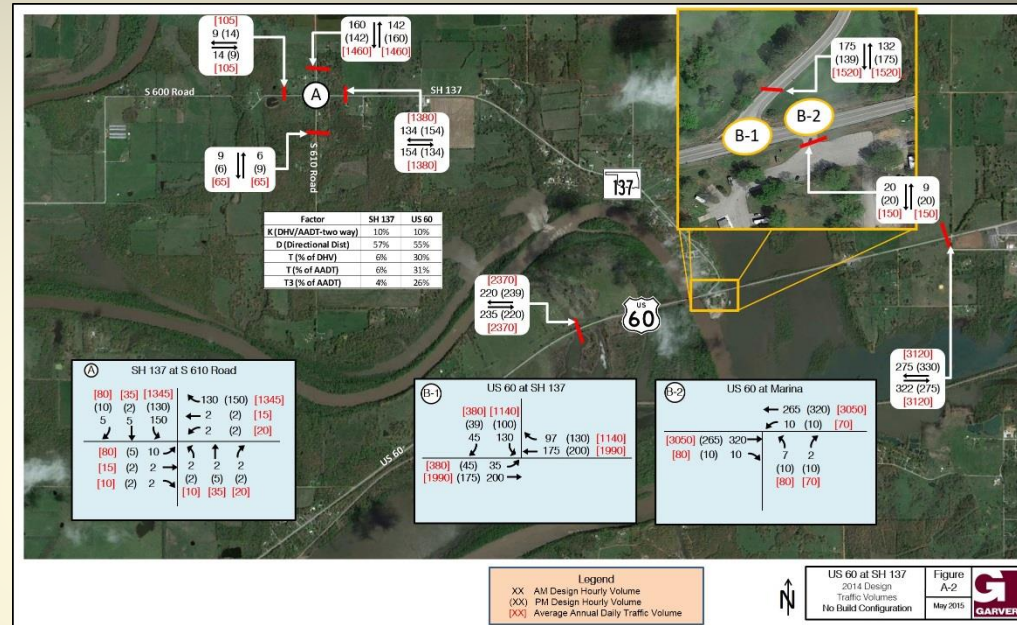
EXISTING CONDITIONS

Existing Conditions - Traffic

- Volumes (2014)
 - o US-60: 6,240 veh./day
 - o 30% Trucks
 - o SH-137: 3,040 veh./day
 - o 6% Trucks

- Level of Service (LOS)
 - o Mainline: LOS C
 - o Intersection: LOS C
 - o Both meet standards for current volumes.

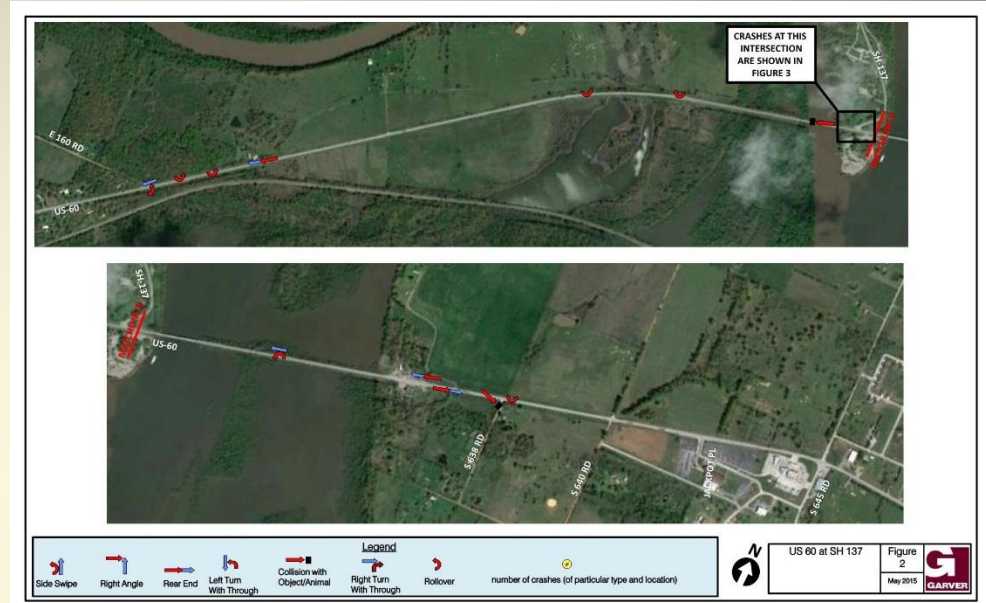
- Characteristics/Observations
 - o Skewed Intersection at SH-137
 - o Overlapping Intersections
 - o Conflicts Between Slow and Fast Moving Vehicles



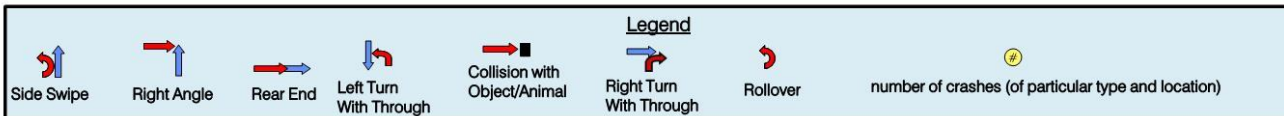
EXISTING CONDITIONS

Existing Conditions - Traffic

- Collision Data (10 Year)
 - Total 36
 - 20 Personal Property Damage
 - 15 Injury
 - 1 Fatal
 - Spot Areas of Higher Concentration
 - Curve to West
 - Intersection

