WELCOME

Public Meeting for SH-85A Horse Creek
Bernice, OK

SH-85A bridge located 3.5 miles east of SH-85, including west and east approaches

Randle White, PE
ODOT Division VIII Engineer
The purpose of this meeting is to inform the public about the proposed project to replace the structurally deficient bridge on SH-85A over Horse Creek and to solicit comments.
PROJECT TIMELINE

Collect information
- Traffic counts
- NEPA specialist surveys
- Biology surveys, wetland surveys, noise assessment, historic and archeological surveys, socioeconomic studies
- Preliminary plan development

Analyze data
- Alternatives study
- Design requirements
- Right-of-way needs
- Costs
- Environmental impacts
- Public meeting (today)

Design
- 2016

Right-of-Way Utility Relocation
- 2016

Construction
- 2018
ENVIRONMENTAL INFORMATION
Purpose

• Complete environmental document for ODOT/FHWA approval

• Determine if significant environmental impacts can be reduced
  • By design
  • By mitigation
• Process includes the following:
  • Public and agency involvement
    • Public meeting
    • Solicitations
    • Coordination with USACE/GRDA
  • Studies
Environmental Studies

- Relocations
- Parks & recreational areas
- Prime farmland
- Scenic rivers
- Noise impacts
- Wetlands & streams
- Threatened & endangered species
- Floodplains
- Hazardous waste sites
- Historic properties
- Archeological sites
- Tribal concerns
- Permitting
Environmental Studies

- No impacts on the following:
  - Relocations
    - Residential and commercial
  - Noise
  - Prime farmland
  - Scenic rivers

- Public parks and recreational areas (Section 4f & 6f)
  - Grand Lake State Park
    - Avoided
  - Fishing Pier
    - To remain
Environmental Studies

- Threatened & Endangered Species
  - Gray Bat, Indiana Bat, Ozark Big-Eared Bat, and Northern Long-Eared Bat
  - Suitable habitat - Note to plans for riparian vegetation and karst features avoidance
ENVIRONMENTAL STUDIES

• Threatened & Endangered Species
  • No Effect Finding
    • Interior Least Tern
    • Ozark Cavefish
    • Rabbtsfoot Mussel
    • Piping Plover
    • Neosho Mucket
    • Arkansas Darter

• Bald Eagle
  • Eagle habitat is present / survey required
• **Floodplain**
  - Majority of the project is within a floodplain
  - Project will be designed to not increase base flood elevation or require flood map revisions.

• **Hazardous Waste Study**
  - Low potential for hazardous waste issues
Cultural Resources & Archeological Sites

- Coordinated with State Historic Preservation Office and Oklahoma Archeological Survey
- No historic properties or archaeological sites affected

Tribal Consultation

- Completed (six Tribes)
  - Caddo Nation
  - Cherokee Nation
  - Osage Nation
  - Seneca-Cayuga Tribe
  - United Keetoowah Band of Cherokees
  - Wichita & Affiliated Tribes
Environmental Studies

- Wetlands and Stream Impacts
  - Potential wetland/lake impacts
  - Individual Section 404 permit with Army Corps of Engineers

- Mitigation For Compensatory Storage
  - Fill in the flood pool
  - Fill in the conservation pool
PROJECT INFORMATION
CONCERNS

- Structurally deficient bridge
- Two-lane highway with no shoulders
**Average Daily Traffic Count**

- 3,300 vehicles per day, measured in 2014
- Estimated to be 4,600 vehicles per day by 2034
EXAMPLE OF A TYPICAL TWO-LANE ROADWAY SECTION
EXAMPLE OF A TYPICAL BRIDGE REPLACEMENT
BRIDGE OPTIONS

- Rehabilitate on existing alignment (close road)
- Replace on existing alignment (close road)
- Replace on new alignment (keep road open)
BRIDGE OPTIONS

• **Constraints**
  
  • **Statutory** – fill within the lake
  • **Environmental**
    
    • Impacts to the fishing pier
    • Wetlands
    • Lake habitat
  
  • Impacts to the local businesses
  • Impacts to the state park
  • Cost
Local Businesses
STATE PARK
FISHING PIER

