Virtual Public Meeting 1

Missouri Department of Transportation
Route 19 Bridges Environmental Assessment (EA) Shannon County, MO

February 4, 2021

BRIDGES AT

Round Spring

SHANNON COUNTY

Welcome!

Today's Agenda

01 Project Introduction

02 Activities To Date and Next Steps

03 Existing Conditions

04 Purpose and Need

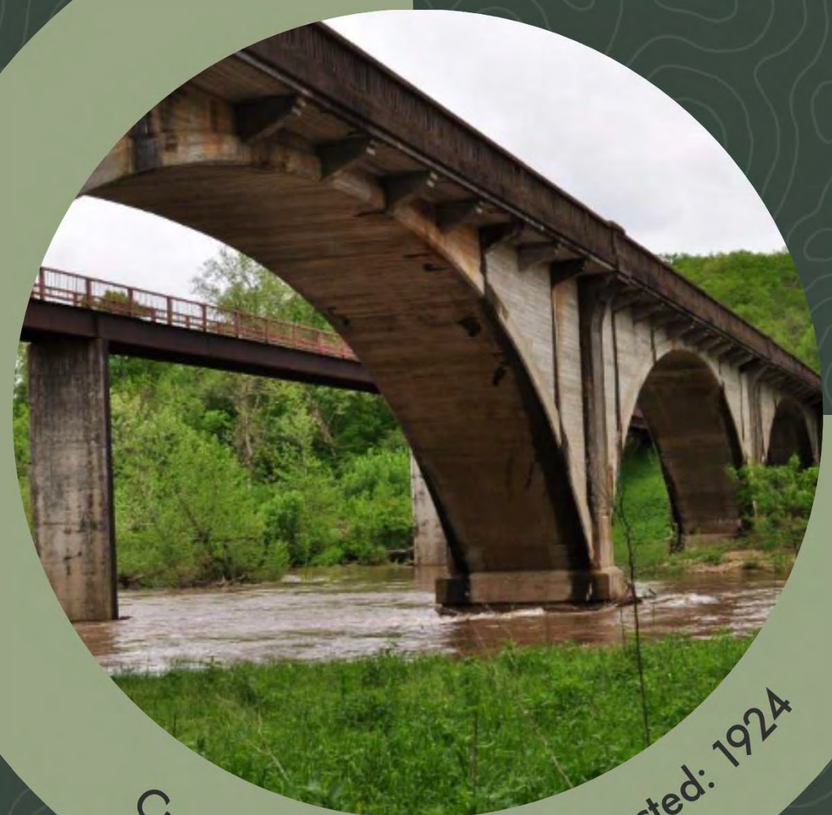
05 Screening of Conceptual Alternatives

06 Discussion and Questions

Project Introduction

Where We've Been

PROJECT HISTORY



Current River Bridge constructed: 1924

Current River Bridge constructed in 1924 and Spring Valley Creek Bridge in 1930

MoDOT conducted Bridge Rehabilitation Study in 2019

Rehabilitation study identified 23 conceptual bridge alternatives

Where We've Been

PROJECT HISTORY

Spring Valley Bridge constructed: 1930

MoDOT conducted a meeting with National Park Service and others during rehabilitation study

Recommended that the alternatives be the subject of a National Environmental Policy Act (NEPA) study

What is NEPA?

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

1. A U.S. environmental law that promotes the enhancement of the environment including the natural, social, and economic environment.

2. NEPA requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision.

3. Informed decision-making and good planning.

What is an EA?

ENVIRONMENTAL ASSESMENT (EA)

1. Prepared to determine whether an action is a "major federal action significantly affecting the quality of the human environment".

2. End result is decision document for a preferred alternative.

Your Input Makes a Difference!

MoDOT Public Meeting 2019

Agency Coordination & Public Outreach

Coordinating agencies (Core Team)

Participating agencies

Corridor Advisory Team (CAT)

Your Input Makes a Difference!

MoDOT Public Meeting 2019

Agency Coordination & Public Outreach

Public

Other Stakeholders

It's Your Turn!

Your Role in the Section 106 Process

Section 106 of the National Historic Preservation Act

Public is encouraged to be involved

Assist in identifying historic properties

It's Your Turn!

Your Role in the Section 106 Process

Identifying appropriate mitigation measures for unavoidable adverse effects

Consulting Parties

Section 4(f) Properties

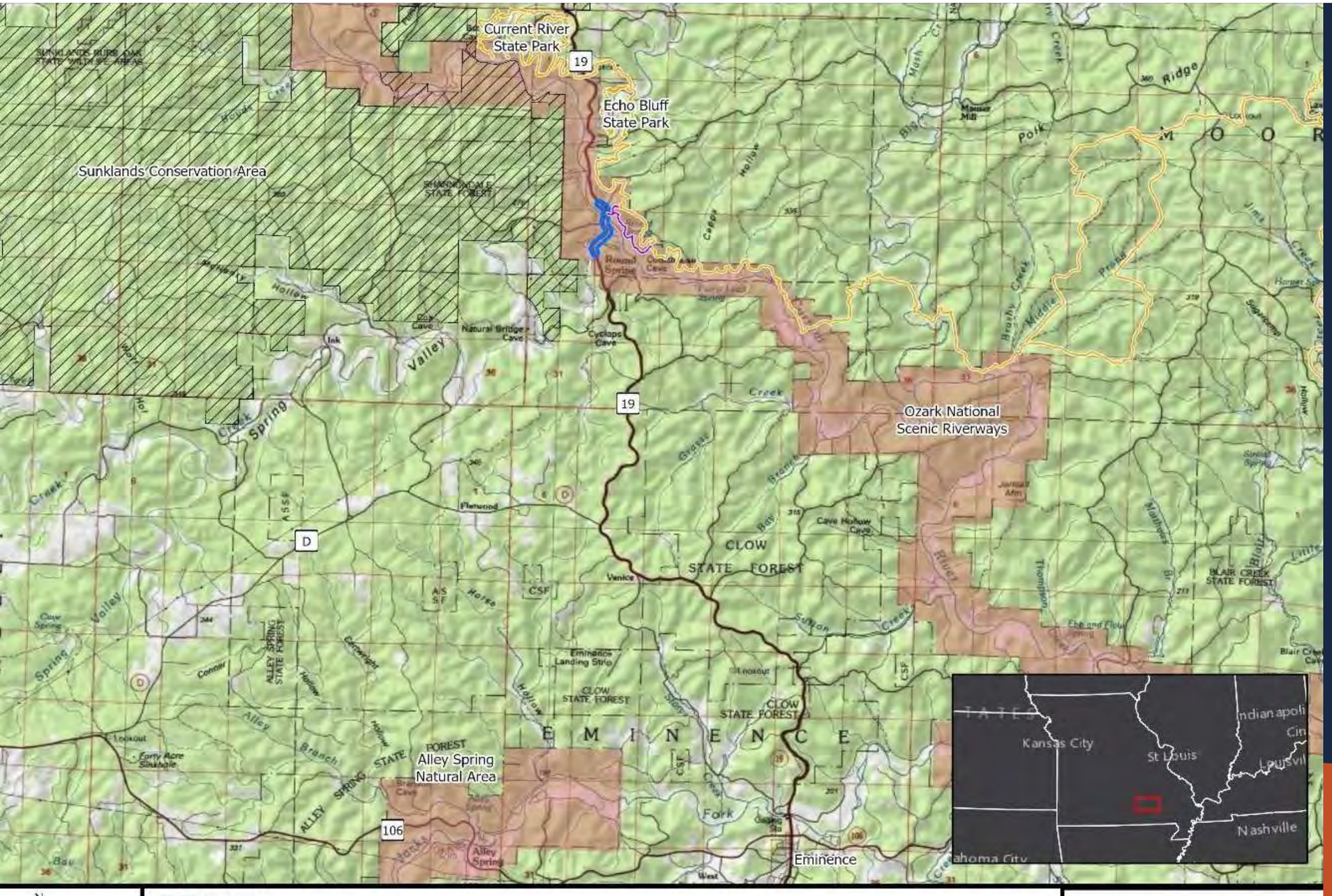
Refers to the original section of the USDOT Act of 1966

Provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation development.

Determine that there is no feasible and prudent alternative that avoids the 4(f) properties and that the project includes all possible planning to minimize harm to the 4(f) properties; or

FHWA makes a finding that the project has a deminimis impact on the 4(f) properties.

Vicinity Map



Route 19 Bridges
Environmental Assessment
Study Area Vicinity

Study Area

- Bridges
- NPS Ranger Station, Residences, and Cave Access
- Study Area
- Round Spring Connector Trail
- Ozark Trail System

Route 19 Bridges
Project Area Features

Activities to Date & Next Steps

Where We've Been

Activities to Date

Initiated NEPA Study in July 2020

Review of Rehabilitation Report and Data

Data Collection

Initiated Agency Coordination

Where We've Been

Activities to Date

Developed Project Identity

Developed Public Involvement Plan

Developed Project Website

Developed Purpose and Need for the Project

Where We've Been

Activities to Date

BRIDGES AT Round Spring SHANNON COUNTY

Screened conceptual alternatives

Held first Core team meeting November 30, 2020

Held first Community Advisory Team (CAT) meeting December 17, 2020

Held first public meeting (today)

Where We're Headed

The Next Steps

Second Core Team Meeting in March 2021

Conduct Field Work in Spring/Summer 2021

Third and Final Core Team Meeting Fall 2021

Second CAT Meeting Late Fall 2021

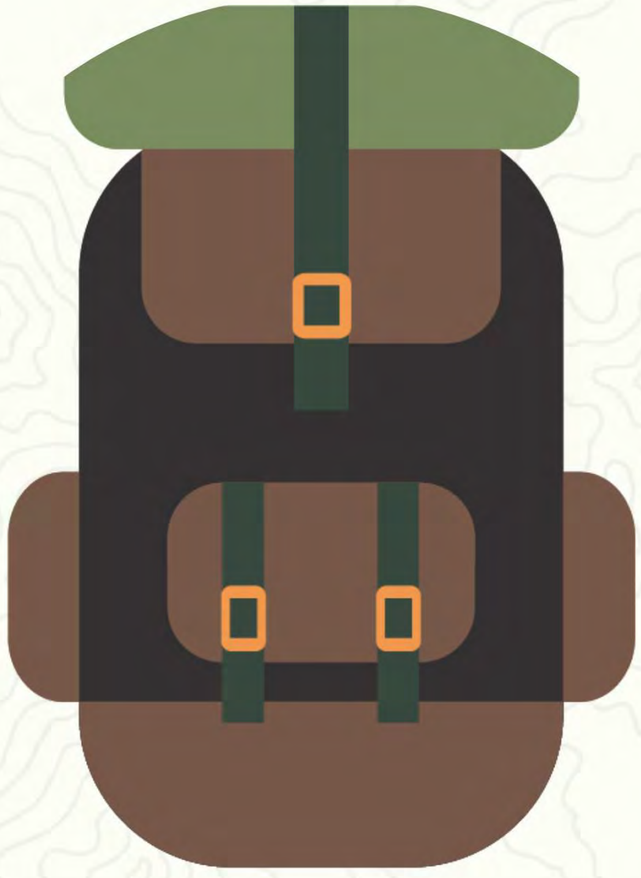
Where We're Headed

The Next Steps

Public Hearing Winter 2021

NEPA Document Spring 2022

NEPA Clearance Early Summer 2022



MoDOT Route 19 EA
Shannon County, MoDOT Job No. J9P3305
Revision Date: January 12, 2021

TASK/MILESTONE

LEGEND

- Milestone Event
- Final Approved Document/Deliverables
- Agency and Public Review
- MoDOT/FHWA Review
- Project Team Review and Approval

STUDY DELIVERABLES

1. Work Plan
2. Stakeholder Involvement Plan
3. Purpose and Need Statement
4. Range of Alternatives Summary
5. Field Survey Tech Memos
6. Preferred Alternative Recommendation Summary
7. Environmental Assessment
8. Environmental Assessment Errata with Comments
9. Public Hearing Report
10. FONSI

Existing Conditions

Bridge & Roadway Conditions

- Roadway functional classification
  - Rural minor arterial
- Roadway alignment is poor
- Single-lane with narrow shoulders on Current River Bridge and two lanes with no shoulders on Spring Valley Creek Bridge
- Bridge Sufficiency Ratings
  - Current River: 33.5%
  - Spring Valley: 33.1%
- Both bridges are structurally deficient
- Moderate to heavy scour at Current River Bridge