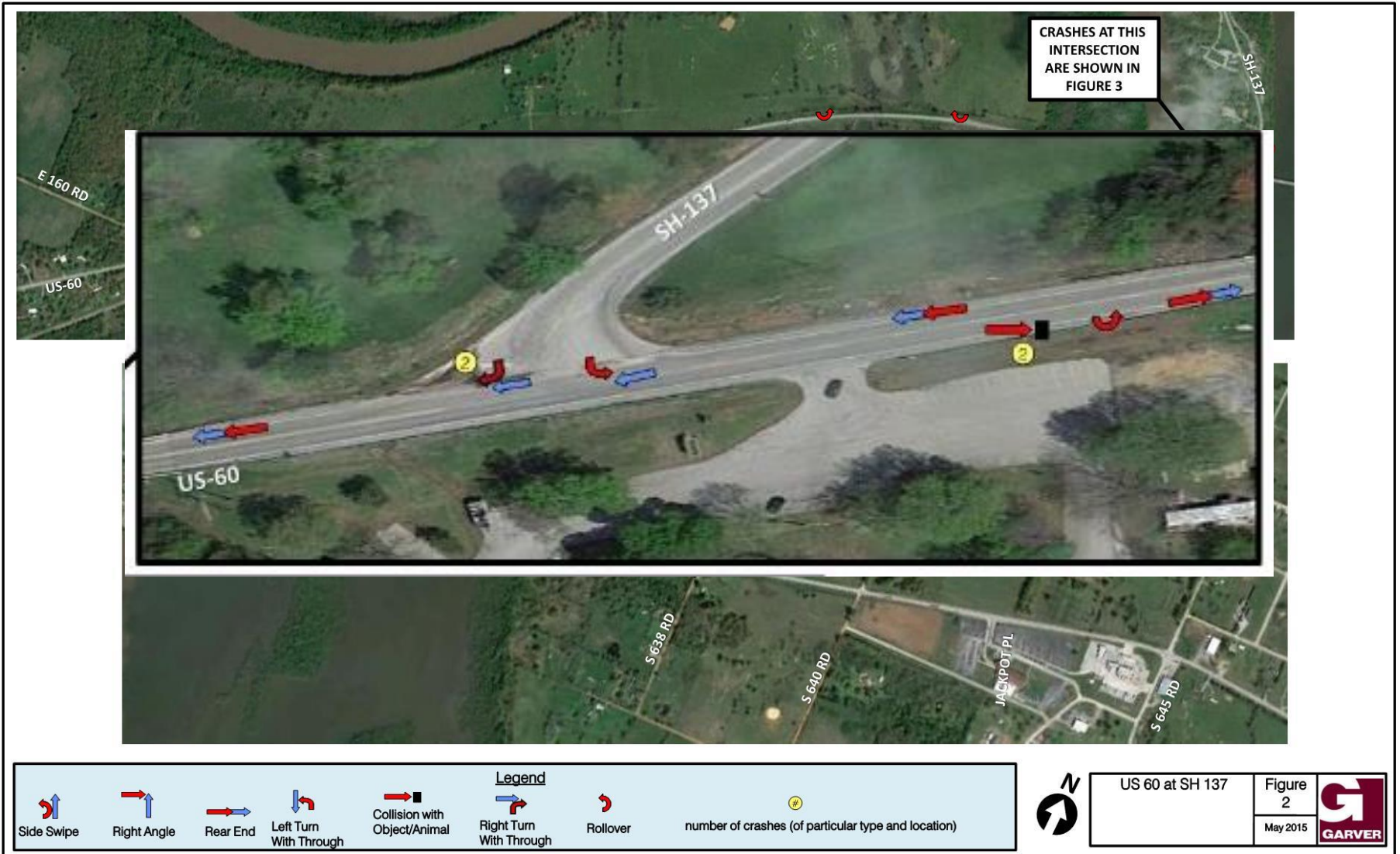


EXISTING CONDITIONS



US 60 at SH 137	Figure 2	
	May 2015	

EXISTING CONDITIONS



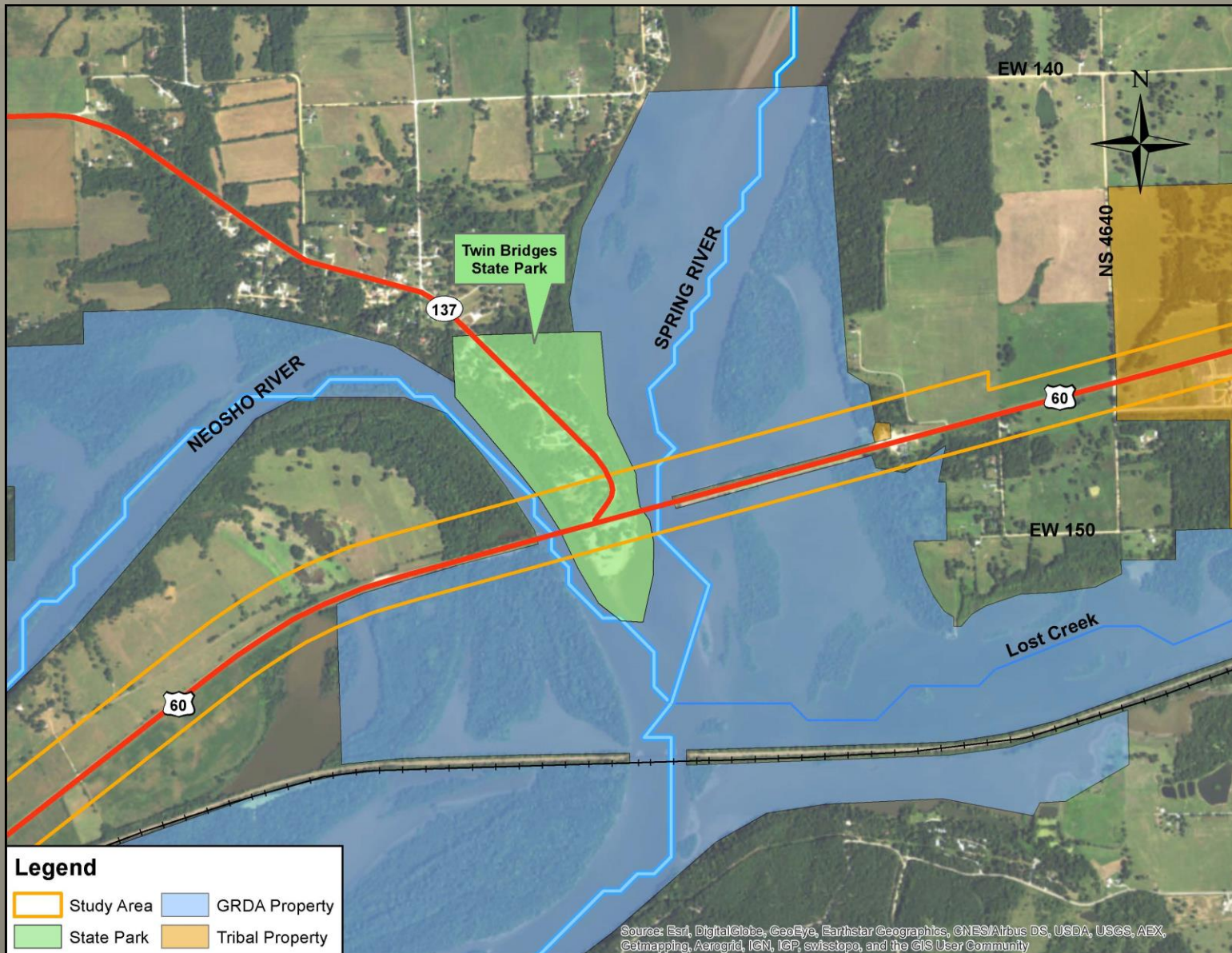
ENVIRONMENTAL CONSIDERATIONS

- **Potential Environmental Considerations**
 - Twin Bridges State Park [Section 4(f) and Section 6(f)]
 - Compensatory Flood Storage
 - Extensive Wetlands
 - Threatened and Endangered Species
 - GRDA Lands
 - Cultural Resources

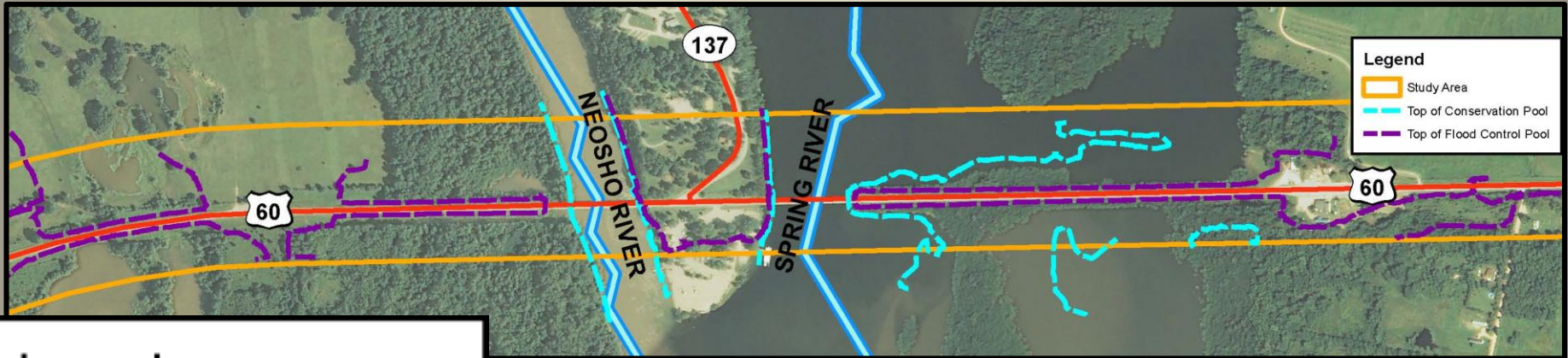
- **Detailed Environmental Studies will Be Completed in the Next Phase**



