1. Welcome/Pledge
2. Minutes
3. Public Comment (limit 3 minutes)
4. Finance Director Report and approval of expenses
5. Resolution Approving 2019 Preliminary Budget and Calling Public Hearing for Dec. 14, 2018
6. Executive Director Report
   A. Rail
   B. Thorium Research Lab
   C. Leland Bench Utilities
   D. Western States Rural Natural Gas Initiative
   E. Coal to Fuels Presentation
   F. Other
7. Infrastructure Update
8. Rail Engineer Interviews
   A. CRS Engineers (10 min present max and 20 min Q&A)
   B. HDR, Inc. (10 min present max and 20 min Q&A)
9. Closed (executive) session pursuant to §52-4-205
   (potential real estate acquisition, trade secret related to procurement, personnel competency)
10. Resolution selecting Uinta Rail Engineers
11. Motion to adjourn

*In accordance with the Americans with Disabilities Act, the Coalition will make reasonable accommodations to participate in the meeting. Requests for assistance can be made by contacting Carbon County Administrative Offices at (435) 636-3214 at least 48 hours in advance of the meeting to be held.
*The order of agenda items may change to accommodate the needs of the Coalition Board, the staff, and the public.
*This meeting may be held electronically via telephone to permit one or more of the Coalition Board members to participate
Entity: Seven County Infrastructure Coalition

Body: Governing Board

Subject: Public Works

Notice Title: Agenda

Meeting Location: 751 E. 100 N.
Price 84501

Event Date & Time: November 9, 2018
November 9, 2018 10:00 AM

Description/Agenda:

SEVEN COUNTY INFRASTRUCTURE COALITION
AGENDA
November 9, 2018 at 10:00 a.m.
751 E. 100 N., Price, Utah
(435) 636-3214

1. Welcome/Pledge
   Phil Lyman
2. Minutes
   Phil Lyman
3. Public Comment (limit 3 minutes)
   Phil Lyman
4. Finance Director Report and approval of expenses
   Smuin Rich & Marsing
5. Resolution Approving 2019 Preliminary Budget and
   Smuin Rich & Marsing
   Calling Public Hearing for Dec. 14, 2018
6. Executive Director Report
   Mike McKee
   A. Rail
   B. Thorium Research Lab
   C. Leland Bench Utilities
   D. Western States Rural Natural Gas Initiative
   E. Coal to Fuels Presentation
Jeff Edwards
F. Other
7. Infrastructure Update
Jones & DeMille
8. Rail Engineer Interviews
A. CRS Engineers (10 min present max and 20 min Q&A)
B. HDR, Inc. (10 min present max and 20 min Q&A)
9. Closed (executive) session pursuant to §52-4-205
Eric Johnson
(potential real estate acquisition, trade secret related to procurement, personnel competency)
10. Resolution selecting Uinta Rail Engineers
Mike McKee
11. Motion to adjourn
Phil Lyman

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*The order of agenda items may change to accommodate the needs of the Coalition Board, the staff, and the public. *This meeting may be held electronically via telephone to permit one or more of the Coalition Board members to participate

Notice of Special Accommodations: In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Lori Perez at 435-636-3228.

Notice of Electronic or telephone participation: Contact Lori Perez at 435-636-3228.

Other information:

Contact Information: Lori Perez
(435)636-3228
Lori.Perez@carbon.utah.gov

Posted on: November 05, 2018 05:12 PM
Last edited on: November 05, 2018 05:12 PM
Present: Jae Potter, Brad Horrocks, Lynn Sitterud & Greg Todd
Also in attendance - Mike McKee, Eric Johnson, Doug Rasmussen, Kristi Sharp, Brian Barton, Mike Hawley
Absent: Phil Lyman, Jack Lytle, Ken May
Attended telephonically: N/A

1. Welcome / Pledge of Allegiance (Jae Potter)

2. Meeting Minutes of September 14, 2018 meeting (Jae Potter)

   Motion to approve September 14, 2018 minutes by Commissioner Horrocks, seconded by Commissioner Todd. Unanimously approved 4-0-3 absent.

3. Public Comment (Jae Potter)

   No comments from public.