Current River Bridge Photos

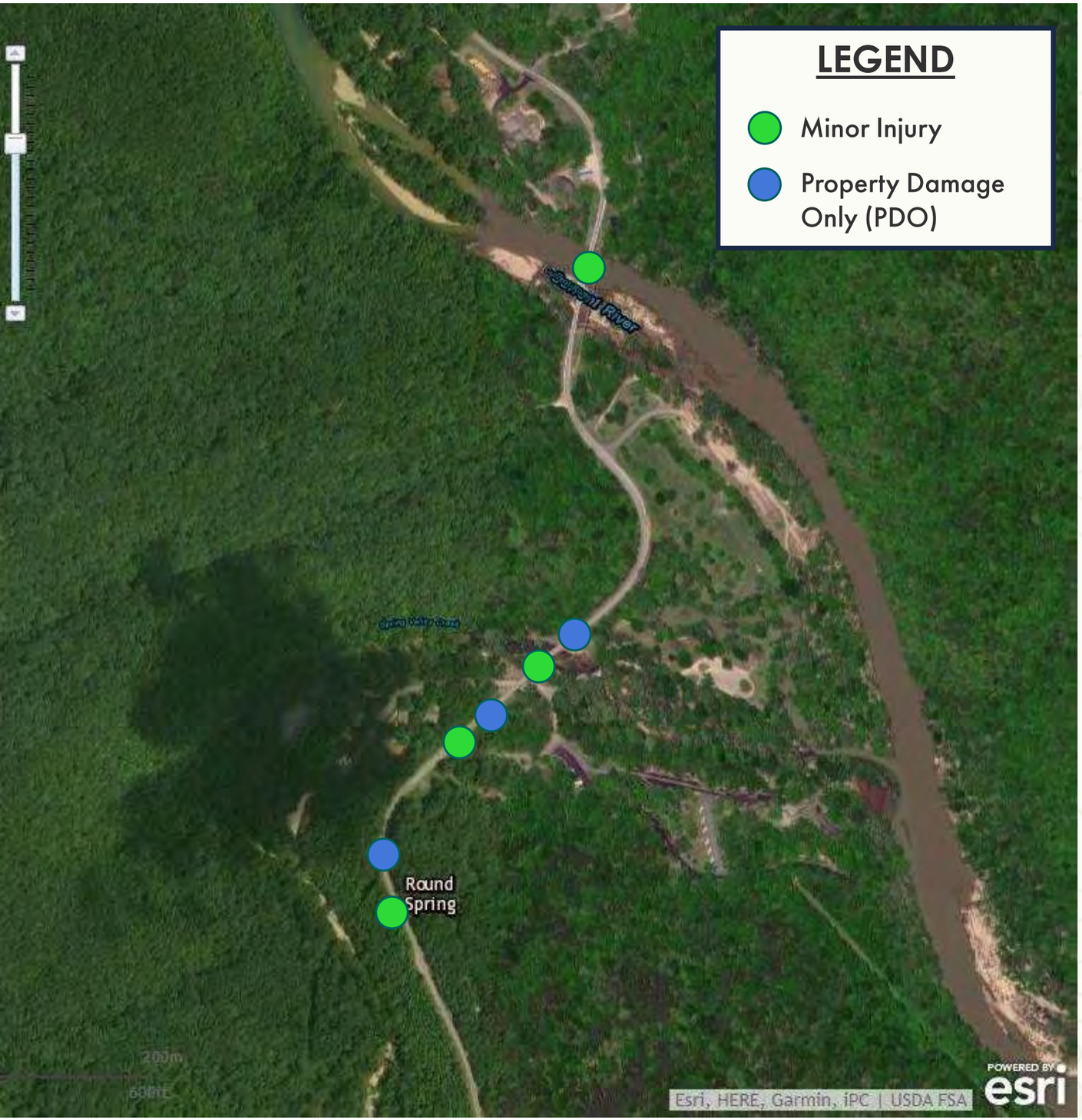
Spring Valley Creek Bridge Photos

Traffic Safety

- Current AADT (2020) – 700
- Construction year AADT (2025) – 721
- Design year AADT (2045) – 797

- **Crash Rates:**
  - Route 19 (2015-2019):
    - 652 Crashes/HMVMT
  - Statewide Average (Two Lane):
    - 209 Crashes/HMVMT

"Crashes/HMVMT" = Crashes per 100 Million Vehicle Miles Traveled



Crash Locations

- One Property Damage Only on the Current River Bridge

- One Property Damage Only and one Minor Injury on the Spring Valley Bridge

- Two Property Damage Only and two Minor Injury on Northbound approach to the Spring Valley Bridge

Water & Threatened-Endangered Species

- Crossings of Current River and Spring Valley Creek
- 100-year floodplain
- Wetlands within Current River portion of the study area
- Current River is designated as an Outstanding Natural Resource Water and priority watershed
- One water well within the study area
- Springs/Caves/Karst geology
- Suitable Indiana Bat habitat corridor-wide
- Endangered Ozark hellbender

Land Use

- Entire study area within the NPS Ozark National Scenic Riverways – Section 4(f)
- Large public use areas
- One private business

Cultural Resources

- Three Bridges Historic District – eligible for the National Register of Historic Places (NRHP)
- Current River Bridge and Spring Valley Bridge are eligible for the NRHP
- Section 4(f) resources
- Documented archaeological sites