PARK AND GRDA LANDS



FLOOD STORAGE



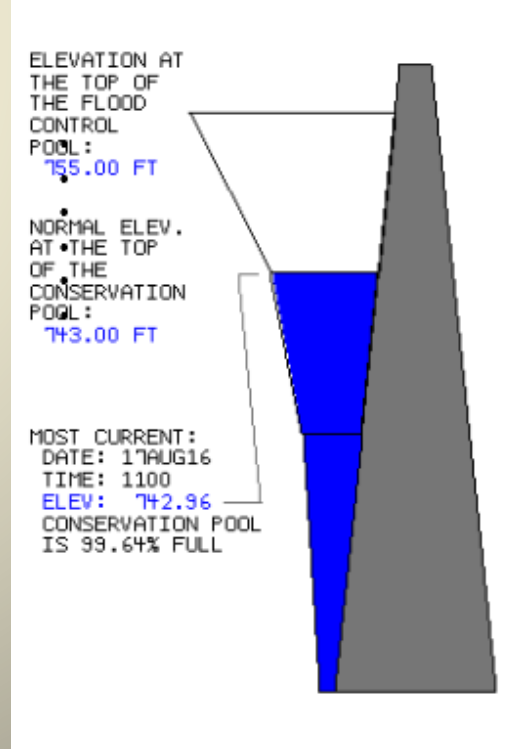
Legend

- Study Area
- Top of Conservation Pool
- Top of Flood Control Pool

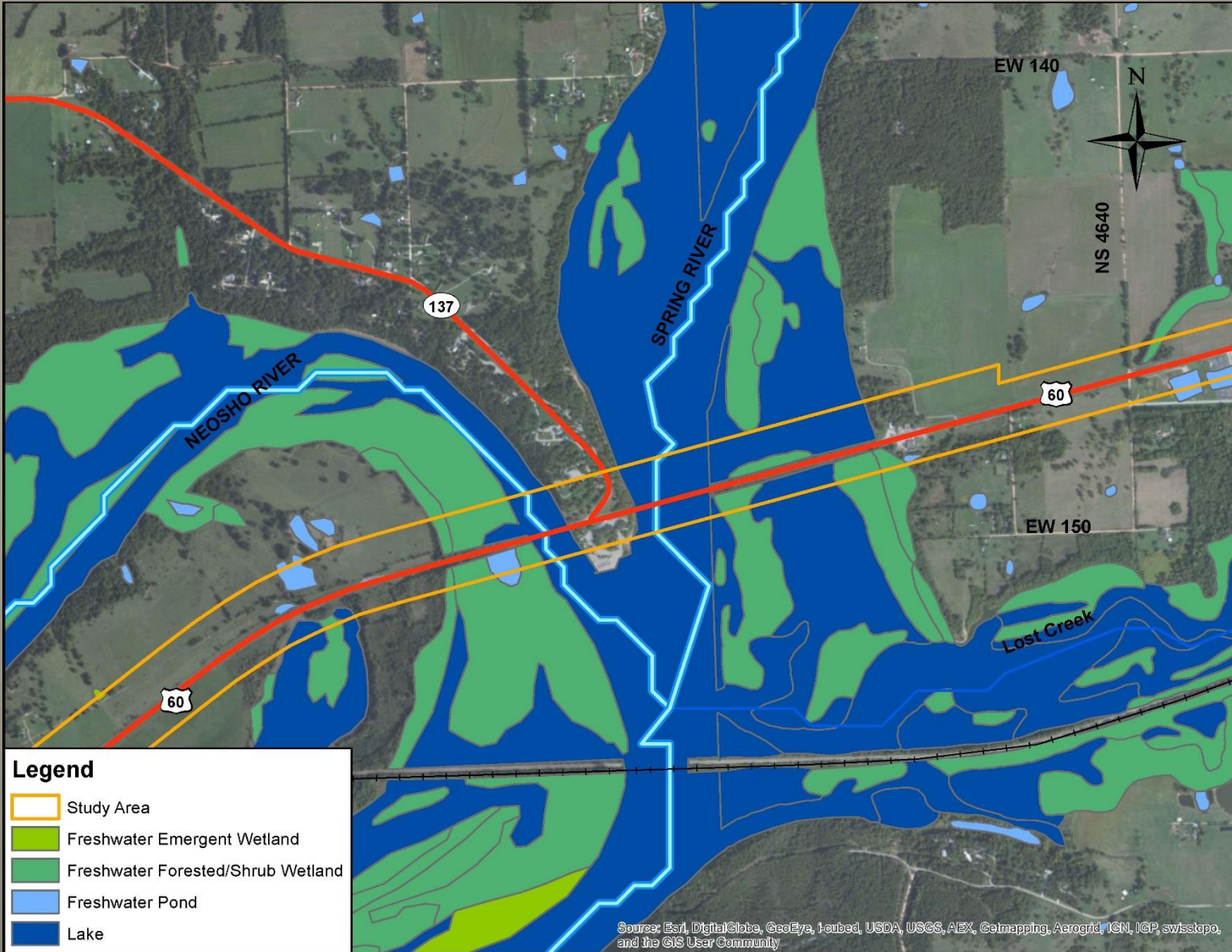
Legend

- Study Area
- Top of Conservation Pool
- Top of Flood Control Pool

Much of the Project Area is Within the Flood Pool and May Require Compensatory Flood Storage



WETLANDS



THREATENED AND ENDANGERED SPECIES

■ Threatened and Endangered Species

- American Burying Beetle
- Piping Plover
- Red Knot
- Gray Bat
- Northern Long-Eared Bat
- Ozark Big-Eared Bat
- Neosho Mucket
- Winged Mapleleaf
- Neosho Madtom
- Ozark Cavefish



American Burying Beetle



Piping Plover



Neosho Madtom



Neosho Mucket



Ozark Cavefish



Northern Long-Eared Bat

A photograph of a road intersection. In the foreground, a concrete barrier runs along the edge of a road. The road has a double yellow line. In the background, there are road signs for North 137 and East 60. The sky is overcast. The text "DEVELOPMENT OF ALTERNATIVES" is overlaid in large, white, bold letters with a black outline.

DEVELOPMENT OF ALTERNATIVES

DESIGN CONSIDERATIONS

Future Traffic (2038)

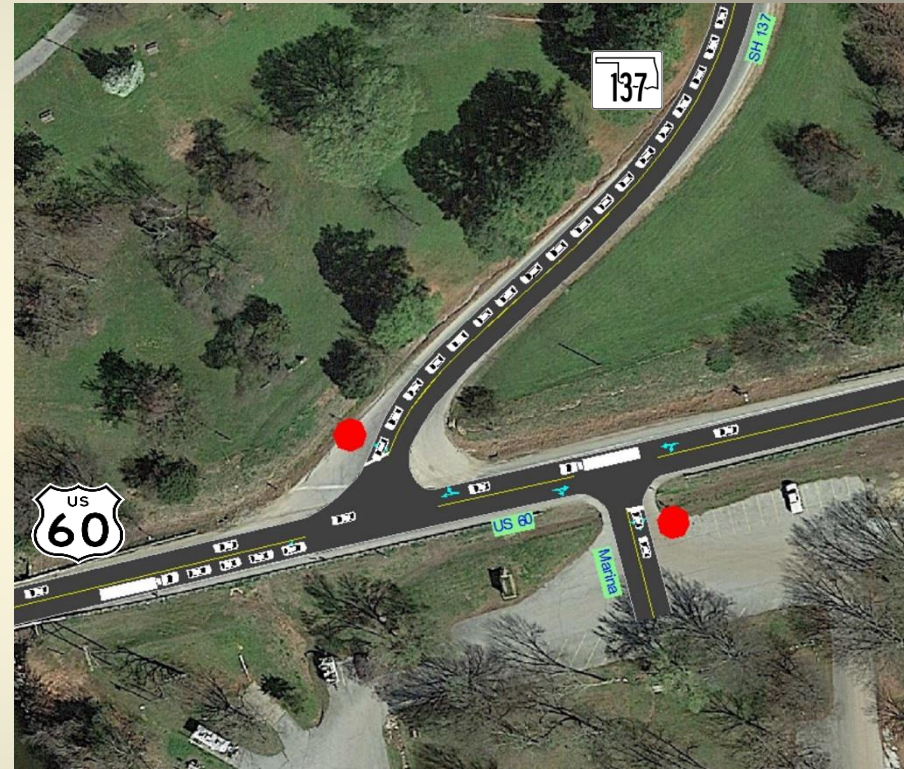
- 50% Growth From Existing
- US-60: 9,240 veh./day (6,240)
- SH-137: 4,500 veh./day (3,040)

No Build Conditions

- LOS D on US-60 and SH-137
- US-60/SH-137 Intersection:
 - o LOS E/F Conditions on SH-137 during peak periods

