



# I-90 Exit 32 to 40 Corridor Study + Design

Public Meeting #2

December 10, 2018

Brown High School, Sturgis, SD



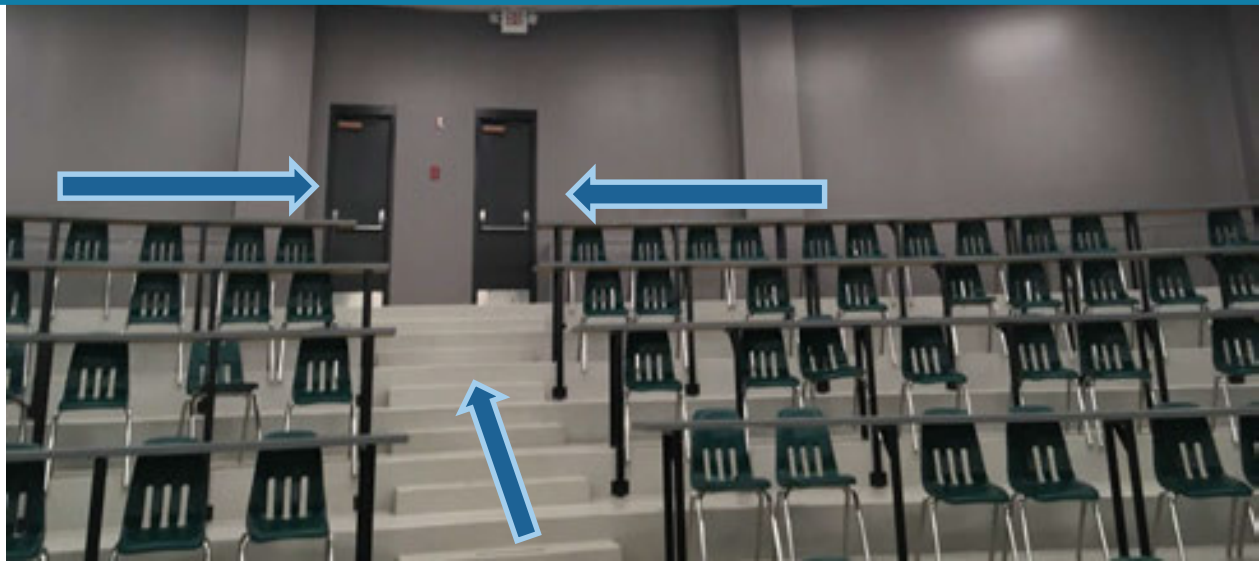
# Agenda

- 1 Introductions & Housekeeping
- 2 Project Need & Goals
- 3 Concept Development
- 4 Environmental Concerns
- 5 Alternative Evaluation
- 6 Next Steps & How to Get Involved



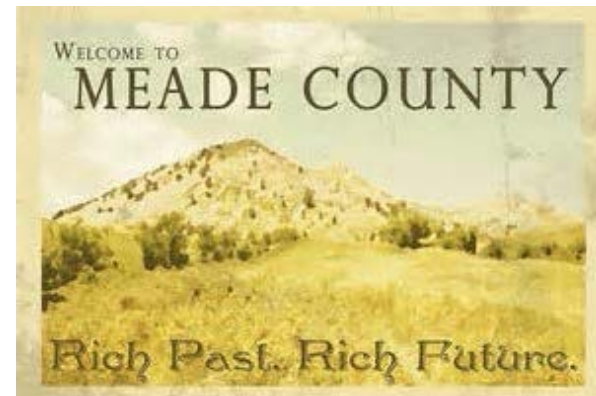
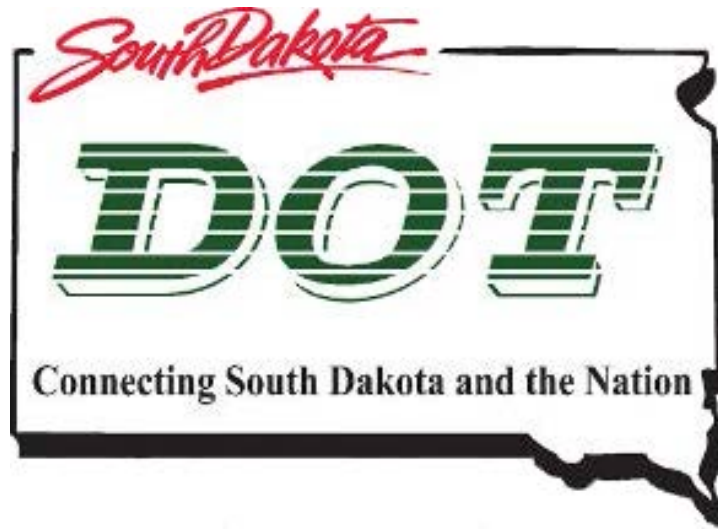


# Housekeeping exit locations





# Project Stakeholders



# Project Need & Goals

- Replace eastbound lanes
- Drainage structures nearing end of useful life
- Interchanges do not meet design standards
- Address queuing issues at Tilford



# Project Need & Goals

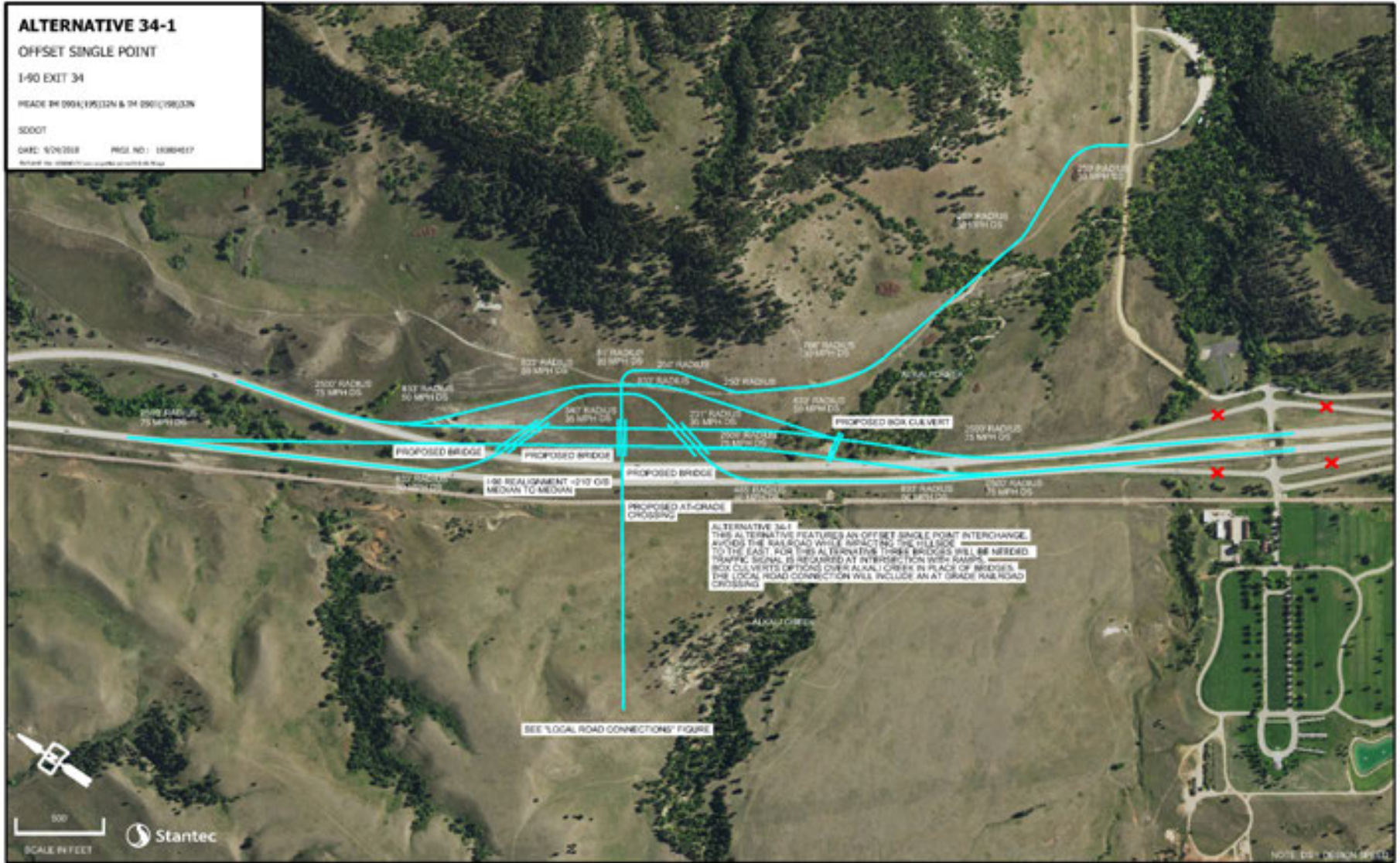
- Identify and analyze conceptual improvements (corridor and interchanges)
- Develop feasible construction projects within the study area
- Design and construct improvements