4. Finance Director Report and approval of Expenses (Smuin, Rich & Marsing)

   The following invoices were presented for approval.
Doug highlighted Kristi Sharp’s diligent efforts with the CIB on reimbursements. Mike McKee offered his thanks for the Smuin Rich Marsing team efforts in obtaining timely reimbursements from the CIB. Mike McKee also asked to review the profit and loss summary prior to the monthly meetings with Doug. Brad Horrocks noted that Mike McKee is doing a great job with all the travel he does on so little expenses. Thanks!

Commissioner Horrocks confirmed the dollar amount of $93,438.43 and then made a Motion to approve, seconded by Commissioner Sitterud. Unanimously approved 4-0-3 absent.

Commissioner Horrocks exited the meeting at this point.

5. Executive Director Report (Mike McKee)

Rail Study Update:
The Coalition’s Rail application will be heard in the CIB’s November 8th meeting in Moab.

Leland Bench:
Discussions with Uintah Water Conservancy District and Ouray Park Improvement District on coordinating Green River water rights.

Thorium Energy Center of Excellence:
A meeting will be held next week at the Governor’s office regarding getting this project in the legislative budget.
Eastern Connector Road:
Moving forward and legislative appropriation was received.

Western States Rural National Gas Initiative:
Bergen Eskildsen, of the Governor’s Office of Energy Development, provided an update. He indicated that they are working on opening markets for local natural gas. Commissioner Potter asked if there is a timeframe. No known timeframe at this time. Both Duchesne and Uintah Counties also contributed.

6. Public Hearing on Rail CIB Application for $27,900,000 (Mike McKee)

Mike McKee provided background that the Coalition previously applied for $30,000,000 for Rail. This application revises the value to $27,900,000, to be utilized over a 2 year timeframe. The Coalition is on the CIB’s agenda for the November 8th meeting regarding this application. Eric Johnson provided further background that several studies were done by HDR and R.L. Banks with routes to Colorado. Both studies indicated the Rail is viable, however, not at a rate of return that would entice private industry. Therefore, it would be appropriate for a public body to proceed with the Rail project for the public good. Eric Johnson indicated that a meeting was held with the Build America Bureau earlier this year. The Coalition will seek federal funding for the Rail project, which is estimated at $1.4B and the Coalition qualifies for an interest rate of approximately 1.7%, half of the current federal interest rate, which would be locked in at the start of construction of the project. The Build America Bureau that administers the federal funding also indicated that $35B in funding has been set aside for rail projects such as this.

Commissioner Horrocks re-joined the meeting at this point in time.

Motion to go into Public Hearing by Commissioner Todd, seconded by Commissioner Horrocks. Unanimously approved 4-0-3 absent.

Public comment:
Scott Hagman asked how Colorado feels about this project.

Mike McKee stated that meetings have been held with leaders and commissioners in Craig and Rifle Colorado, as well as a meeting with Kathleen Stacks of the Colorado Governor’s Office of Energy. All of the Colorado participants seemed excited. Mr. McKee indicated that Ms. Stacks sent a letter to all government agencies in Colorado, to which no objections were received.
Brad Horrocks indicated overwhelming support from industry.

Motion to close Public Hearing by Commissioner Todd, seconded by Commissioner Horrocks. Unanimously approved 4-0-3 absent.

7. Resolution 2018-10A Approving Cody Deeter as Municipal Advisor for Utilities for Lube Oil Refinery (Mike McKee)

Discussion of agenda item #6 was postponed until Commissioner Horrocks could re-join the meeting. The Coalition Board proceeded to introduce the background and purpose of agenda item #7, the Public Hearing (see more below).

Mike McKee indicated his confidence in Cody Deeter as well-suited for this project. In order for the Board of Water Resources to fund the water utility for the Lube Oil Refinery, they require the entity to fund 15%. Mike McKee indicated the Coalition is in a position to meet the Board’s requirements. Approving this resolution includes approving Mike McKee to sign the agreement with Mr. Deeter.

Motion to approve by Commissioner Horrocks, seconded by Commissioner Todd. Unanimously approved 4-0-3 absent.

8. Resolution 2018-10B Approving CIB Rail application (Mike McKee)

Motion to approve by Commissioner Todd, seconded by Commissioner Horrocks. Unanimously approved 4-0-3 absent.

9. Finalizing Rail Planning Selection Committee (Mike McKee)

Selection Committee will include: Executive Director, Engineer, Attorney, Uintah, Duchesne & Sevier county commissioners.

10. Monthly Infrastructure Report/Study Update (Jones and DeMille)

Additional information on the utilities for Lube Oil Refinery.