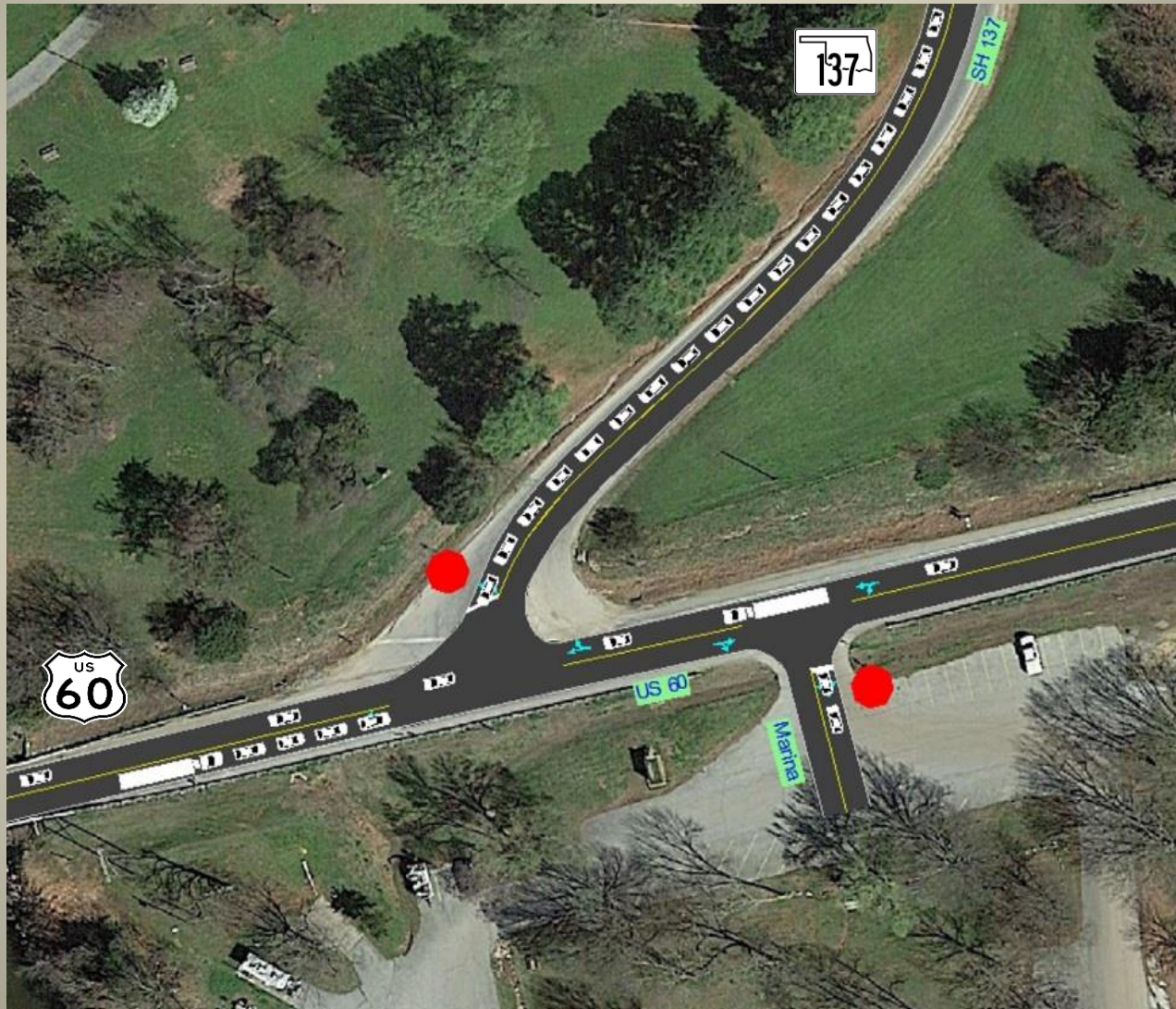
Proposed Improvements

- 2-Lane Mainline Roadway
- Turn Lanes on All Approaches
 - US-60 EB Left
 - US-60 WB Right
 - SH-137 SB Left



Simulation of "No Build" with Future Traffic

DESIGN CONSIDERATIONS



Simulation of Existing
Conditions/Future Traffic

DESIGN CONSIDERATIONS

Future Traffic (2038)

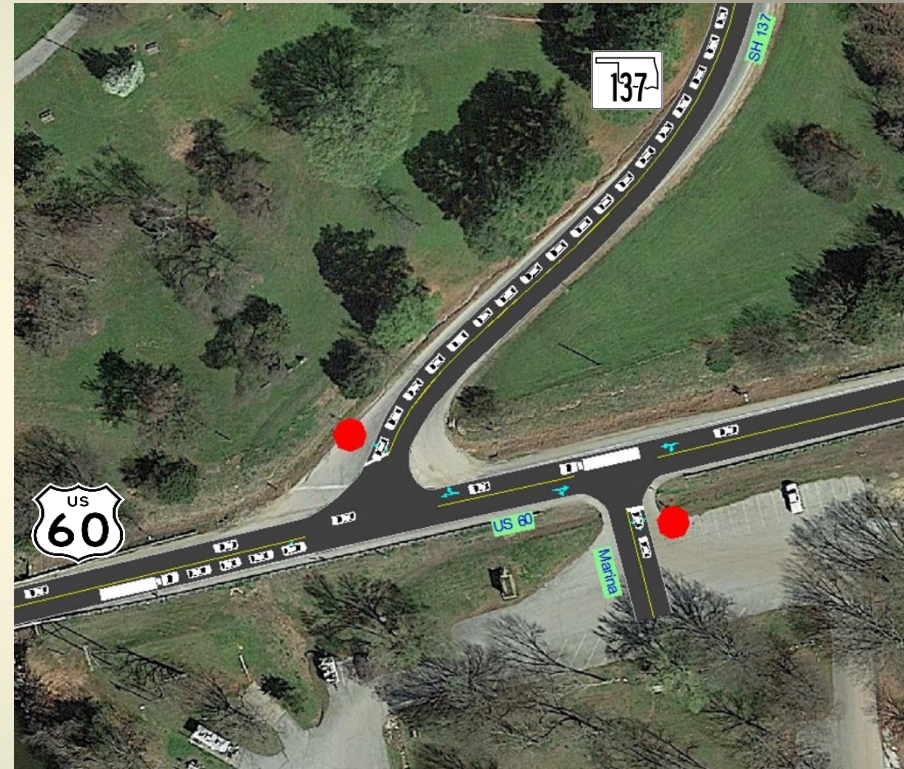
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Proposed Improvements

- 2-Lane Mainline Roadway
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 - US-60 WB Right
 - SH-137 SB Left



Simulation of "No Build" with Future Traffic

PROPOSED DESIGN CRITERIA & METHODOLOGY

■ Roadway/Traffic

■ US-60

- 2-Lane w. 8 foot Shoulders
- Design Speed = 65 mph
- Clear Zone = 30 feet

■ SH-137

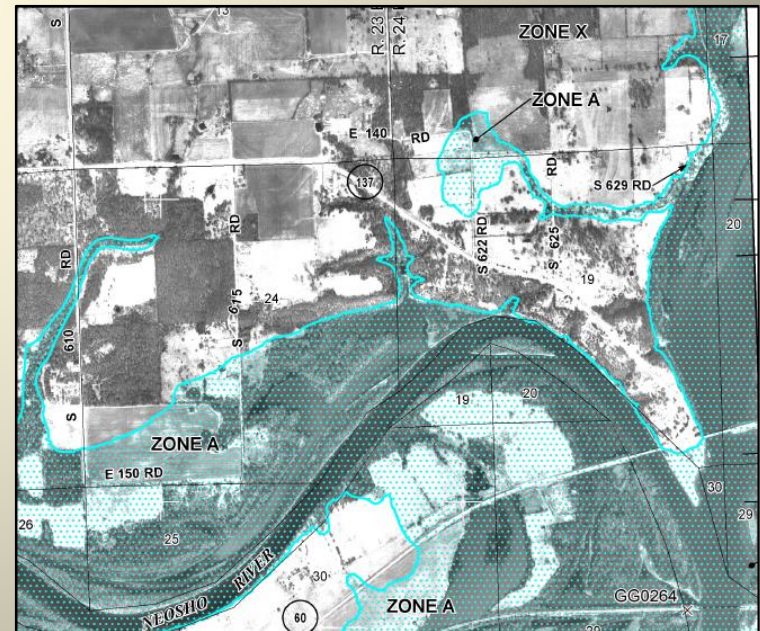
- 2-Lane w. 4 foot Shoulders
- Design Speed = 40 mph
- Clear Zone = 22 feet

