

# I-80 Carlin Tunnels Project



NDOT District II  
*2012 I-80 Coalition Meeting*  
September 25, 2012



# Project Purpose and Objective

- Reconstructing the roadway pavement on each side of the tunnels
- Rehabilitating and seismically retrofitting the four sets of Carlin Canyon Bridges
- Repairing and upgrading the Carlin Tunnels, including improvements to the existing lighting in the Tunnels
- Upgrade the ITS elements in the tunnel and the area.



# Project Overview



# Roadway Pavement Reconstruction

- *Concrete Pavement was constructed in 1995*
- *Slabs have developed significant and continuous cracking*
- *Repairs, such as crack stitching techniques, have been unsuccessful*
- *Recommendation:* *Replace concrete pavement with PBS*





# Carlin Canyon Bridges

- *8 Bridges require Rehabilitation and Seismic Retrofitting*
  - *3-span, 3 steel I-girders*
- *Significantly Cracked and Spalled bridge deck overhangs*
- *Steel girders and diaphragms exhibit localized paint failures*
- *Paint assumed to contain lead*



# Carlin Canyon Bridges

## Rehab Recommendations:

- *Replace Bridge Deck Wearing Surface*
- *Replace Bridge Rails*
- *Replace Approach Slabs*
- *Replace Expansion and relief joints*
- *Remove Lead-based Paint*
- *Re-paint Superstructure*





# Carlin Canyon Bridges Seismic Retrofit

*Structures need to be upgraded to meet FHWA seismic performance level criteria for life Safety*

Recommendations: Seismic Isolation Bearing

- *Replace existing steel bearings with seismic isolation bearings*
- *This option avoids work next to the river and retrofitting existing pier footings*



# Carlin Tunnels Repair and Upgrade

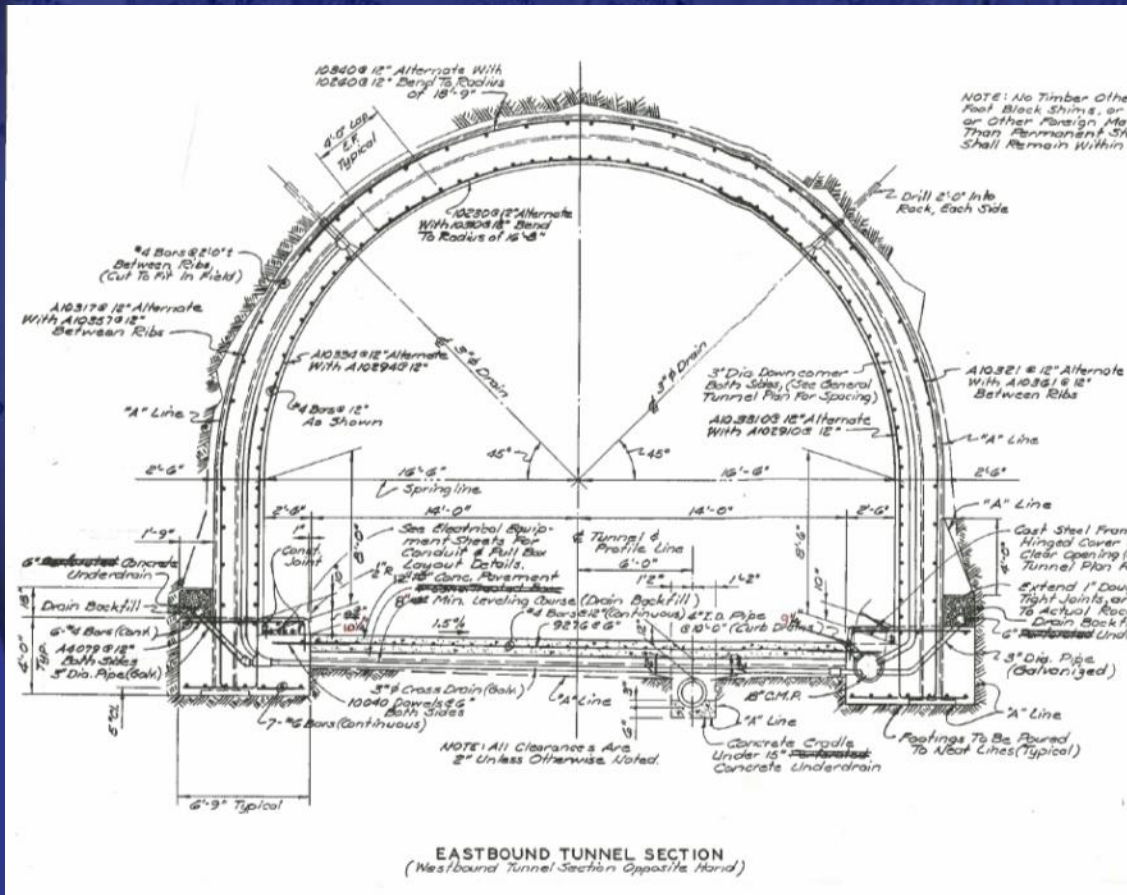
- *Original Construction in 1972*
- *Alkali-silica Reactivity (ASR) is present in the tunnels*
- *Extensive deterioration of pavement section and safety walks*
- *Deterioration of portal headwalls*
- *Tunnel Lighting is insufficient*
- *Slope stability concerns*