# Concept Development

- Issues and deficiencies were identified
- Project Study Advisory Team (SAT) workshop in May, 2018
- Concepts developed
- SAT workshop to review and refine options in Sept. 2018
- Preliminary decision to advance with two projects

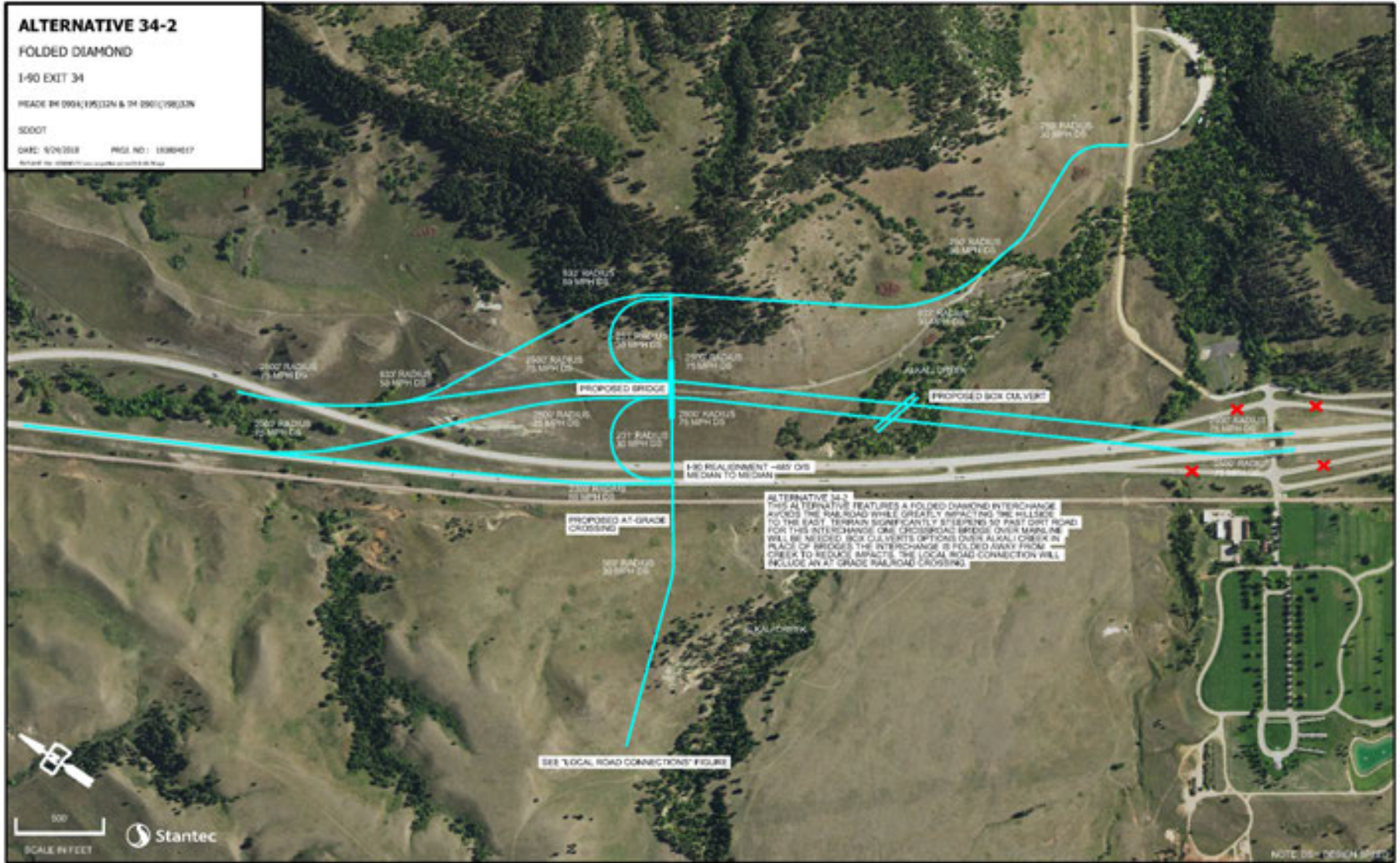


# Exit 34 - Dismissed Concepts



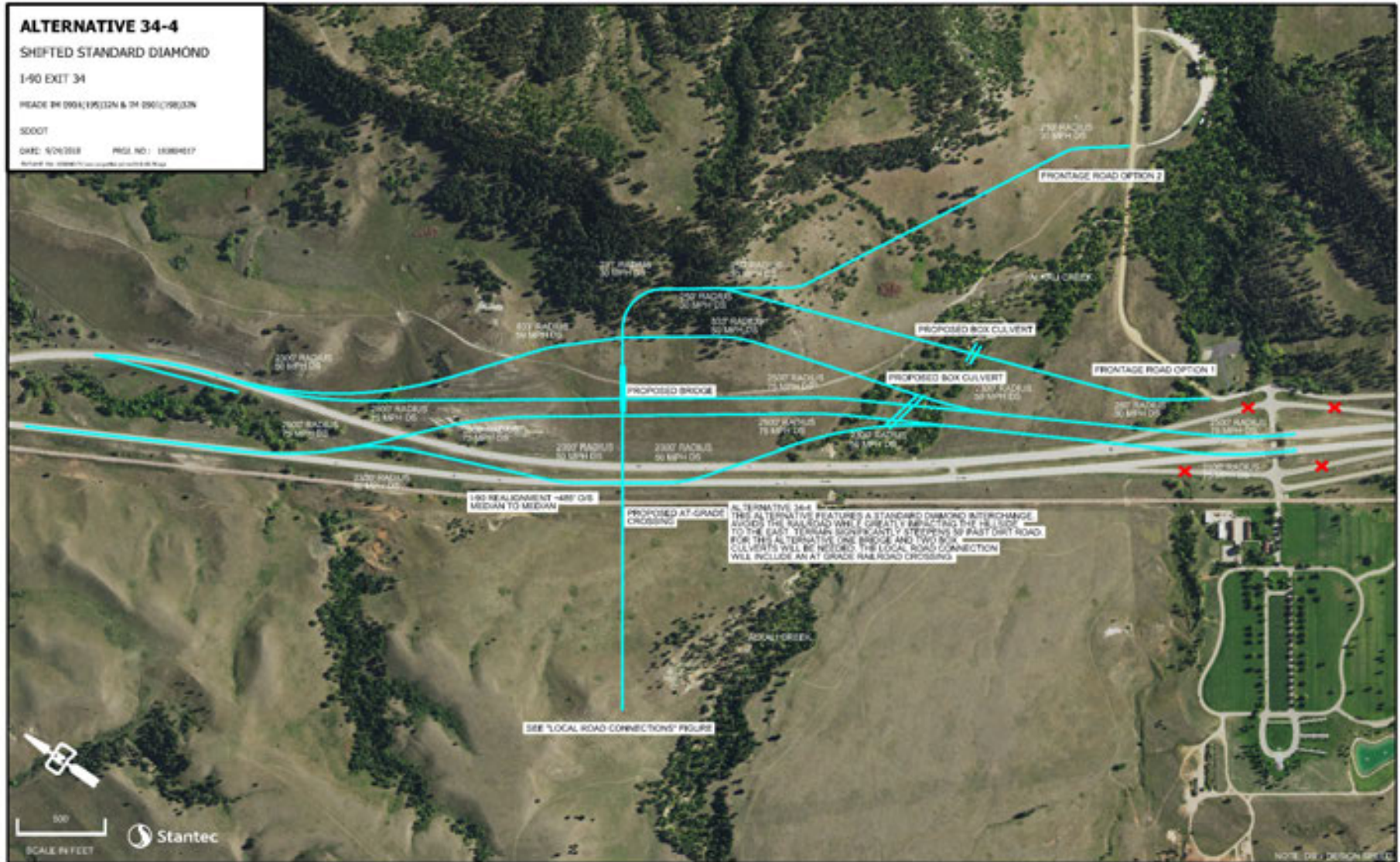


# Exit 34 - Dismissed Concepts



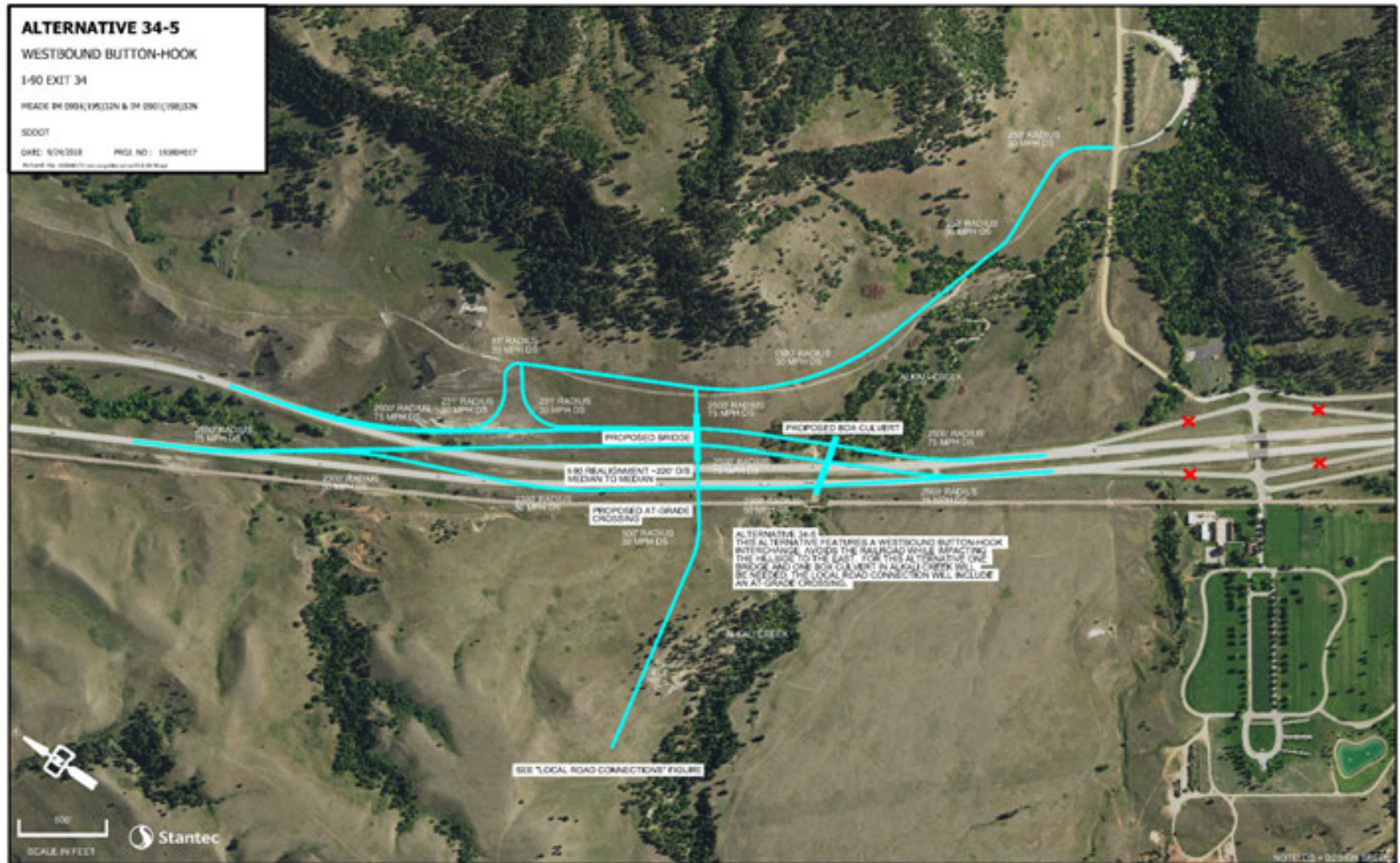


# Exit 34 - Dismissed Concepts



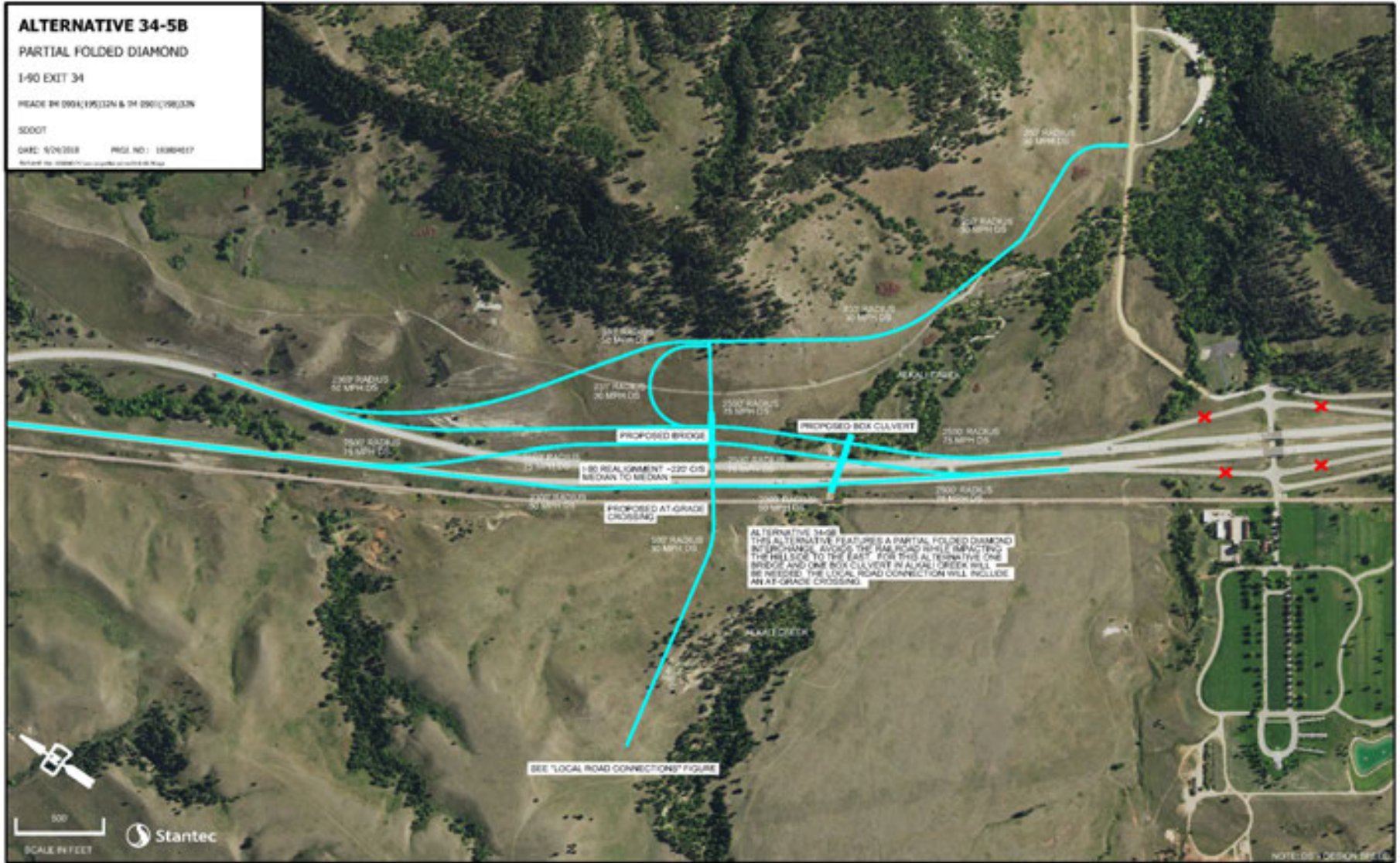


# Exit 34 - Dismissed Concepts



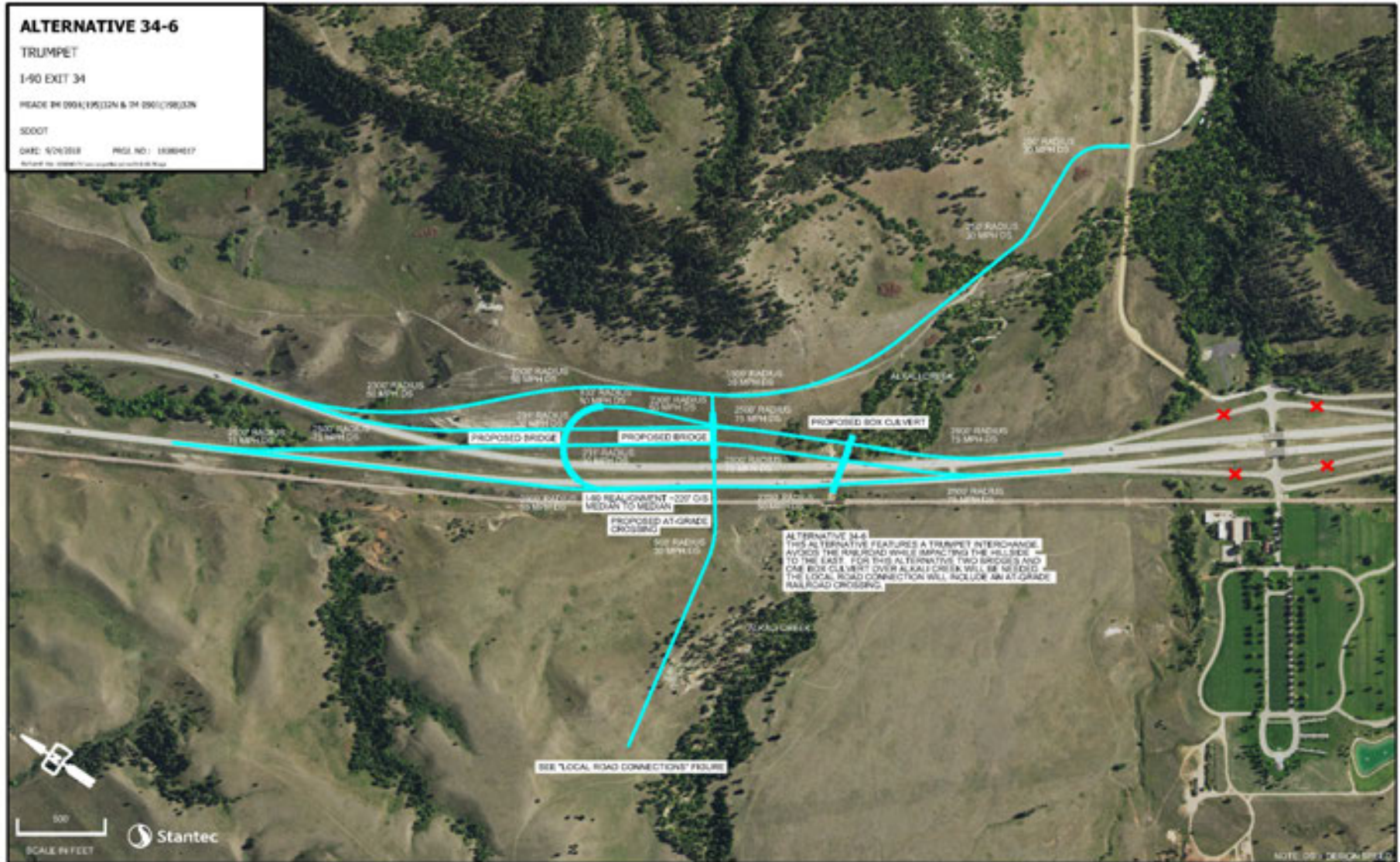