■ Bridge & Retaining Walls

- Evaluated different beam types and bridge layouts
- Retaining walls used to avoid storage/wetland impacts
- Assumed transition to retaining walls at 15ft

■ Hydraulics

- 50 year Design for Overtopping Roadway – ODOT Criteria
- 100 year Design for Bridge (FEMA Zone A - 1 foot max rise)



FEMA Mapped Flood Zone

DEVELOPMENT OF PRELIMINARY ALTERNATIVES

■ Constraints and Considerations

- Construction Costs
- Bridge Length and Maintenance
- Retaining Walls and Maintenance
- Facility User Impacts
- Relocations
- Park Impacts
- GRDA Lands
- Flood Storage Impacts
- Wetland & Stream Impacts

■ Alternative 1 – On-Existing Alignment

■ Alternative 2 – Partial South Offset

■ Alternative 3 – Raised Crossing with SH-137 Connection at Peninsula

■ Alternative 4 – Raised Crossing with Relocated SH-137 Connection



DEVELOPMENT OF PRELIMINARY ALTERNATIVES

Alternative 1 – On-Existing Alignment

- Minimalist Alternative with Regards to Impacts, Cost, and Construction Duration
- Replace Bridges on Existing Alignment near Same Elevation
- No Turn Lanes or Changes to SH-137 Grade
- No Improvements to Horizontal Curve
- Detours Likely During Construction



DEVELOPMENT OF PRELIMINARY ALTERNATIVES

Alternative 2 – Partial South Offset

- Replace Bridges 26' South of Existing Centerline (cut to the north)
- US-60 Raised 5' at Peninsula to Improve SH-137 Grade
- US-60 Raise impact on Marina Drive
- Retaining Walls along US-60
- Includes Turn Lanes at Intersection
- Reconstruction of Curve to West
- Staged Construction – Maintain Two Lanes of Traffic



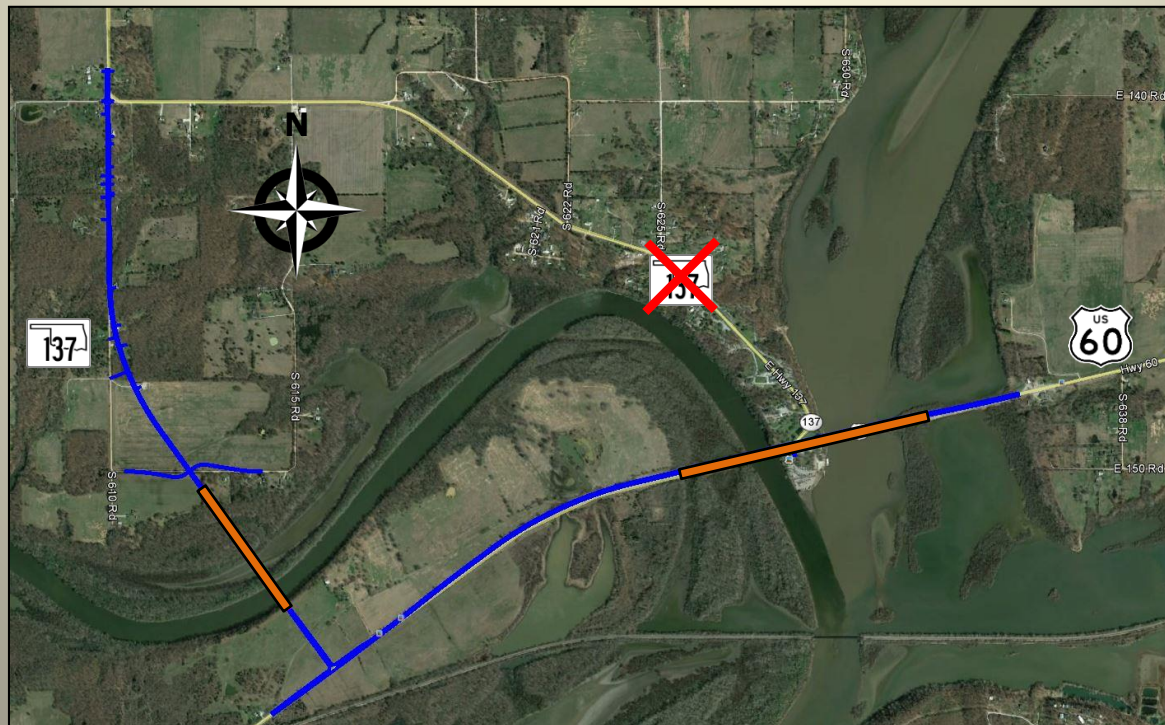
DEVELOPMENT OF PRELIMINARY ALTERNATIVES

- **Alternative 3 – Raised Crossing with SH-137 Connection at Peninsula**
 - Replace Bridges With One Longer Bridge Over the Peninsula
 - US-60 Raised Approximately 25’ at Peninsula to Improve SH-137 Grade
 - Elevated “T” Intersection, Shifted East From Existing
 - Shifts Marina Access to SH-137
 - Includes Turn Lanes at Intersection
 - Staged Construction - Maintain Two Lanes of Traffic



DEVELOPMENT OF PRELIMINARY ALTERNATIVES

- **Alternative 4 – Raised Crossing with Relocated SH-137 Connection**
 - Eliminates Intersection at Peninsula, Creates New Intersection to West
 - Creates New SH-137 Alignment and Bridge Across the Neosho River
 - Existing SH-137 Becomes County Road to Access Park
 - Replace US-60 Bridges With One Longer Bridge Over the Peninsula
 - US-60 Raise 25' to provide Vertical Clearance at Marina



PREFERRED ALTERNATIVE

Meeting was Held With ODOT to Discuss the 4 Preliminary Alternatives

US-60 over Spring and Neosho Rivers, Ottawa County Alternative Impact Matrix									
Alternative	Meets Purpose and Need	Total Cost (\$millions)*	GRDA Property (Acres)	Right-of-Way (Acres)	Number of Relocations	Park Impacts (acre)	Wetlands (acre)	Compensatory Storage (cubic yard)	US-60 Maintenance of Traffic (Lanes Closed)
1	NO	\$9.0	0	0	0	0	0	0	1-2
2	YES	\$23.1	0	3	1	2.3	0.2	2,300	0
3	YES	\$31.4	0	2	0	1.1	0.2	3,000	0
4	YES	\$36.0	0.02	52	11	0	0.2	4,500	0

* Costs DO NOT include mitigation

Alternatives Were Eliminated That:

- Did not address capacity issues
- Did not improve steep grade on SH-137
- Caused greater impacts on properties and the environment

PREFERRED ALTERNATIVE

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* Costs DO NOT include mitigation

- Alternative 3 is Preferred Because it Corrects the Bridges, Improves the Grades and Safety on SH-137 and on US-60, and Balances Costs with Minimizing Impacts to Properties and the Environment

STAKEHOLDER MEETING

- **ODOT Presented to Key Project Stakeholders – October 24, 2016**
- **Stakeholders Included Agencies with Jurisdiction over Resources in the Area**
 - U.S. Army Corps of Engineers
 - U.S. Fish and Wildlife Service
 - Wyandotte Nation
 - Ottawa County Commissioner
 - Oklahoma Tourism and Recreation Department
 - Grand River Dam Authority
- **Feedback from Stakeholders Included**
 - Need to keep US-60 open during construction
 - Any closures should be coordinated with Twin Bridges State Park and attempt to avoid spoonbill season
 - Will need to coordinate with Tourism and Recreation Department on any acquisition needed from the Park
 - Prefer aesthetic treatment of retaining walls
 - Appreciate the minimization of impacts to wetlands

PREFERRED ALTERNATIVE



PREFERRED ALTERNATIVE (ALTERNATIVE 3)