# Carlin Tunnels Repair and Upgrade

- Recommendations:



# Project Risks

- *Environmental impacts to rehabbing and retrofitting bridges over the Humboldt River and within surrounding areas;*
- *Coordination and scheduling of multi-disciplinary work in confined areas;*
- *Design alternatives of tunnel and roadway pavement sections and constructability ;*
- *Constructability of the tunnel pavement section and hydraulic features;*
- *Limited quality material sources;*
- *Traffic control, including duration of tunnel closures*



# Project Goals

- *Successfully coordinate, design, and construct a complex, multi-disciplinary Project*
- *Minimize impacts to traffic while considering sequencing, duration, and limits of roadway and tunnel detours, closures, and winter shut-downs.*
- *Reconstruct the roadway, retrofit the Project bridges, and repair the Tunnels with the highest quality Project materials available considering the Project risks.*
- *Complete the project with zero (0) environmental compliance incidents or issues, adhering to all permits, stakeholders, and Departmental environmental commitments and requirements.*

# Project Goals (continued)

- *Maximize the service life of Project improvements by applying innovations in construction materials, means, and methods.*
- *Build a professional and collaborative Project Team.*
- *Strive to achieve zero (0) change orders on the Project resulting from the Project Team's failure to identify and manage Project risks.*



# CMAR Overview

- NDOT's use of the CMAR delivery method
- Nevada Revised Statute (NRS) Requirements
- CMAR Prequalification Requirements
- NDOT's CMAR Project Process