# Exit 34 - Dismissed Concepts





# Exit 34 - Dismissed Concepts





**ALTERNATIVE 34-1B**  
**ROUNDABOUT INTERCHANGE**  
**I-90 EXIT 34**

HEADS BY D964/E9532N & TH D967/E9632W  
SCOOT  
DATE: 9/2/2018 PROJ NO: 1508H017  
REVIEWED BY: 09/06/2018/09/06/2018/09/06/2018

OPTION 1  
OPTION 2  
OPTION 3  
OPTION 4  
OPTION 5  
OPTION 6  
OPTION 7  
OPTION 8  
OPTION 9  
OPTION 10  
OPTION 11  
OPTION 12  
OPTION 13  
OPTION 14  
OPTION 15  
OPTION 16  
OPTION 17  
OPTION 18  
OPTION 19  
OPTION 20  
OPTION 21  
OPTION 22  
OPTION 23  
OPTION 24  
OPTION 25  
OPTION 26  
OPTION 27  
OPTION 28  
OPTION 29  
OPTION 30  
OPTION 31  
OPTION 32  
OPTION 33  
OPTION 34  
OPTION 35  
OPTION 36  
OPTION 37  
OPTION 38  
OPTION 39  
OPTION 40  
OPTION 41  
OPTION 42  
OPTION 43  
OPTION 44  
OPTION 45  
OPTION 46  
OPTION 47  
OPTION 48  
OPTION 49  
OPTION 50  
OPTION 51  
OPTION 52  
OPTION 53  
OPTION 54  
OPTION 55  
OPTION 56  
OPTION 57  
OPTION 58  
OPTION 59  
OPTION 60  
OPTION 61  
OPTION 62  
OPTION 63  
OPTION 64  
OPTION 65  
OPTION 66  
OPTION 67  
OPTION 68  
OPTION 69  
OPTION 70  
OPTION 71  
OPTION 72  
OPTION 73  
OPTION 74  
OPTION 75  
OPTION 76  
OPTION 77  
OPTION 78  
OPTION 79  
OPTION 80  
OPTION 81  
OPTION 82  
OPTION 83  
OPTION 84  
OPTION 85  
OPTION 86  
OPTION 87  
OPTION 88  
OPTION 89  
OPTION 90  
OPTION 91  
OPTION 92  
OPTION 93  
OPTION 94  
OPTION 95  
OPTION 96  
OPTION 97  
OPTION 98  
OPTION 99  
OPTION 100