■ Raised Crossing with SH-137 Connection at Peninsula

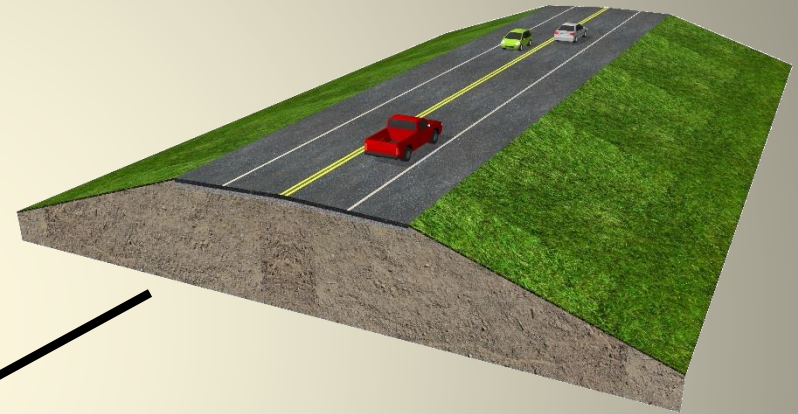
- Reconstructs Curve at West
- Alignment Offset 26' South of Existing
- US-60 Raised 25' at Peninsula
- Replace Bridges With One Longer Bridge Over the Peninsula
- Elevated "T" Intersection with Turn Lanes, Shifted East From Existing
- Shifts Marina Access to SH-137



PREFERRED ALTERNATIVE (ALTERNATIVE 3)

■ Raised Crossing with SH-137 Connection at Peninsula

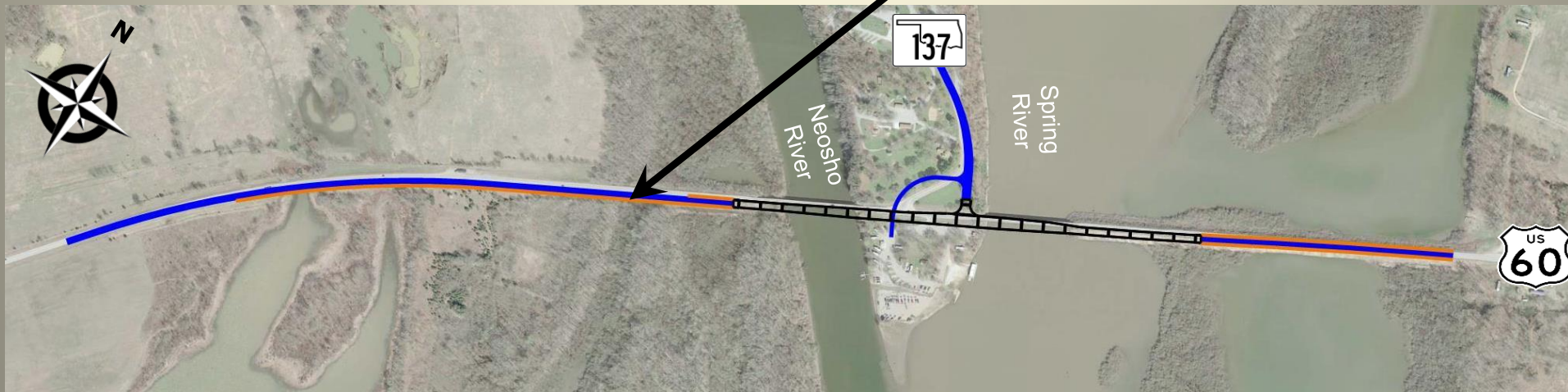
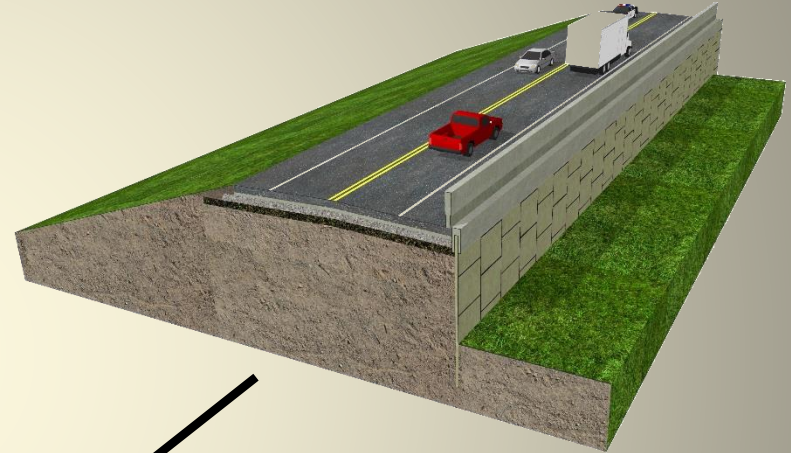
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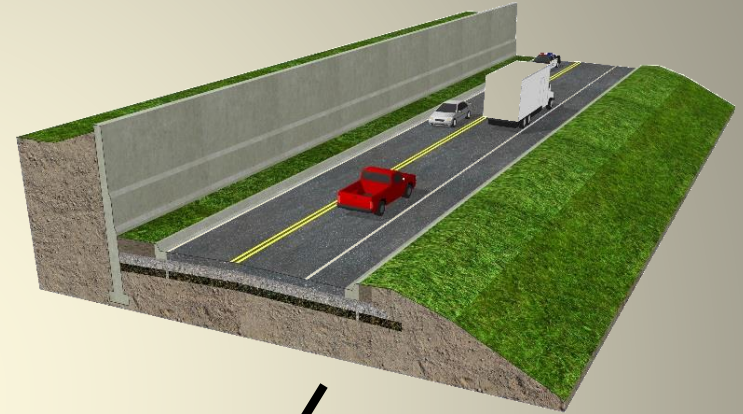
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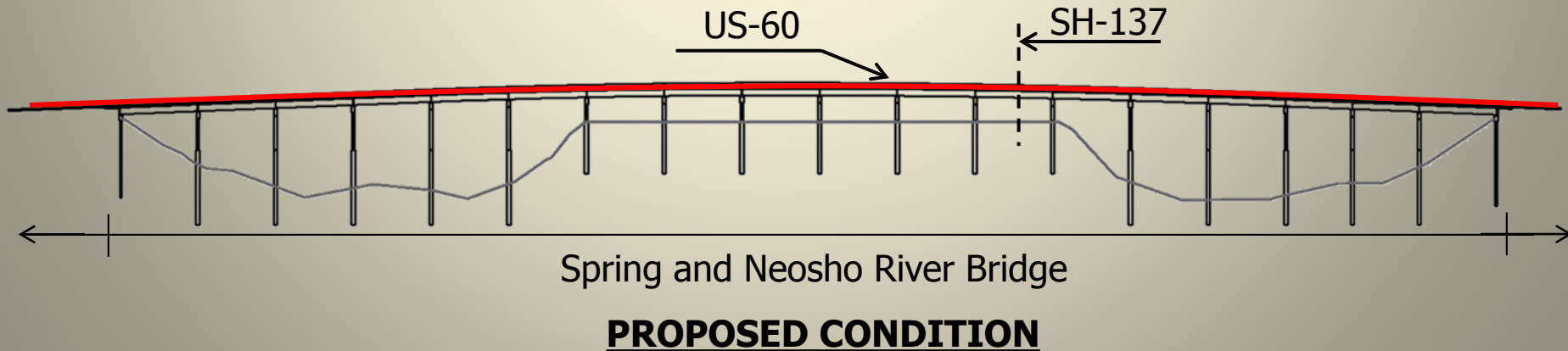
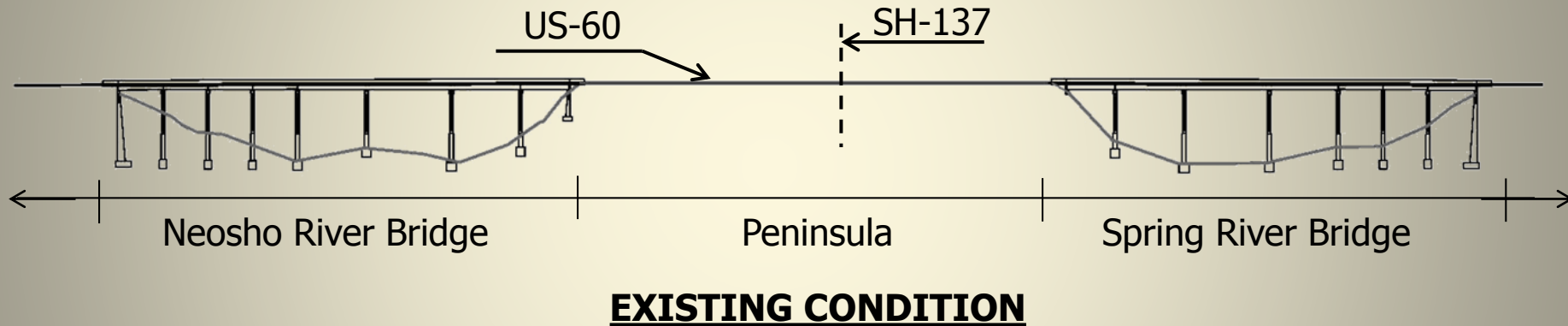
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PREFERRED ALTERNATIVE (ALTERNATIVE 3)

- **Raised Crossing with Existing SH-137 Connection**
 - Replace Existing Bridges With One Longer Bridge Over the Peninsula
 - Bridge from West Causeway to East Causeway
 - Elevated SH-137 Connection



PREFERRED ALTERNATIVE (ALTERNATIVE 3)

- **Raised Crossing with Existing SH-137 Connection**
 - Bridge Extension and General Lane Configuration (Tapers and Turn Lanes).
 - Slab on Girder (Two Bridges) with Retaining Walls.
 - 26' Partial South Offset Distance to Existing US-60.
 - US-60 (2600' with 19 Spans). SH-137 (60' with 1 Span).