# Project Delivery Methods

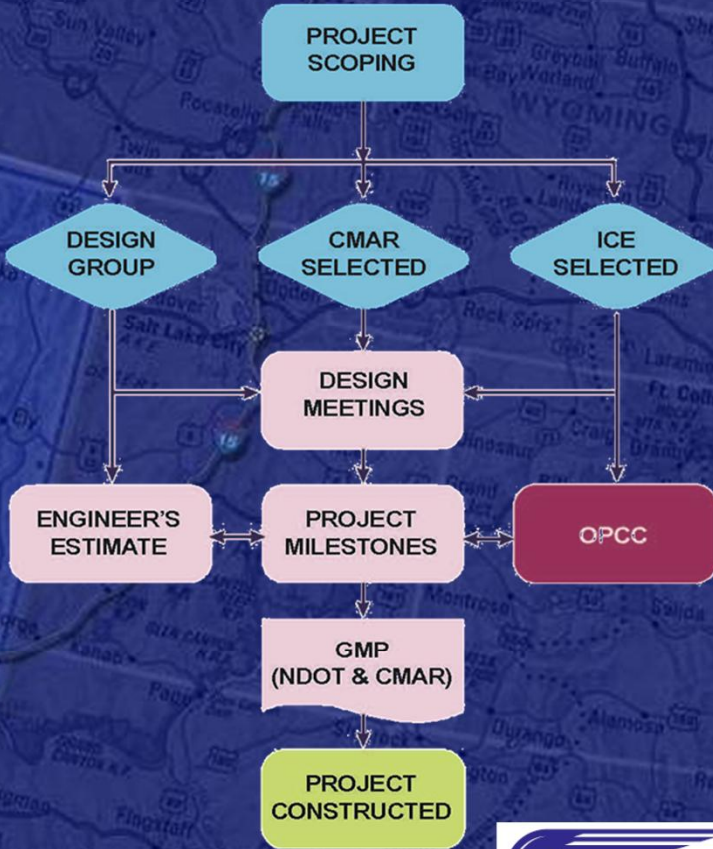
## Design-Bid-Build



## Design-Build

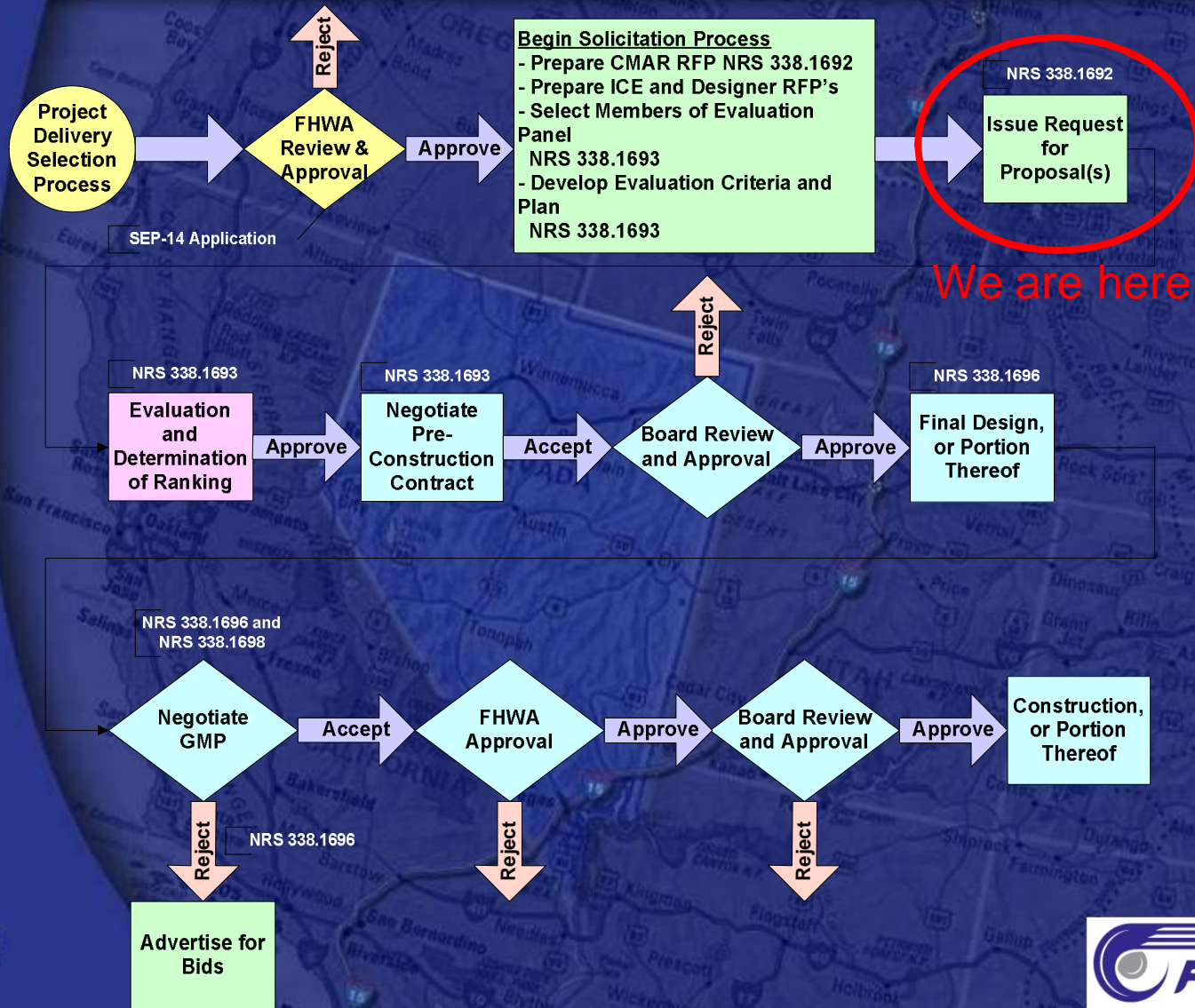


## Construction Manager at Risk (CMAR)

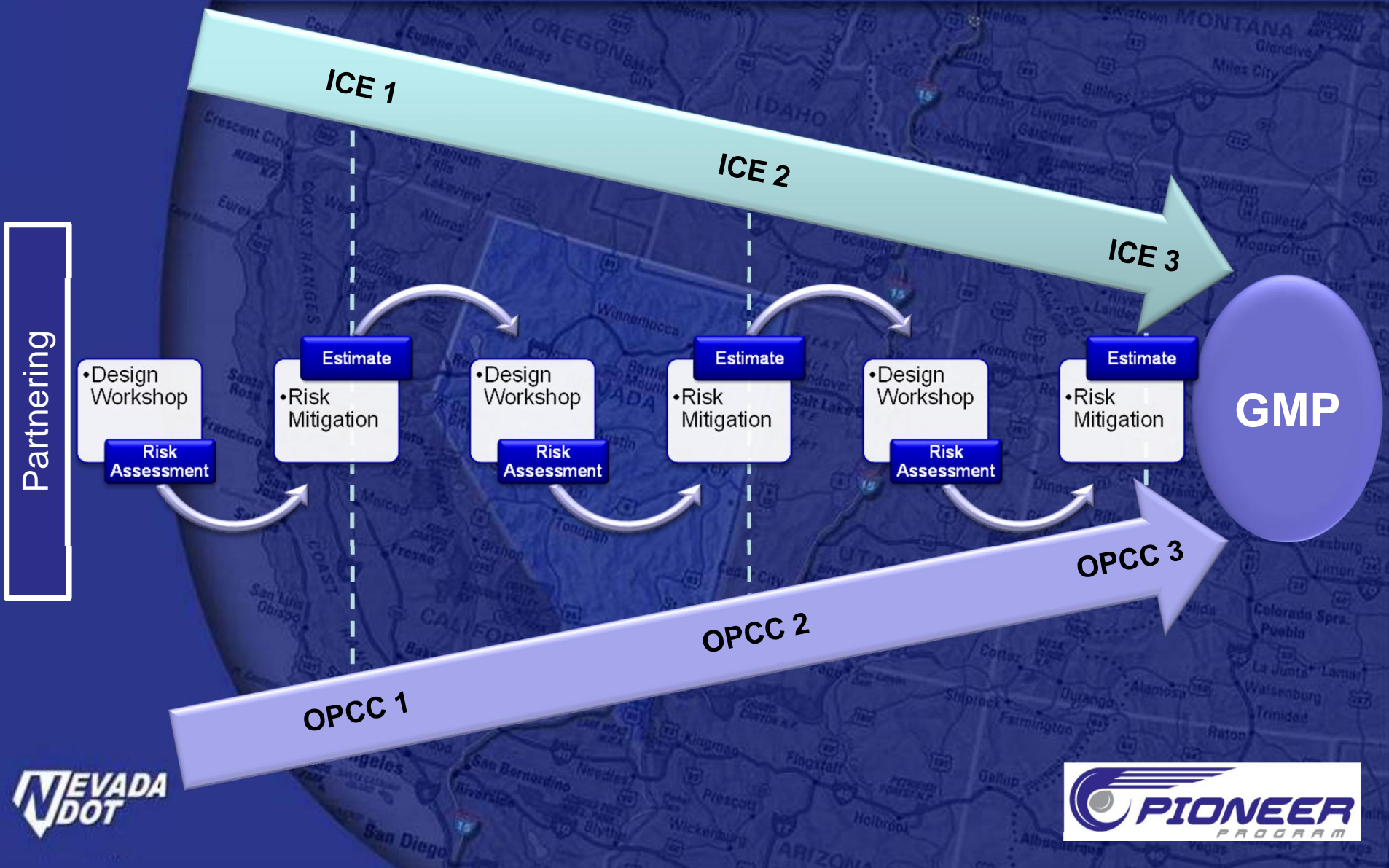




# NDOT's CMAR Process



# CMAR Preconstruction Phase





# RFP Schedule

<u>Event</u>	<u>Time</u>	<u>Date</u>
RFP Release	N/A	August 28, 2012
Mandatory Pre-Proposal Meeting	10:00 a.m.	September 6, 2012
Proposer's Written Questions Due	3:00 p.m.	September 17, 2012
Department's Written Responses Due	N/A	September 20, 2012
<b>Proposal Due Date</b>	<b>3:00 p.m.</b>	<b>September 27, 2012</b>
Notification of Competitive Shortlist	N/A	October 15, 2012
Debriefing of Non-shortlisted Proposers	TBD	October 18, 2012
Interviews	TBD	October 23-24, 2012
Notice of Intent to Award	N/A	October 25, 2012
Transportation Board Approval	N/A	December 10, 2012
Notice of Award	N/A	December 12, 2012
Debriefing of Shortlisted Proposers	TBD	November 1, 2012



# Your Questions Please...