GRAND LAKE

R/W

SH 85A
# Impact Comparison Summary

**S.H.-85A - Horse Creek**

**J/P 28856(04)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Do Nothing</th>
<th>Alternative #1</th>
<th>Alternative #2</th>
<th>Alternative #3</th>
<th>Alternative #4</th>
<th>Alternative #5</th>
<th>Alternative #6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>-</td>
<td>Realign to the North Side, Add Retaining Wall on North Side of the West Causeway</td>
<td>Realign to the North Side, Add Retaining Wall on North Side of the East &amp; West Causeway</td>
<td>Realign to the North Side, Revise Bridge Spans, Add Retaining Wall on the North Side of West Causeway (only)</td>
<td>Realign to the North Side, Revise Bridge Spans, Add Retaining Wall on the North Side of West Causeway (only), Remove Fishing Pier</td>
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</tr>
<tr>
<td>Proposed Bridge</td>
<td>Existing</td>
<td>60’ x 7-120’ x 80’</td>
<td>80’ x 7-120’ x 80’</td>
<td>9-120’</td>
<td>9-120’</td>
<td>12-120’</td>
<td>13-120’</td>
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<tr>
<td>Geometric Adequacy</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Adequate</td>
</tr>
<tr>
<td>Structural Adequacy</td>
<td>Structurally Deficient</td>
<td>New Bridge</td>
<td>New Bridge</td>
<td>New Bridge</td>
<td>New Bridge</td>
<td>New Bridge</td>
<td>New Bridge</td>
</tr>
</tbody>
</table>
| # of Piers in Lake     | 23         | 0              | 0              | 0            | -             | 11            | 12
| Volume Change to Lake (CY) Sub. 755 | 21,956.92 | 10,375.36 | 1,450.11 | -4,982.33 | -48,383.51 | -53,669.39 |
| Volume Change to Conservation Pool (CY) Sub. 745 | 7,365.61 | 336.74 | -10,791.52 | -16,361.81 | -44,285.24 | -45,146.85 |
| Volume Change to Flood Pool (CY) Btw 755 & 745 | 14,651.31 | 10,038.65 | 12,241.62 | 11,399.48 | -4,098.27 | -8,722.54 |
| Impacted Area in Water (Acres) | 2.57 | 2.22 | 2.22 | 1.58 | 1.42 |
| Length of Water Fill (Feet) | 2,551.01 | 2,568.76 | 2,453.65 | 2,750.08 | 2,579.29 | 2,345.60 |
| Permits Required (Individual 404) | No | Yes | Yes | Yes | Yes | Yes | Yes |
| Constructability       | N/A        | Same           | Same           | Same         | Same         | Same         | Same         |
| Marina Impacted        | No         | No             | No             | Yes          | Yes          | Yes          | Yes          |
| New ROW (Acres)        | 4.26       | 2.93           | 6.37           | 6.37         | 6.83         | 7.01         |
| Utilities Impacted     | No         | Yes            | Yes            | Yes          | Yes          | Yes          | Yes          |
| ROW Costs               | $42,611.87 | $28,266.71 | $63,700.00 | $63,700.00 | $68,300.00 | $70,100.00 |
| Utility Costs           | $192,205.00 | $192,205.00 | $192,205.00 | $192,205.00 | $192,205.00 | $192,205.00 |
| Construction Costs      | $6,956,183.13 | $7,450,508.29 | $7,412,095.00 | $7,455,095.00 | $5,841,495.00 | $9,342,095.00 |
| Total Project Cost      | $7,191,000.00 | $7,672,000.00 | $7,668,000.00 | $7,711,000.00 | $9,102,000.00 | $9,605,000.00 |

### Environmental Impacts

- **Section 4(f) Eligible Fishing Pier Impacted**: No Impact
- **Potential Wetland Impacts (Acres)**: 0.00, 0.11, 0.08, 0.13, 0.13, 0.20, 0.23
- **Grand Lake State Park (Section 4(f), 6(f))**: None, None, None, None, None, None, None
- **Cultural Resources Threatened & Endangered Species**: Bald Eagle, Migratory Birds, Floodplains, Airports, Construction, Impacts, Hazardous Waste
- **Relocations Noise Scenic Rivers Prime Farmland**: None, None, None, None, None, None, None
Alternative 1