PREFERRED ALTERNATIVE (ALTERNATIVE 3)

- **Raised Crossing with Existing SH-137 Connection**
 - Bridge Tapers for Turning Lanes. Safety Rail. Fill and Sloped Embankments.
 - Marina Drive Vertical and Horizontal Clearance.
 - Cut Retaining Walls Along SH-137 and Marina Drive.



PREFERRED ALTERNATIVE (ALTERNATIVE 3)

- **Raised Crossing with Existing SH-137 Connection**
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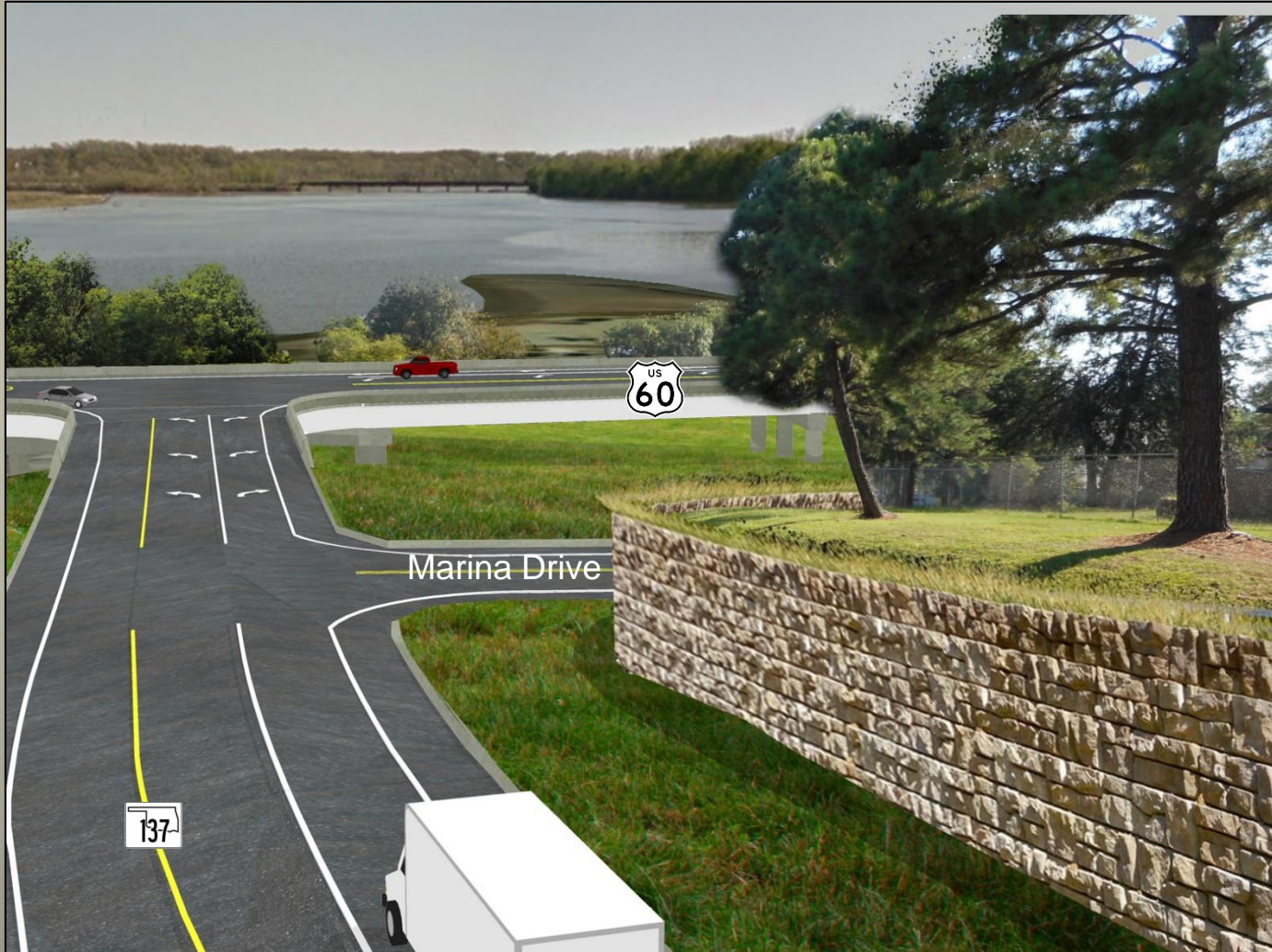
PREFERRED ALTERNATIVE (ALTERNATIVE 3)

- **Raised Crossing with Existing SH-137 Connection**
 - Marina Drive Access and Rendered View



PREFERRED ALTERNATIVE (ALTERNATIVE 3)

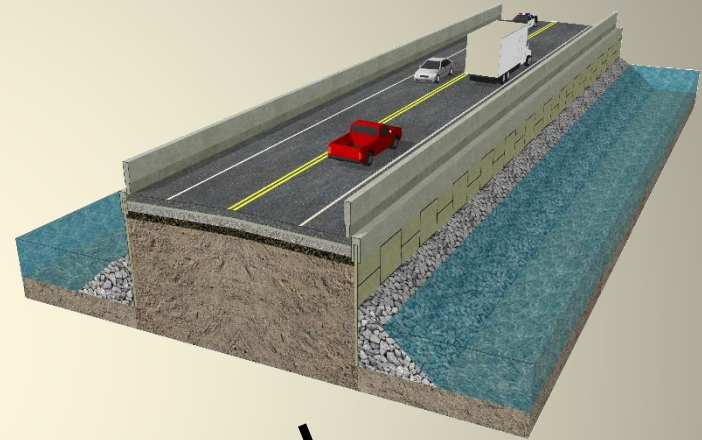
- **Raised Crossing with Existing SH-137 Connection**
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PREFERRED ALTERNATIVE (ALTERNATIVE 3)

■ Raised Crossing with SH-137 Connection at Peninsula

- Reconstructs Curve at West
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- Shifts Marina Access to SH-137



PREFERRED ALTERNATIVE (ALTERNATIVE 3)

- **Raised Crossing with SH-137 Connection at Peninsula**
 - Construction Sequencing and Traffic Control
 - US-60
 - Maintain Two Lanes of Thru Traffic
 - Temporary Pavement Widening Required at Tie-in Points
 - SH-137
 - Temporary Closures and Require Detours



PREFERRED ALTERNATIVE (ALTERNATIVE 3)

- Raised Crossing with SH-137 Connection at Peninsula



- **Construction Sequencing – SH-137**
 - Marina/Park Access Open at All Times but may Require Detour
 - Attempt to Coincide Construction Sequence with Local Considerations
 - Anticipated Duration of Closure and Detour is 6 Months.

PREFERRED ALTERNATIVE (ALTERNATIVE 3)

- Temporary Detour Route



PROJECT IMPACTS

A landscape photograph showing a road under construction. The foreground is a grassy slope with sparse green and brown patches. A newly poured asphalt road curves through the middle ground, bordered by a wide, sandy shoulder. In the background, there are several large, mature pine trees on the right and a residential area with houses and a bridge in the distance under a cloudy sky. A yellow diamond-shaped sign is visible on the left side of the road.