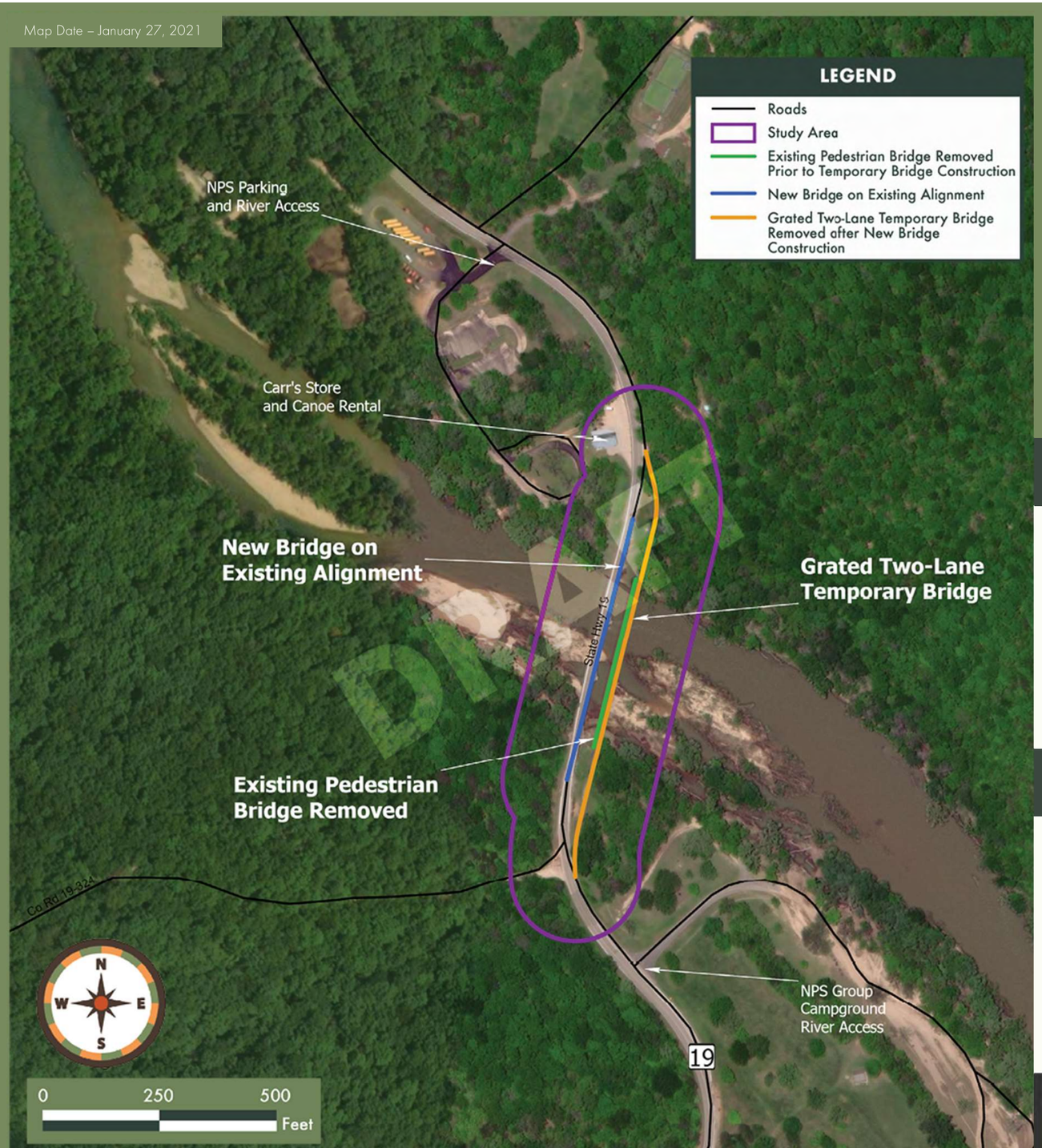
Minority Populations & Poverty

- No permanent residents within study area
- No minority or low-income populations within study area

Hazardous Materials

- No known hazardous material sites within study area

Conceptual Alternatives



C-1A

SITE VICINITY

DESCRIPTION

- New bridge on existing alignment.
- A grated two-lane temporary bridge will be built prior to construction of the new bridge and will be removed after the new bridge is constructed.
- Existing pedestrian bridge to be removed prior to temporary bridge construction.
- Pedestrians will be accommodated on the new bridge.

ADVANTAGE

- Matches location of existing bridge.
- Less permanent roadway work.
- Uses a two-lane temporary bridge during construction

DISADVANTAGE

- Additional cost for temporary bridge.
- Utilities on the existing pedestrian bridge must be relocated.
- Longer construction period.
- Extensive formwork in the channel.

C-1B

SITE VICINITY

DESCRIPTION

- New bridge on existing alignment.
- A grated two-lane temporary bridge will be built prior to construction of the new bridge and will be removed after the new bridge is constructed.
- Existing pedestrian bridge retained but not accessible during new bridge construction.

ADVANTAGE

- Matches location of existing bridge.
- Less permanent roadway work.
- Uses a two-lane temporary bridge during construction.
- Utilities remain on existing pedestrian bridge.

DISADVANTAGE

- Additional cost for temporary bridge.
- Longer construction period.
- Extensive formwork in the channel.

C-2A

SITE VICINITY

DESCRIPTION

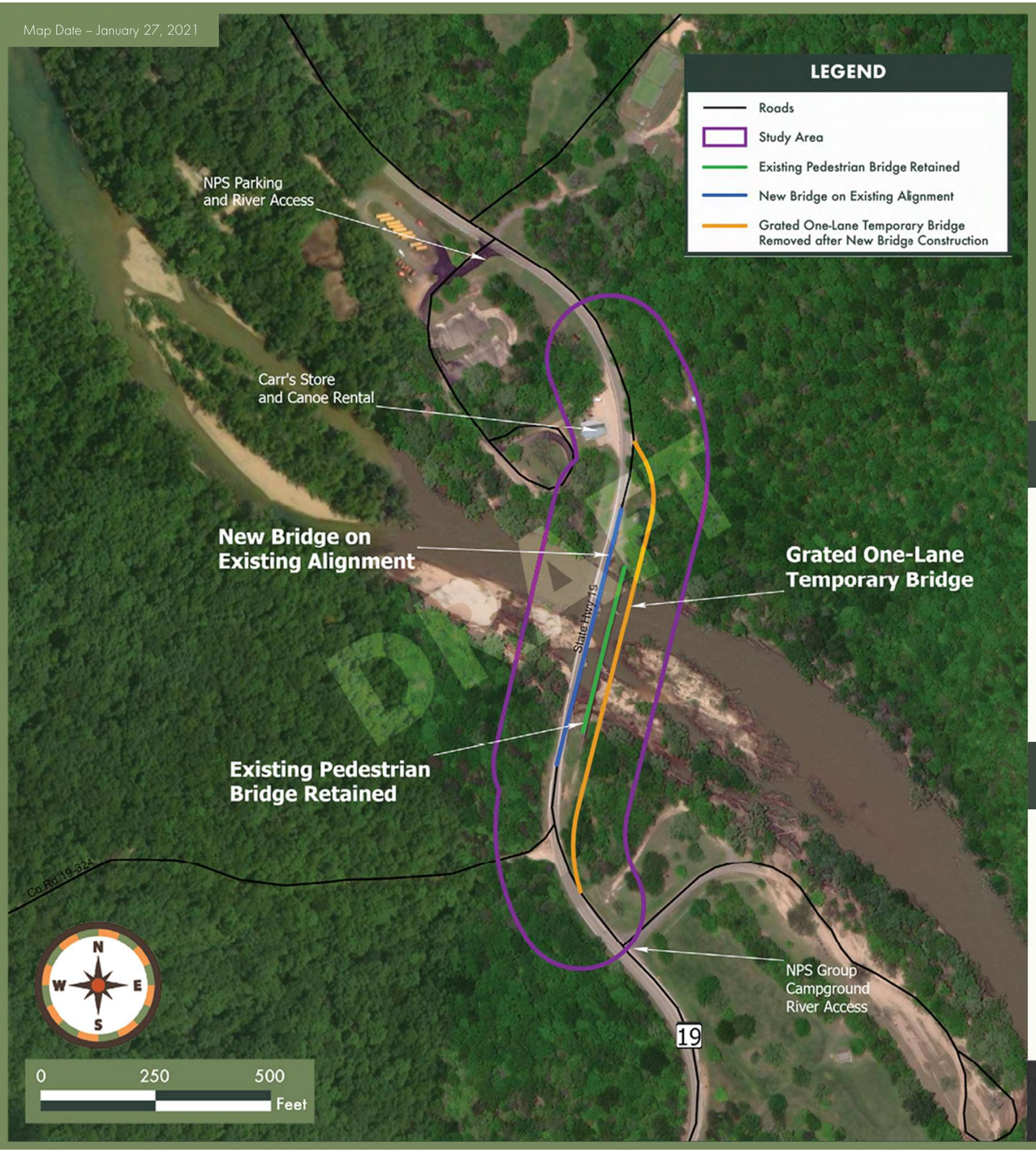
- New bridge on existing alignment.
- A grated one-lane temporary bridge will be built prior to construction of the new bridge and will be removed after the new bridge is constructed.
- Existing pedestrian bridge to be removed prior to temporary bridge construction.
- Pedestrians will be accommodated on the new bridge.

