Project Introduction

Manning Crevice Bridge Replacement

Figure 1. Project Location

Legend:
- Business
- Resident
- Government

Nezperce National Forest
Salmon River Helicopters
Exodus Wilderness Adventures
Manning Crevice Bridge
Riggs Hot Springs

River Adventures Inc. & Ace Outfitters
Pollock, ID
Idaho Organization of Guides and Outfitters
Boise, ID
Mackay Bar Ranch & Sheep Ranch Outfitters
Cascade, ID
The CCC built the one-lane, 240-foot Manning Crevice Bridge across the Salmon River in 1934, named after a CCC enrollee who died in a fall from the bridge. Photo by K.D. Swan, courtesy of Nez Perce-Clearwater National Forests.
Project Introduction
Geometrics/Layout

- Tower
- Bearing Abutment 1
- Top of Saddle Working Point El. 1978.00
- Bearing Abutment 2
- Suspension Cable
- Hanger Cable
- Top of Deck
- Bridge railing, steel, two rail
- Low chord El. 1894.81
- Existing ground line (15' Left)
- HW El. 1873.49
- OHW El. 1858.91
- Existing ground line (11.5' Right)
- Existing ground line (15' Right)

Anchorage
Stability Block
Micropiles (Typ)
Existing ground line (along Salmon River Road)

EXP

USDOT, Federal Highway Administration
Western Federal Lands Highway Division

Manning Crevice Bridge
Design Considerations
Construction

- Pre-construction: $69,500
- Construction: $9,640,000
- Contract modifications: $139,914.77
  **TOTAL**: $9,849,414.77

**Major construction activities:** Ground anchors, structural concrete, structural steel, temporary works, cable system, rock excavation, bridge demo, boulder removal, micropiles, soil nail wall, hot mix asphalt paving, epoxy overlay, prestressed/post tensioned strands

**Methods to overcome site challenges:** Many preparatory submittals and plans, making up space by building temporary work platforms, scheduling work to avoid running into each other, thinking ahead for material & equip. needs
CMGC Overview

• CMGC Contracting Process
• Why CMGC?
• Benefits of CMGC?
• Lessons Learned
CMGC Methodology – Federal Lands

- **EOR/Designer –**
  - In-house or A/E
- **Selection of Contractor – 30%**
  - Criteria evaluation
  - Sealed cost - GMP
- **Design contributions on team**
- **Validate Costs? (ICE)**
- **At 100% - Negotiate Final $**
- **Schedule of values for payment**
Why CMGC?

- Design contributions on team
- Challenging site conditions
- Unique Bridge
- Validate Costs (ICE)
- Change management during construction
CMGC Benefits

- Challenging construction access
- Could have paid nearly same amount for constructability review
- Contractor adds valuable insight to design (efficiency and cost savings)
- Obtain environmental permits far in advance (no/less surprises)
- Direct involvement of owner with Engineer and Contractor (gatekeeper)
- Spirit of partnership during Const.
Lessons learned – CMGC

• Balance innovative ideas from Contractor with narrowing methods (may not award construction to CMGC Contractor)
• Contractor's expertise should improve overall contract quality, cost, and schedule
• Theoretically 0 Contract Modifications. (What is significant change of scope?)
• CMGC an appropriate contracting method to overcome major design and constructability challenges
Lessons learned – CMGC Cont.

- CMGC offers more involvement/control and direction for Owner than Design Build
- Without contractor's pre-construction services, the amount of risk and design assumptions would have been high
- With complex reinforcing and anchors – include concrete/rebar foremen in team (and/or 3D clash detection by designer)
- Pre-load rating existing bridge for various construction vehicles/equipment was invaluable during construction
Questions/Conclusion