IMPACTS SUMMARY

US-60 over Spring and Neosho Rivers, Ottawa County Impact Summary - Preferred Alternative								
Meets Purpose and Need	Total Cost (\$millions)*	Right-of-Way (Acres)	GRDA Property (Acres)	Number of Relocations	Park Impacts (Acres)	Wetlands (Acres)	Compensatory Storage (Cubic Yards)	US-60 Maintenance of Traffic (Lanes Closed)
YES	\$31.4	2	0	0	1.1	0.2	3,300	0

*costs DO NOT include mitigation

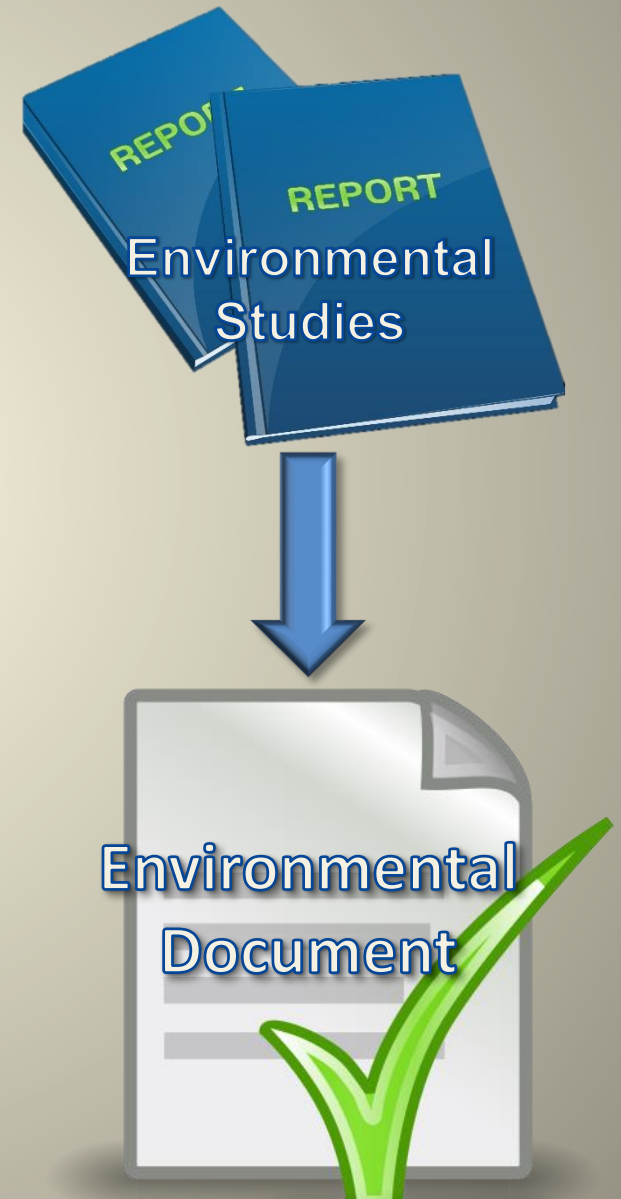
- **Alternative 3 is Preferred by ODOT Due to Better Grades, Safer Intersection with SH-137, and Reduced Impacts**
- **Impacts to Wetlands and Flood Storage have been Minimized with the use of Retaining Walls – these will be Investigated Further during Design**

A wide river flows through a landscape under a cloudy sky. In the background, a bridge with several concrete piers spans across the water. The foreground shows a rocky and somewhat barren shoreline with sparse, leafless vegetation. A utility pole is visible on the right side of the river. The text "NEXT STEPS" is overlaid in the center of the image.

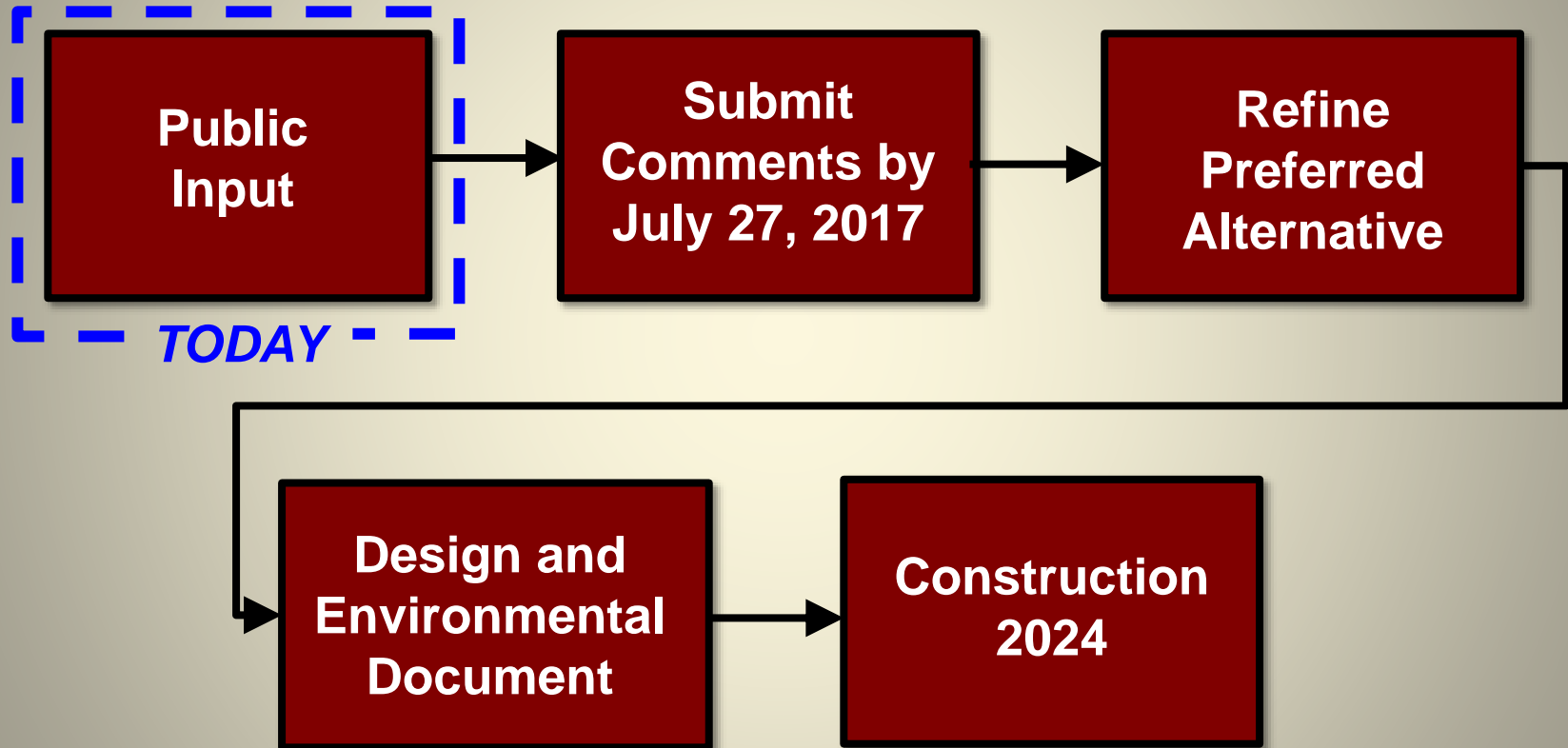
NEXT STEPS

ENVIRONMENTAL NEXT STEPS

- **Detailed Environmental Studies Will be Performed**
 - Archaeological and Historic Survey
 - Wetland Delineations
 - Biological Assessment – USFWS Consultation
 - Hazardous Waste Investigation
- **ODOT will Coordinate with the OK Dept of Tourism and Twin Bridges State Park on Impacts to the Park**
- **Studies Will be Summarized in an Environmental Document that Will Outline the Commitments to Minimize Impacts to the Environment**



NEXT PROJECT STEPS



THANK YOU!

**Please Submit Your Comments by
July 27, 2017**

- ✓ **Leave Your Comment Form Here Tonight**
- ✓ **Mail the Comment Form Back to ODOT:**
Environmental Programs Division
200 NE 21st Street
Oklahoma City, OK 73105
- ✓ **Email Your Comments to Environment@ODOT.ORG**
- ✓ **Submit via Internet at www.odot.org/publicmeetings**

QUESTIONS?