ADVANTAGE

- Matches location of existing bridge.
- Less permanent roadway work.

DISADVANTAGE

- Utilities on the existing pedestrian bridge must be relocated.
- Uses a one-lane temporary bridge during construction.
- Additional cost for temporary bridge.
- Longer construction period.
- Extensive formwork in the channel.



C-2B

SITE VICINITY

DESCRIPTION

- New bridge on existing alignment.
- A grated one-lane temporary bridge will be built prior to construction of the new bridge and will be removed after the new bridge is constructed.
- Existing pedestrian bridge retained but not accessible during new bridge construction.

ADVANTAGE

- Matches location of existing bridge.
- Less permanent roadway work.
- Utilities remain on existing pedestrian bridge.

DISADVANTAGE

- Uses a one-lane temporary bridge during construction.
- Additional cost for temporary bridge.
- Longer construction period.
- Extensive formwork in the channel.

C-3A

SITE VICINITY

DESCRIPTION

- New bridge downstream (east) of existing bridge.
- No temporary bridge required.
- Existing pedestrian bridge to be removed prior to new bridge construction.
- Pedestrians will be accommodated on the new bridge.

ADVANTAGE

- No temporary bridge required; cost savings.
- Shorter construction period.

DISADVANTAGE

- Utilities on the existing pedestrian bridge must be relocated.
- More permanent roadway work.
- Uses the existing one-lane bridge during construction.

Map Date – January 27, 2021

C-3B

SITE VICINITY

DESCRIPTION

- New bridge downstream (east) of existing bridge.
- No temporary bridge required.
- Existing pedestrian bridge retained but not accessible during new bridge construction.

ADVANTAGE

- No temporary bridge required; cost savings.
- Shorter construction period.
- Utilities remain on existing pedestrian bridge.

DISADVANTAGE

- More permanent roadway work.
- Uses the existing one-lane bridge during construction.

C-4

SITE VICINITY

DESCRIPTION

- Multiple phase rehabilitation of the existing bridge.
- No temporary bridge.
- Existing pedestrian bridge retained and accessible during non-construction hours.

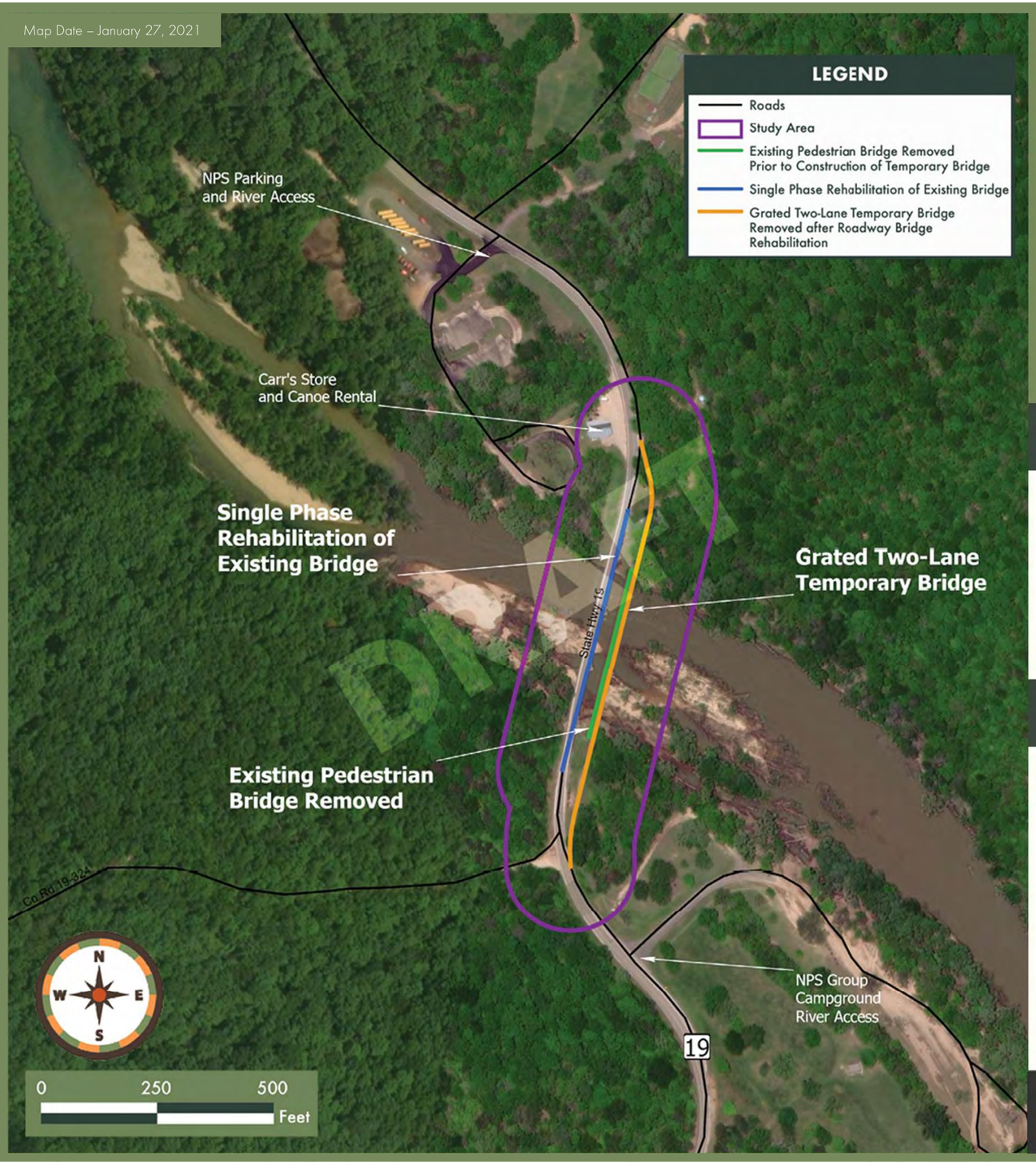
ADVANTAGE

- Matches location of existing bridge.
- No temporary bridge required; cost savings.
- Less permanent roadway work.
- Utilities remain on the existing pedestrian bridge.

DISADVANTAGE

- Uses the existing one-lane bridge during construction.
- Longer construction period.
- Remediated concrete of the existing bridge is buried in the structure, possibly requiring further rehabilitation in the future.
- Shorter life expectancy compared to a new bridge.