Retaining wall – W. Causeway (north side)

Low Chord: 755.49
High Chord: 757.13
ALTERNATIVE 2

Retaining wall – W. Causeway (north side)
Retaining wall – E. Causeway (north side)

Low Chord: 755.49
High Chord: 757.13
Alternative 3

Lengthen bridge – 9 spans at 120' (1080 ft)
Retaining wall – W. Causeway (north side)

Low Chord: 754.94
High Chord: 757.13
**ALTERNATIVE 4**

Lengthen bridge – 9 spans at 120’ (1080 ft)
Retaining wall – W. Causeway (north side)
Remove fishing pier

Low Chord: 754.94
High Chord: 757.13
ALTERNATIVE 5

Lengthen bridge – 12 spans at 120' (1440 ft)
Retaining wall – W. Causeway (north side)
Remove fishing pier

Low Chord: 754.94
High Chord: 757.13
Alternative 6

Lengthen bridge – 13 spans at 120' (1560 ft)
Retaining wall – W. Causeway (north side)
Remove fishing pier

Low Chord: 755.49
High Chord: 757.68
## Comparison of Alternatives - Impacts

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Net Fill to Lake (overall), CY</strong></td>
<td>+ 22,000</td>
<td>+ 10,400</td>
<td>+1,400</td>
<td>-5,000</td>
<td>-48,400</td>
<td>-53,800</td>
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<tr>
<td><strong>Net Fill to Conservation Pool, CY</strong></td>
<td>+ 7,300</td>
<td>+ 300</td>
<td>-10,800</td>
<td>- 16,400</td>
<td>- 44,300</td>
<td>- 45,100</td>
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<tr>
<td><strong>Net Fill to Flood Pool, CY</strong></td>
<td>+ 14,700</td>
<td>+ 10,000</td>
<td>+ 12,200</td>
<td>+ 11,400</td>
<td>- 4,100</td>
<td>- 8,700</td>
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<tr>
<td><strong>Wetlands Impacts, Ac.</strong></td>
<td>0.11</td>
<td>0.08</td>
<td>0.13</td>
<td>0.13</td>
<td>0.20</td>
<td>0.23</td>
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<tr>
<td><strong>Impacts to Marina</strong></td>
<td>Minimal</td>
<td>Minimal</td>
<td>Currents/waves</td>
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<tr>
<td><strong>Removal of Fishing Pier</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td><strong>Cost</strong></td>
<td>$7.2 million</td>
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### Comparison of Alternatives - Impacts

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<tr>
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<th>Alternative 2</th>
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<tr>
<td>Net Fill to Lake (overall), CY</td>
<td>+ 10,400</td>
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</tr>
<tr>
<td>Net Fill to Conservation Pool, CY</td>
<td>+ 300</td>
<td></td>
</tr>
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<td></td>
</tr>
<tr>
<td>Cost</td>
<td>$ 7.7 million</td>
<td></td>
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</table>
Selected Alternative #2

- Replace structurally deficient bridge
  - Impact to local businesses minimized
  - Fishing pier remains
  - State park not impacted
  - Minimal impacts to wetlands and lake

- Highway reconstruction to include two 12-ft lanes with 10-ft shoulders
  - One lane traffic with signals during construction

- Total estimated project cost: $7.7 million
  - Not including mitigation costs
Next Steps

- Analyze Data and Collect Public Comments
- Design (2016)
- RW Acquisition and Utility Relocations (2016)
- Begin Construction (2018)
Comments are due by February 9, 2016

- Leave your comment form here tonight
- Fill out a form online
- Email odot-environmental@odot.org
- Download form and fax to 405.522.5193
- Download form and mail to
  Oklahoma Department of Transportations Environmental Programs Division
  200 NE 21st Street
  Oklahoma City, OK 73015
More information is available online:

www.odot.org/publicmeetings