PROPOSED BOX CULVERT  
BOX CULVERT EXTENSION  
180 REALIGNMENT +12' OVER MEDIAN TO MEDIAN  
SINGLE LANE ROUNDABOUT  
2 PROPOSED BRIDGES  
AT-GRADE RAILROAD CROSSING  
SEE "LOCAL ROAD CONNECTIONS" FIGURE

ALTERNATIVE 34-1B  
THIS ALTERNATIVE FEATURES A ROUNDABOUT INTERCHANGE  
AVOIDING THE RAILROAD WHILE IMPROVING THE HILLSIDE  
TO THE EAST. FOR THIS ALTERNATIVE TWO MAINLINE BRIDGES WILL  
BE NEEDED. BOX CULVERT OVER ALKALI CREEK IS EXTENDED  
THE LOCAL ROAD CONNECTION TO THE WEST INCLUDES AN  
AT-GRADE RAILROAD CROSSING. TWO OPTIONS FOR LOCAL ROADS  
TO THE EAST WILL BE ANALYZED.

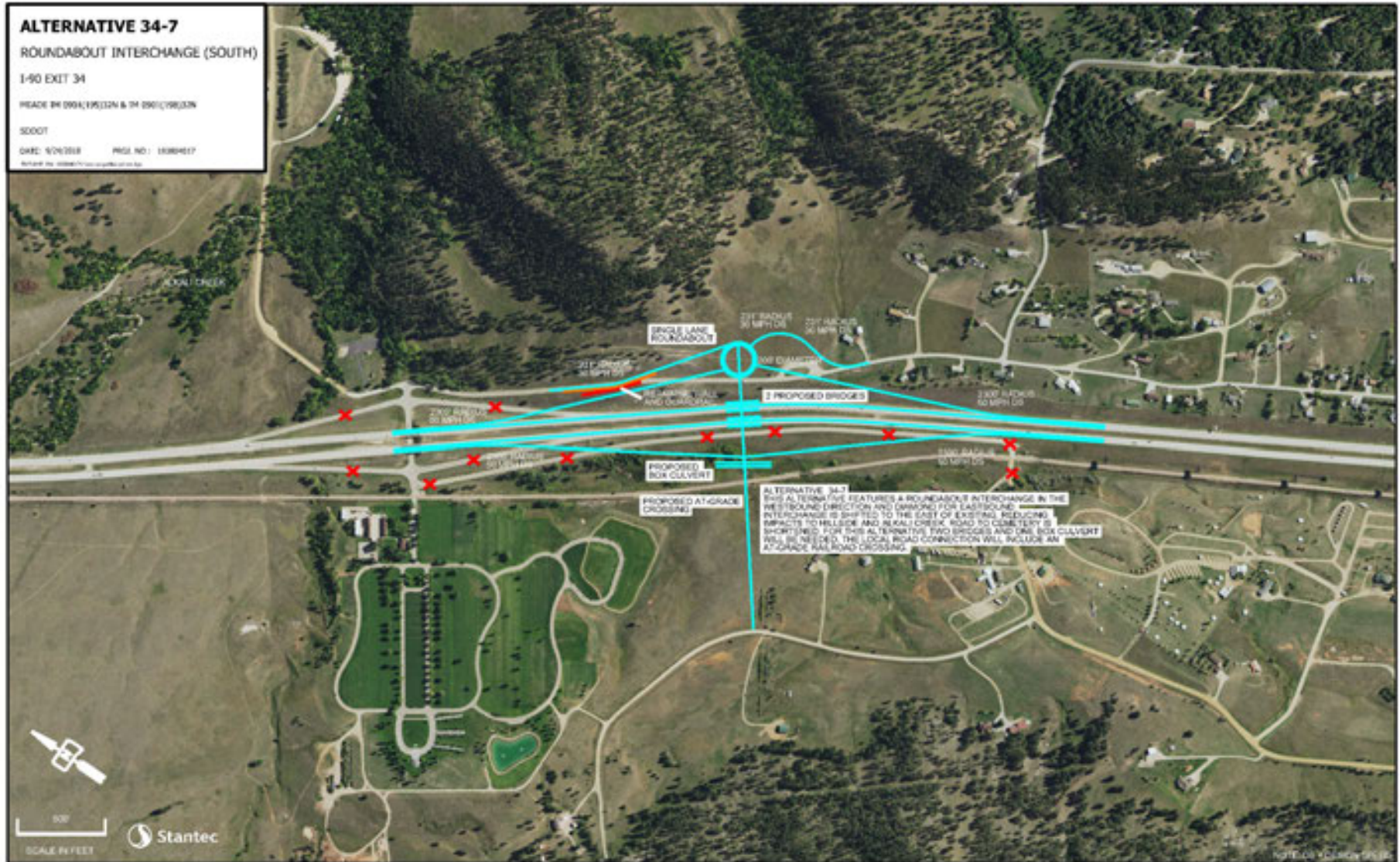
SCALE IN FEET  
Stantec  
NOTE: SEE DESIGN SPECIFICATIONS



[illegible]



# Exit 34 – Concepts for Further Study





**OPTION A, B, C**  
LOCAL ROAD CONNECTIONS  
I-90 EXIT 34

Revised: 2010-01-15





[illegible]



**ALTERNATIVE 37-2**  
**BRIDGE SKEW UPGRADE**

I-90 EXIT 37

HEADS BY DWA/TREJON & TM DWA/TREJON

SDDOT

DWG: 6/28/18 PMS NO: 1808417

Revised by: 08/08/19 (see schedule for details)

Box Culvert Extension

1200' RADIUS  
50 MPH DS

1100' RADIUS  
50 MPH DS

800' RADIUS  
50 MPH DS

PROPOSED BRIDGE

PROPOSED AT-GRADE CROSSING

1000' RADIUS  
50 MPH DS

Box Culvert Extension

800' RADIUS  
50 MPH DS

ALTERNATIVE 37-2  
THIS ALTERNATIVE FEATURES A STANDARD DIAMOND INTERCHANGE. THE BRIDGE HAS BEEN MOVED AND SKewed PERPENDICULAR TO MAINLINE. R&B HAVE REALIGNED TO MEET CURRENT DESIGN STANDARDS. INTERCHANGE MEDIAN HORIZONTAL OFFSET REMAINS LESS THAN DESIRED IF THE LOCAL ROAD CONNECTION WILL INCLUDE AN AT-GRADE RAILROAD CROSSING.