Map Date – January 27, 2021



C-5A

SITE VICINITY

DESCRIPTION

- Single-phase rehabilitation of the existing bridge.
- A grated two-lane temporary bridge will be built and will be removed after the rehabilitation of the existing bridge is complete.
- Existing pedestrian bridge to be removed prior to temporary bridge construction.
- Pedestrians will be accommodated on the rehabilitated bridge.

ADVANTAGE

- Matches location of existing bridge.
- Less permanent roadway work.
- Uses a two-lane temporary bridge during construction.

DISADVANTAGE

- Additional cost for temporary bridge.
- Remediated concrete of the existing bridge is buried in the structure, possibly requiring further rehabilitation in the future.
- Shorter life expectancy compared to a new bridge.
- Utilities on the existing pedestrian bridge must be relocated.
- Extensive formwork in the channel.

C-5B

SITE VICINITY

DESCRIPTION

- Single-phase rehabilitation of the existing bridge.
- A grated two-lane temporary bridge will be built and will be removed after the rehabilitation of the existing bridge is complete.
- Existing pedestrian bridge retained but not accessible during bridge rehabilitation.

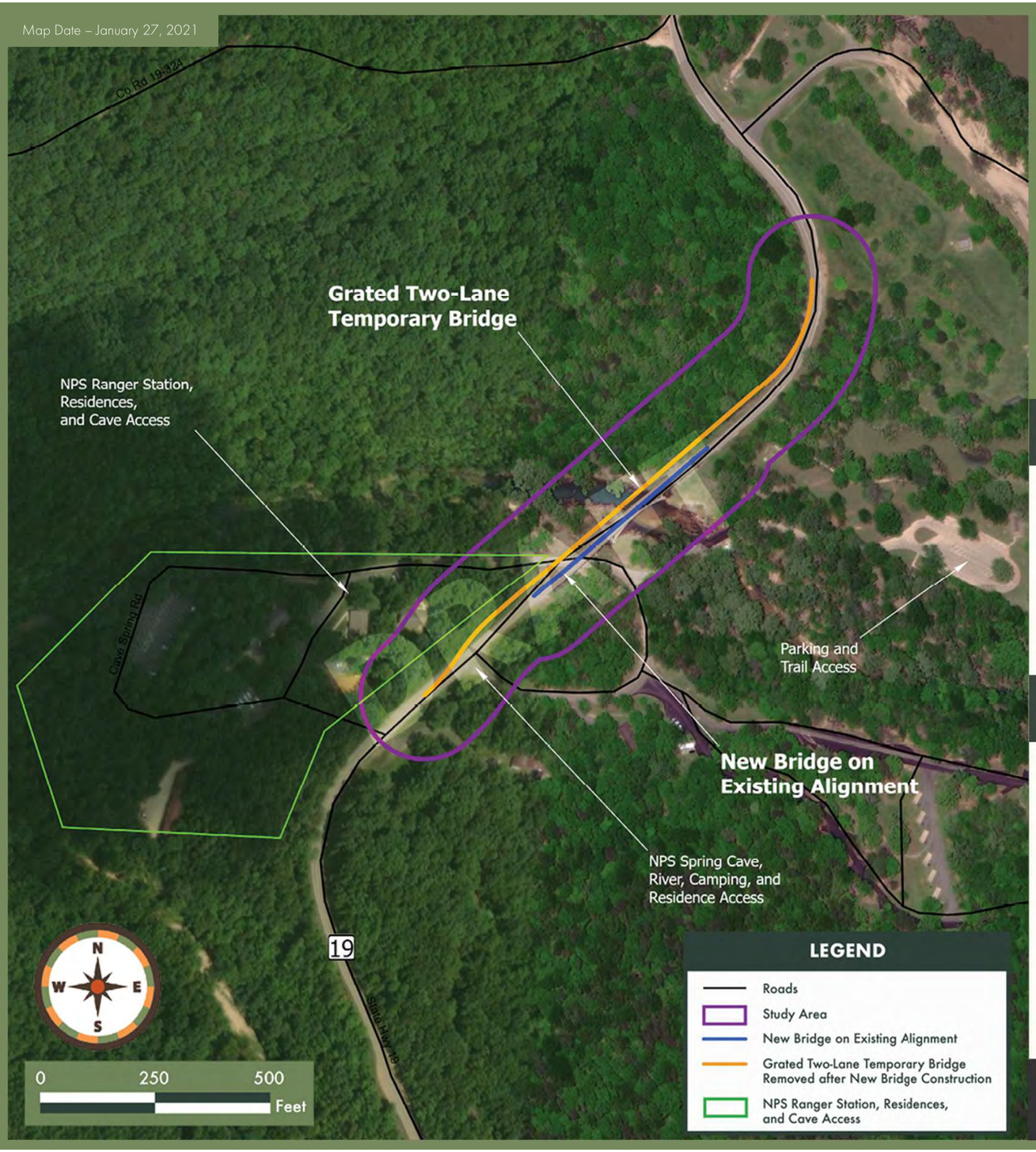
ADVANTAGE

- Matches location of existing bridge.
- Less permanent roadway work.
- Uses a two-lane temporary bridge during construction.
- Utilities remain on existing pedestrian bridge.

DISADVANTAGE

- Additional cost for temporary bridge.
- Remediated concrete of the existing bridge is buried in the structure, possibly requiring further rehabilitation in the future.
- Shorter life expectancy compared to a new bridge.
- Extensive formwork in the channel.

Map Date – January 27, 2021



S-1

SITE VICINITY

DESCRIPTION

- New bridge on existing alignment.
- A grated two-lane temporary bridge will be built prior to construction of the new bridge and will be removed after the new bridge is constructed.