SCALE IN FEET

Stantec

NOTE: DR - DESIGN SCALE



# Exit 37 – Concepts for Further Study





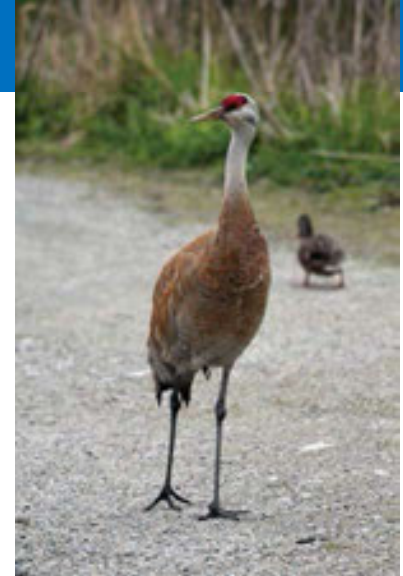
# Exit 40 – Preferred Concept



# Environmental Concerns

## Key Issues

- Water Resources
  - ✓ Wetlands/Floodplains/Surface waters
- Wildlife and Vegetation
  - ✓ Bird and Animal Migrations/Threatened and Endangered
- Cultural Resources
  - ✓ Archaeological Sites and Structures/Historic Properties
- Parks and Recreation Facilities (4(f))
- Noise/Visual Resources





# Environmental Concerns

## Agency Coordination

- Bureau of Land Management (BML)
- U.S. Forest Service (USFS)
- Black Hills National Cemetery/National Park Service (BHNC/NPS)
- U.S. Army Corps of Engineers (USACE)
- U.S. Fish and Wildlife Service (USFWS)
- Federal Highway Administration (FHWA)
- S.D. Department of Environment and Natural Resources (SDDENR)
- South Dakota State Historic Preservation Office (SHPO)
- Tribal Historic Preservation Office (THPO)
- South Dakota Game Fish and Parks (SDGFP)
- City of Sturgis



# Environmental Concerns

## Studies Completed

- Water Resources
  - ✓ Desktop Delineation Completed Spring 2018
  - ✓ Field Work Delineation Completed Spring/Summer 2018
  - ✓ Reviewed FEMA Floodplain Mapping 100 year and 500 year
- Wildlife and Vegetation
  - ✓ USFWS Database and SDGFP Information (NatureServe)
- Cultural Resources
  - ✓ Class I Survey (Windshield survey, records search, BLM)

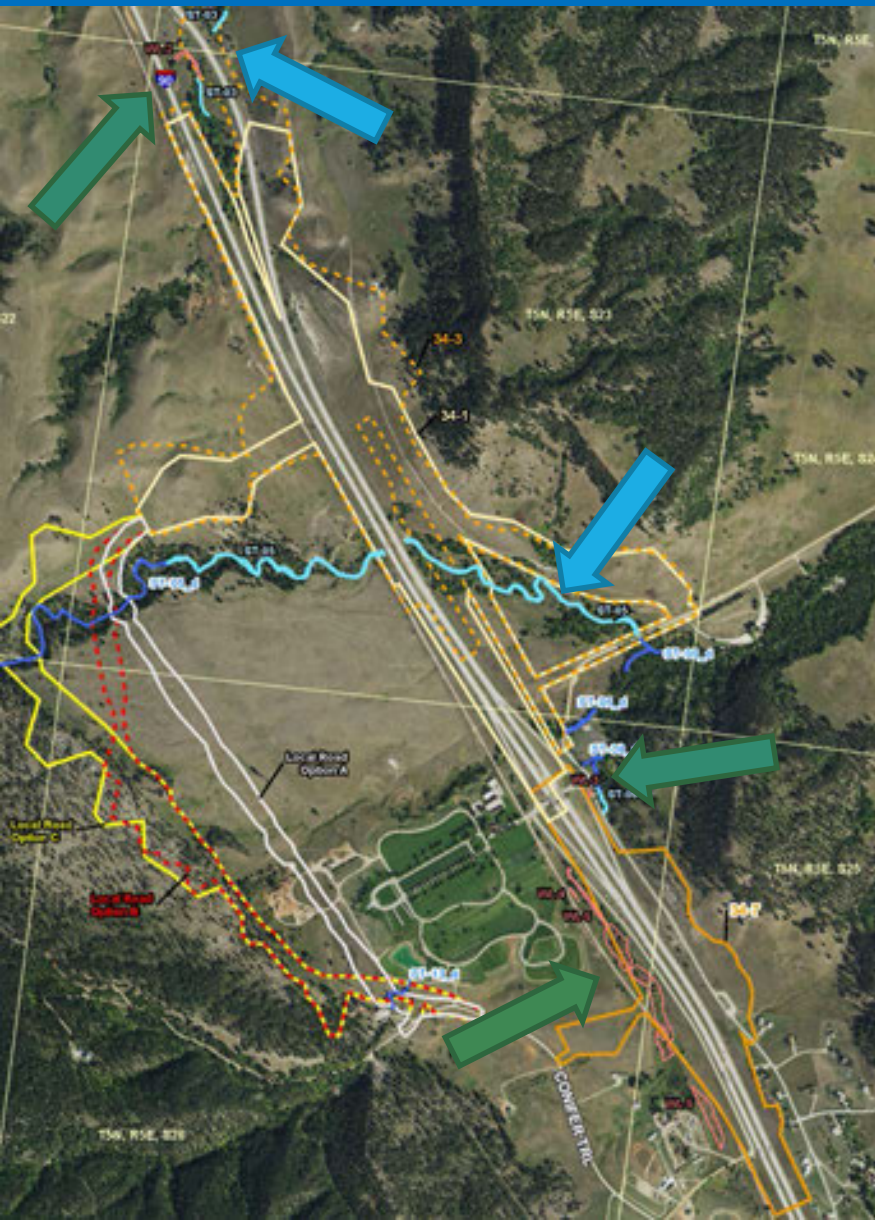




# Exit 34 – Environmental Concerns

## Water Resources

- Delineated Wetlands
- Surface waters
  - Alkali Creek
  - Unnamed Creek



### Legend

#### Grading Alternative

- Local Road Option A
- Local Road Option B
- Local Road Option C
- 34-1B
- 34-3
- 34-7
- 37-1
- 37-2
- 37-3

- Field Delineated Wetland
- Field Delineated Waterway
- Field Delineated Waterway Area
- Desktop Delineated Wetland
- FEMA Flood Zone
  - 100-year Flood Zone
  - 100-year Floodway
  - 500-year Flood Zone

# Exit 34 – Environmental Concerns



## Public Lands

- Bureau of Land Management
- Black Hills National Cemetery
- Alkali Creek Centennial Trail
- 7th Calvary Trail System
- Fort Meade Recreation Area

### Legend

#### Grading Alternative

- Local Road Option A
- Local Road Option B
- Local Road Option C
- 37-1
- 37-2
- 37-3
- 34-1B
- 34-3
- 34-7