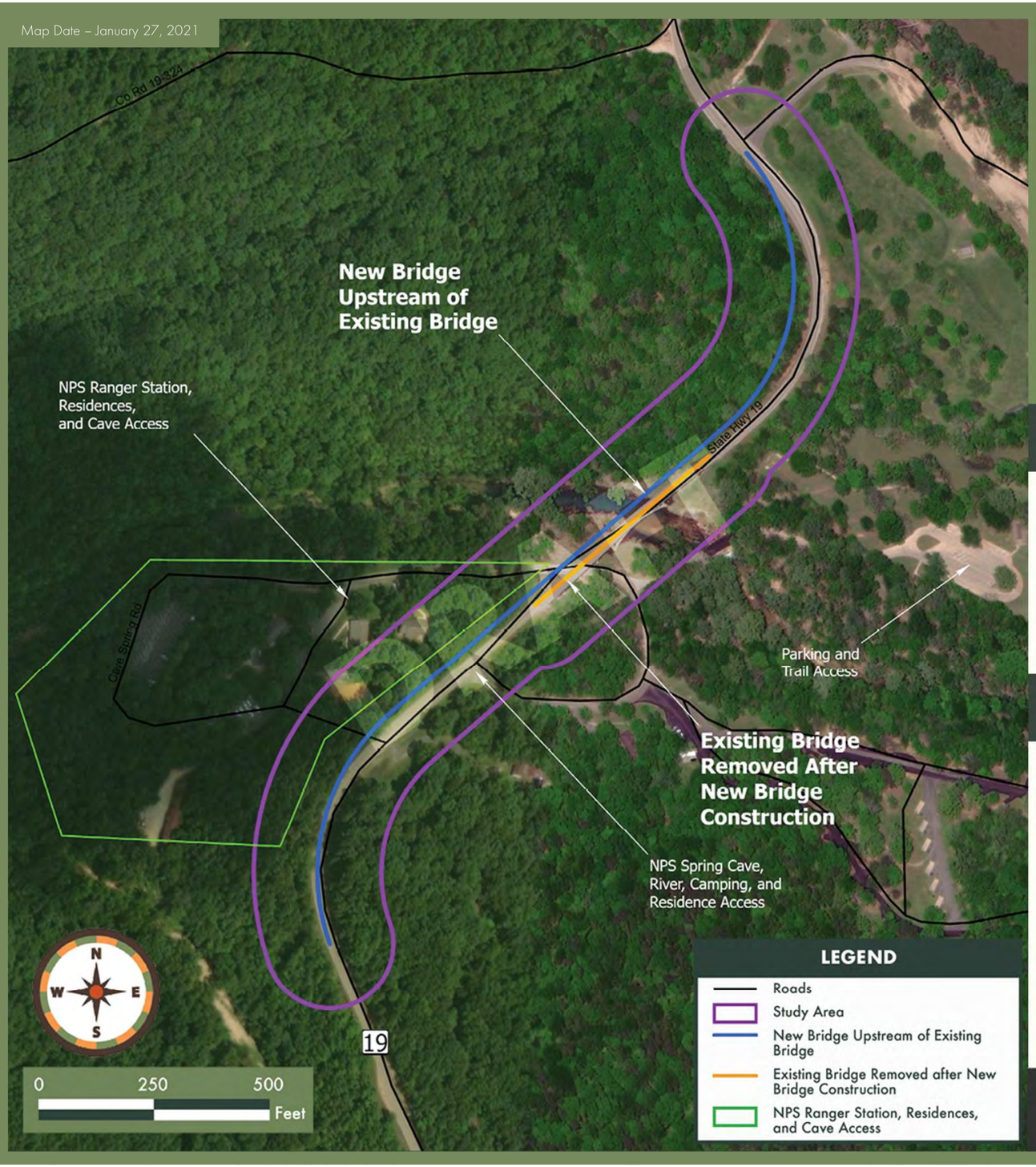
ADVANTAGE

- Matches location of existing bridge.
- Less permanent roadway work.
- Avoids retaining walls or reinforced slopes.

DISADVANTAGE

- Additional cost for temporary bridge.
- Builds two bridges over the channel during construction.
- Extensive formwork in the channel.
- Longer construction period than new bridge on new alignment.

Map Date – January 27, 2021



S-2

SITE VICINITY

DESCRIPTION

- New bridge upstream (northwest) of the existing bridge.
- No temporary bridge required.

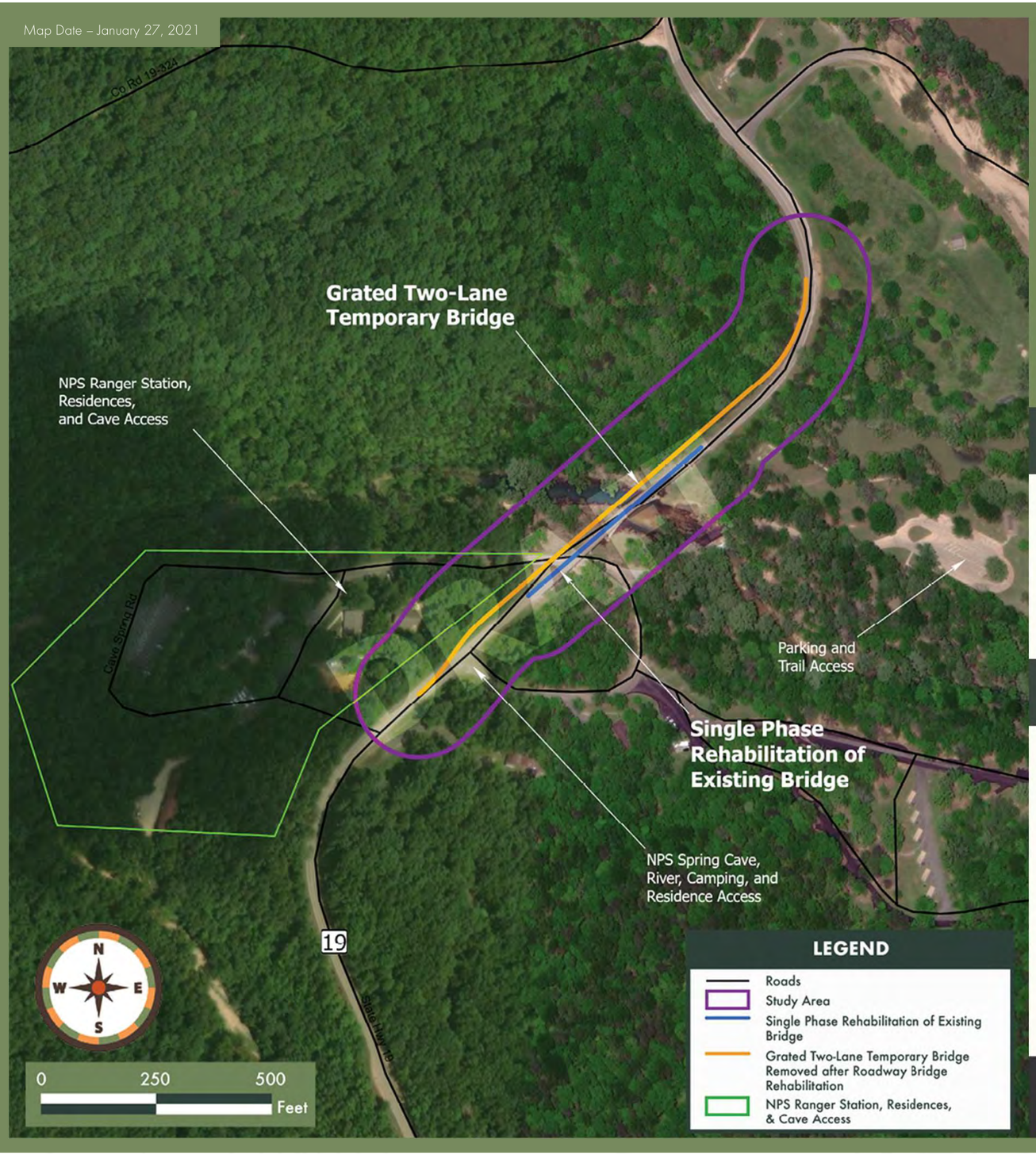
ADVANTAGE

- Shorter construction period than new bridge on existing alignment or rehabilitated bridge.
- No temporary bridge required; cost savings.