#### Approximate Recreational Trail

#### Private Lands Hunting Access

#### CHAP

#### Federal Lands

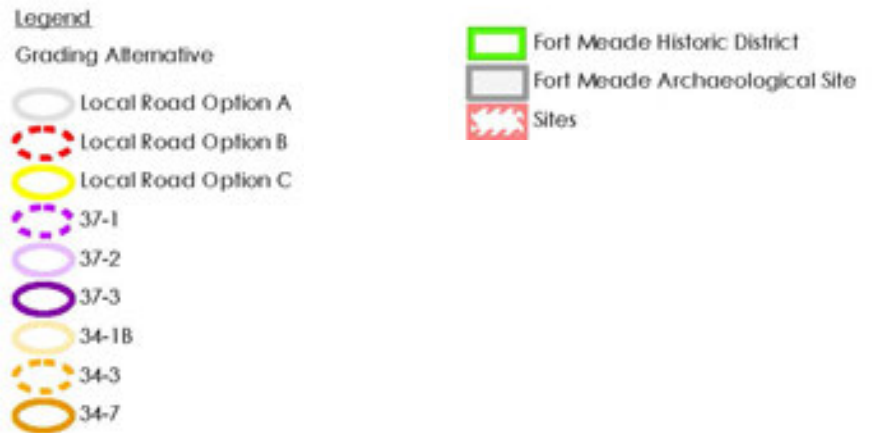
#### Black Hills National Forest

#### Bureau of Land Management

#### National Park Service



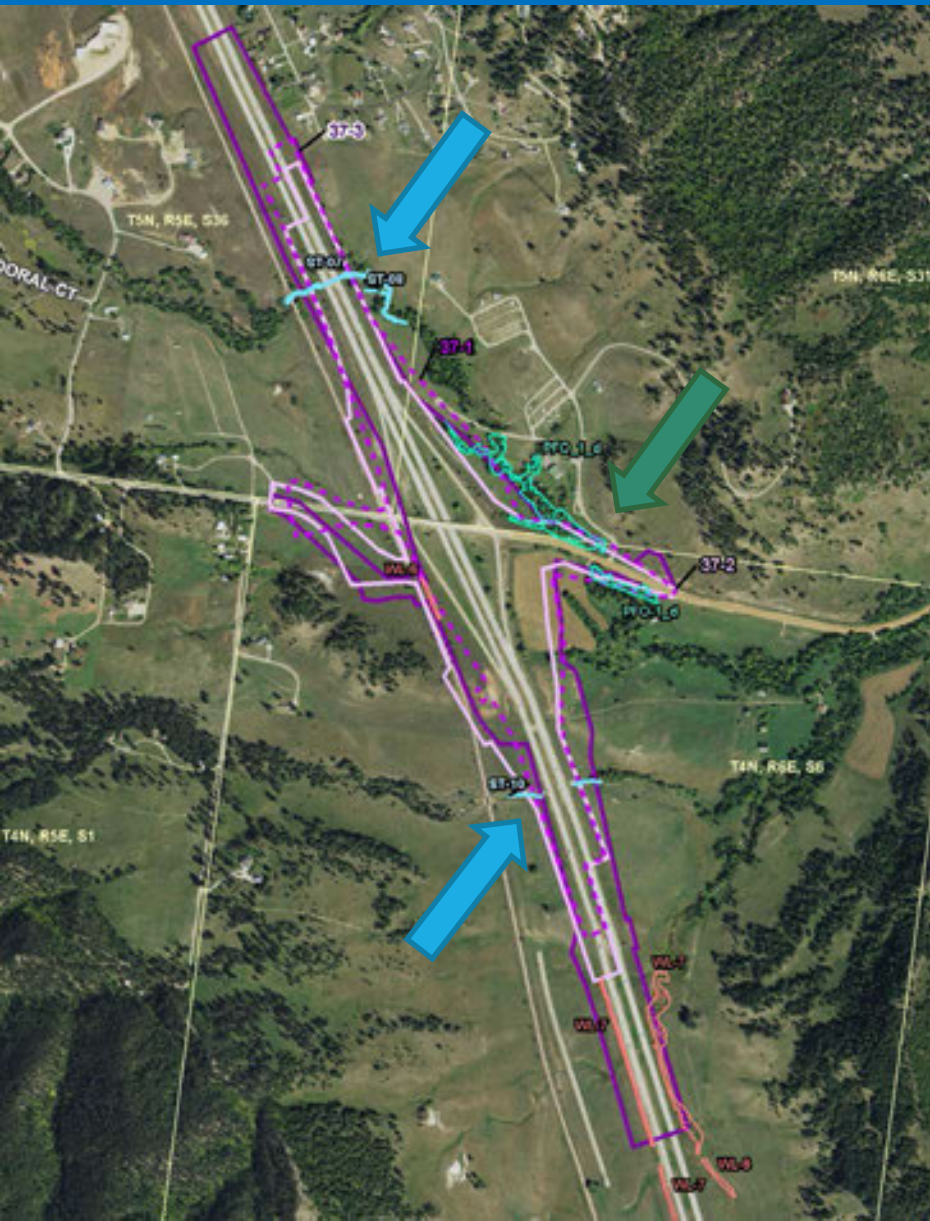
- Fort Meade Archeological Site
- Fort Meade Historic District
- Registered/  
Recommended Sites



# Exit 37 – Environmental Concerns

## Water Resources

- Delineated Wetlands
  - Forested Wetlands
- Surface waters
  - Unnamed Creek



### Legend

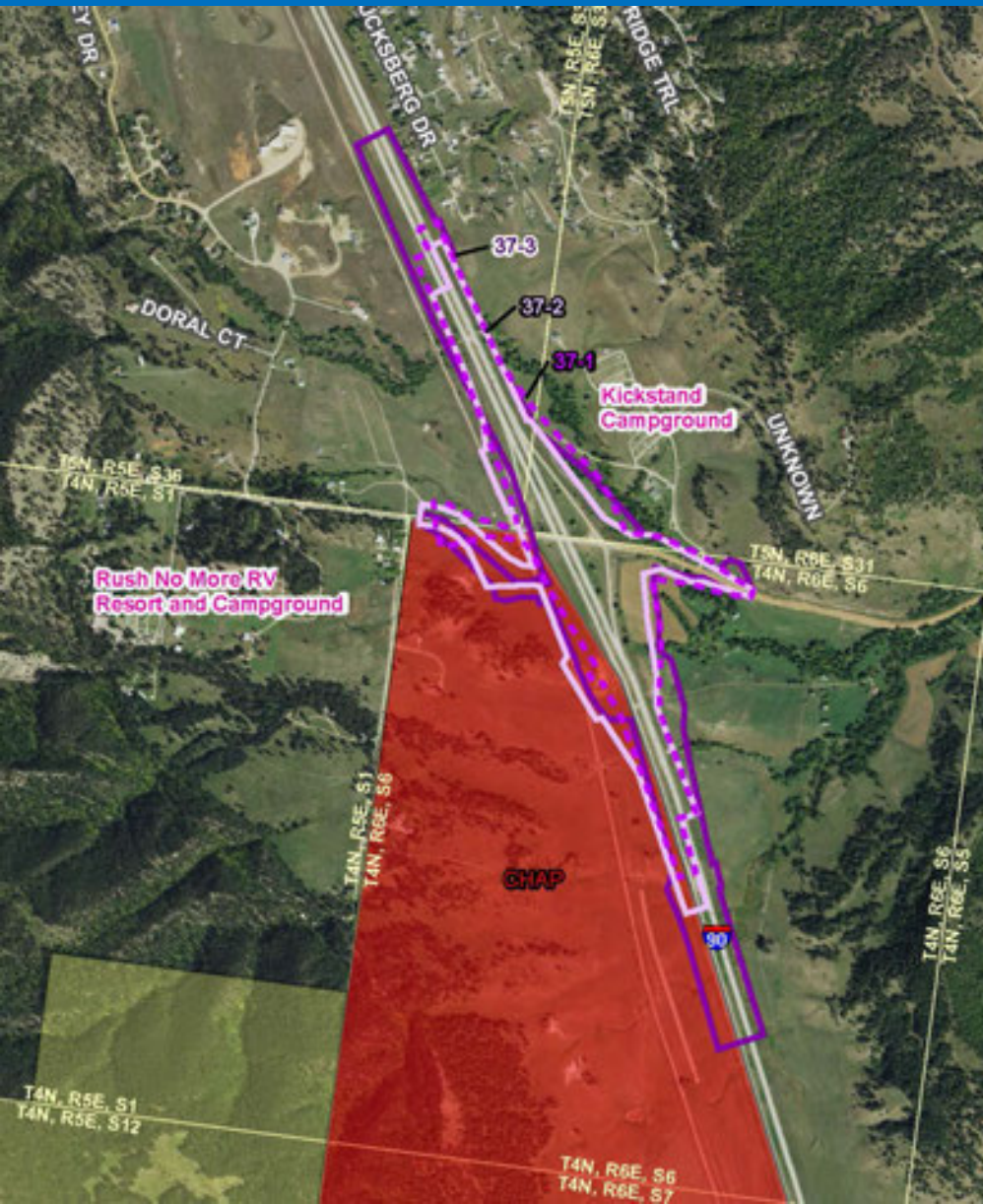
#### Grading Alternative

- Local Road Option A
- Local Road Option B
- Local Road Option C
- 34-1B
- 34-3
- 34-7
- 37-1
- 37-2
- 37-3