DISADVANTAGE

- More permanent roadway work.
- May need retaining walls or reinforced slopes.

Map Date – January 27, 2021



S-3

SITE VICINITY

DESCRIPTION

- Single phase rehabilitation of the existing bridge.
- A grated two-lane temporary bridge will be built prior to the rehabilitation of the existing bridge and will be removed after the existing bridge is rehabilitated.

ADVANTAGE

- Matches location of existing bridge.
- Less permanent roadway work.
- Avoids retaining walls or reinforced slopes.

DISADVANTAGE

- Additional cost for temporary bridge.
- Remediated concrete of the existing bridge is buried in the structure, possibly requiring further rehabilitation in the future.
- Shorter life expectancy compared to a new bridge.
- Extensive formwork in channel.

Draft Purpose & Need

PURPOSE

1. Improve the condition of the bridge crossings.
2. Improve the functionality of the bridge crossings.

NEED

1. The Route 19 crossing of the Current River and Spring Valley Creek are too narrow for current design standards.
2. The Route 19 crossing of the Current River is in fair condition and the Spring Valley Creek bridge is in poor to satisfactory condition.
3. The Route 19 crossing of the Current River and Spring Valley Creek are important to regional and local connectivity.

Draft Purpose & Need

Initial Screening of the Conceptual Alternatives

CURRENT RIVER BRIDGE ALTERNATIVES

● YES X NO ? UNDETERMINED

NEEDS

		No Action	New Bridge on Existing Alignment			New Bridge on Offset Alignment	
		NO-BUILD	**ALTERNATIVE C-1A**	**ALTERNATIVE C-1B**	**ALTERNATIVE C-2A**	**ALTERNATIVE C-2B**	**ALTERNATIVE C-3A**
			New bridge on existing alignment, grated two-lane temproary bridge, pedestrian bridge removed	*New bridge on existing alignment, grated one-lane temproary bridge, pedestrian bridge retained*	*New bridge on existing alignment, grated one-lane temproary bridge, pedestrian bridge removed*	*New bridge on existing alignment, grated one-lane temproary bridge, pedestrian bridge retained*	*New bridge downstream of existing bridge, no temproary bridge, pedestrian bridge removed*
Existing Bridge is in Poor Condition	Does the bridge meet current design standards? (minimum 11' lanes, paved shoulders)	X	●	●	●	●	●
	Can the deck, substructure, and superstructure improve to good condition?	X	●	●	●	●	●
	Is the lifespan of the bridge greater than 75 years?	X	●	●	●	●	●
	Does the bridge meet current LRFD seismic design criteria?*	?	●	●	●	●	●
	Can safe pedestrian accommodations be provided?	●	●	●	●	●	●
Regional and Local Connectivity	Is access to recreational facilities maintained? (Current River Canoe Access, Round Spring National Park, Round Spring Cave)	●	●	●	●	●	●
	Can construction be completed with limited traffic impacts? (e.g. closures or detours)	●	●	●	●	●	●
REASONABLE ALTERNATIVE?		● YES (BY RULE)	● YES	● YES	● YES	● YES	● YES

*LRFD seismic design criteria refers to a bridge's ability to withstand an earthquake.

CURRENT RIVER BRIDGE ALTERNATIVES CONT.

● YES X NO ? UNDETERMINED

NEEDS

		New Bridge on Offset Alignment	Rehabilitate Existing Bridge on Alignment		
		ALTERNATIVE C-3B	**ALTERNATIVE C-4**	**ALTERNATIVE C-5A**	**ALTERNATIVE C-5B**
		New bridge downstream of existing bridge, no temproary bridge, pedestrian bridge retained	*Multiple phase rehabilitation of existing bridge, no temporary bridge, pedestrian bridge retained*	*Single phase rehabilitation of existing bridge, grated two-lane temporary bridge, pedestrian bridge removed*	*Single phase rehabilitation of existing bridge, grated two-lane temporary bridge, pedestrian bridge retained*
Existing Bridge is in Poor Condition	Does the bridge meet current design standards? (minimum 11' lanes, paved shoulders)	●	●	●	●
	Can the deck, substructure, and superstructure improve to good condition?	●	●	●	●
	Is the lifespan of the bridge greater than 75 years?	●	X	X	X
	Does the bridge meet current LRFD seismic design criteria?*	●	?	?	?
	Can safe pedestrian accommodations be provided?	●	●	●	●
Regional and Local Connectivity	Is access to recreational facilities maintained? (Current River Canoe Access, Round Spring National Park, Round Spring Cave)	●	●	●	●
	Can construction be completed with limited traffic impacts? (e.g. closures or detours)	●	●	●	●
REASONABLE ALTERNATIVE?		● YES	X NO - DOES NOT MEET ALL NEED ELEMENTS	X NO - DOES NOT MEET ALL NEED ELEMENTS	X NO - DOES NOT MEET ALL NEED ELEMENTS

*LRFD seismic design criteria refers to a bridge's ability to withstand an earthquake.

SPRING VALLEY BRIDGE ALTERNATIVES

YES

NO

UNDETERMINED

	NEEDS	No Action	New Bridge on Existing Alignment	New Bridge on Offset Alignment	Rehabilitate Existing
		NO-BUILD	**ALTERNATIVE S-1**	**ALTERNATIVE S-2**	**ALTERNATIVE S-3**
			New bridge on existing alignment, grated two-lane temporary bridge	*New bridge upstream (NW) of existing bridge, no temporary bridge*	*Single phase rehabilitation of existing bridge, grated two-lane temporary bridge*
Existing Bridge is in Poor Condition	Does the bridge meet current design standards? (minimum 11' lanes, paved shoulders)	X	●	●	●
	Can the deck, substructure, and superstructure improve to good condition?	X	●	●	●
	Is the lifespan of the bridge greater than 75 years?	X	●	●	X
	Does the bridge meet current LRFD seismic design criteria?*	?	●	●	?
Regional and Local Connectivity	Is access to recreational facilities maintained? (Current River Canoe Access, Round Spring National Park, Round Spring Cave)	●	●	●	●
	Can construction be completed with limited traffic impacts? (e.g. closures or detours)	●	●	●	●
	REASONABLE ALTERNATIVE?	● YES (BY RULE)	● YES	● YES	X NO - DOES NOT MEET ALL NEED ELEMENTS

*LRFD seismic design criteria refers to a bridge's ability to withstand an earthquake.

BRIDGES AT Round Spring SHANNON COUNTY

Discussion & Questions

www.modot.org/roundspringbridges