- Field Delineated Wetland
- Field Delineated Waterway
- Field Delineated Waterway Area
- Desktop Delineated Wetland
- FEMA Flood Zone
  - 100-year Flood Zone
  - 100-year Floodway
  - 500-year Flood Zone



# Exit 37 – Environmental Concerns



## Public Lands

- Controlled Hunting Access Program (CHAP)

### Legend

#### Grading Alternative

- Local Road Option A
- Local Road Option B
- Local Road Option C
- 37-1
- 37-2
- 37-3
- 34-1B
- 34-3
- 34-7

Approximate Recreational Trail

Private Lands Hunting Access

CHAP

Federal Lands

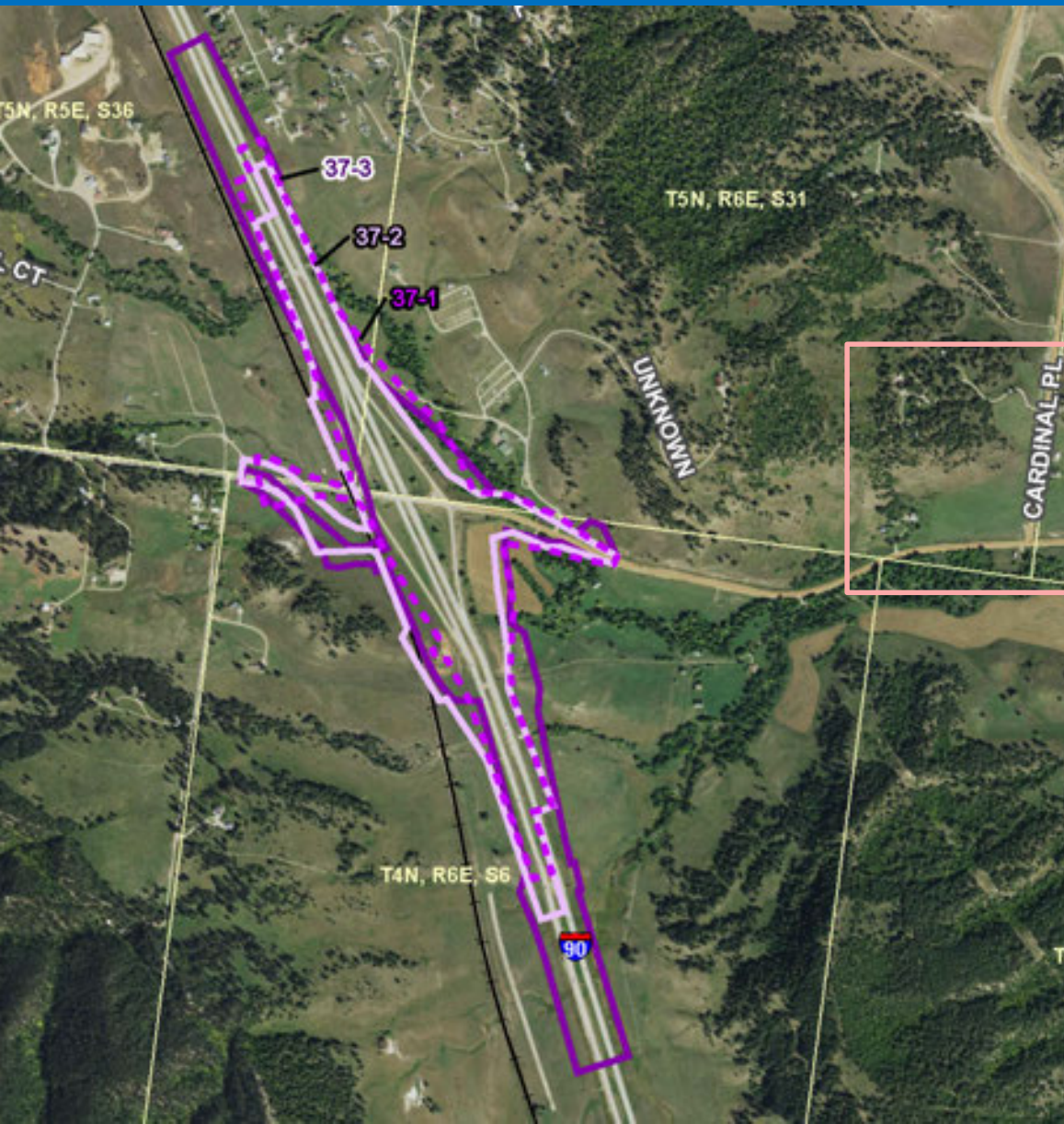
Black Hills National Forest

Bureau of Land Management

National Park Service



# Exit 37 – Environmental Concerns



## Cultural Resources

- Registered/  
Recommended  
Sites

### Legend

#### Grading Alternative

Local Road Option A

Local Road Option B

Local Road Option C

37-1

37-2

37-3

34-1B

34-3

34-7

Fort Meade Historic District

Fort Meade Archaeological Site

Sites



# Alternative Evaluation



Use Development Levels Deficiencies Way Run-Off-The-Road Land Animal Right Risk Impacts Separation Black Snow Future Meade Archaeological Roadway Requirements Staging Collisions National Structures Traffic Reduction Cemetery Wetland Railroad Facility Hills National Cemetery

# Next Steps

**Corridor Study:** End of 2018

**Identify Construction Projects:** Spring 2019

**Submit Interchange Modification Justification Reports:** Summer 2019

**Complete Environmental Studies (1<sup>st</sup> Project):**  
Fall 2019

**Finish Detail Design (1<sup>st</sup> Project):** Fall 2021

**Construction Start:** 2022 & 2024



# How to Stay Involved

Which is your favorite? Comments or concerns?

*Please let us know.*

## Submit Comments:

### **Tonight**

- Written (place in comment box)
- Oral

### **After Tonight** (Comments accepted until December 24, 2018)

- Written (Take a comment card with you)
- Website ([www.i90exit32to40.com](http://www.i90exit32to40.com))
- Contact Us (phone, email, letter)

# How to Stay Involved

**Attend the Next Public Meeting - Summer 2019**  
**Landowner Meetings - Fall 2019**

Sign up for the State's listserve to receive email updates:  
***<https://listserv.sd.gov/scripts/wa.exe?A0=I90EXIT34TO37>***

Visit us on our webpage: [www.i90exit32to40.com](http://www.i90exit32to40.com)



# Thank You!

**Thank you for coming.**

***Project Staff are available to answer questions  
(Stantec, SDDOT, Meade County, FHWA)***

**Please drive home safely!**