11. Legal report on Rail (Eric Johnson)

Prior practice of CIB and prior position of the Attorney General’s office indicate that the
CIB can fund the rail project from general CIB funds and not draw on Throughput funds.

12. Closed (executive) Session for (potential real estate acquisition, trade secret related to procurement, personnel competency) pursuant to §52-4-205 (Eric Johnson)

   Motion to enter closed session at 2:52 p.m. by Commissioner Sitterud, seconded by Commissioner Todd. Unanimously approved 4-0-3 absent.

   Motion to re-enter open session by Commissioner Sitterud, seconded by Commissioner Horrocks. Roll call vote and unanimously approved 4-0-3 absent.

13. Motion to adjourn (Jae Potter)

   Motion to adjourn by Commissioner Horrocks, seconded by Commissioner Sitterud. Adjourned by acclimation.
Motion to approve meeting minutes by Commissioner _________________, seconded by Commissioner _________________.

SEVEN COUNTY INFRASTRUCTURE COALITION VOTING:

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______________________________
Co-Chair Phil Lyman

______________________________
Co-Chair Jae Potter

ATTEST:

______________________________
Eric Johnson
# Seven County Infrastructure Coalition

**Financials**

November 9, 2018 at 10:00 a.m.
751 E. Main, Price, UT 84501
(435)636-3214

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**Total Payment Approval** $77,028.46

Approved and adopted this November 9, 2018.

Motion to approve expenses by Commissioner __________, Seconded by Commissioner __________

Seven County Infrastructure Coalition

| Co-Chair Phil Lyman |

Co-Chair Jae Petter

Attest:

Eric Johnson
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## SEVEN COUNTY COALITION
### Profit & Loss by Class
#### January through September 2018

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## SEVEN COUNTY INFRASTRUCTURE COALITION

Contract: 18-1653 - Daggett County Mosler Trails Plan - 2018

Begun 10/7/17 to 9/30/19

1/2 of Funding Comes from CIB and 1/2 of Funding Comes From Utah Division of Parks and Recreation

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RESOLUTION ADOPTING THE 2019 TENTATIVE BUDGET AND CALLING PUBLIC HEARING ON THE 2019 BUDGET AND RELATED MATTERS.

WHEREAS, pursuant to Sections 11-13-508 and 509 of the Utah Code the Coalition is required to present a tentative budget to the Board in its November public meeting and to call a public hearing and provide notice thereof for the next year’s budget; and

WHEREAS, the Executive Director has prepared a tentative budget for consideration and adoption for the Coalition Board which has been presented on this date; and

WHEREAS, the Coalition Board desires to call the required public hearing and provide notice thereof:

NOW, THEREFORE, be it resolved by the Governing Board of the Seven County Infrastructure Coalition, Utah as follows:

1. The Governing Board has reviewed the 2019 tentative budget as presented by the Executive Director and with the modifications expressed in public meeting finds that such budget is in tabular form presenting actual revenues and expenditures for the last completed fiscal year, estimated total revenues and expenditures for the current fiscal year; and the budget officer’s estimates of revenues and expenditures for the budget year 2019 with an estimate of the amount of revenue available to serve the needs of each fund, the portion to be derived from sources other than general property taxes, which is all revenues, and the portion that shall be derived from general property taxes, which is none, and an estimate of expenditures together with specific work programs.

2. In accordance with the above findings, the Governing Board hereby adopts the 2019 tentative budget.

3. The Governing Board hereby calls a public hearing on the 2019 budget at 10:00 a.m. on December 14, 2018, or as soon thereafter as feasible, to be held at the Carbon County Administration Building at 751 E. 100 N. in Price, Utah, and directs the budget officer to cause notice of the public hearing to be published (1) one time in a newspaper of general circulation in one of its member counties at least seven days prior to the date of public hearing, and (2) on the Utah Public Notice Website at least seven days prior to the date of the public hearing. The Coalition has no taxing powers and accordingly no tax increase is or can be made in connection with the 2019 budget.
4. All parts of this Resolution are severable, and if any section, clause or provision of this Resolution shall, for any reason, be held to be invalid or unenforceable, the invalidity or unenforceability of any such section, clause or provision shall not affect the remaining sections, clauses or provisions of this Resolution.

5. All resolutions or parts thereof in conflict herewith are, to the extent of such conflict, hereby repealed and this Resolution shall be in full force and effect immediately upon its approval and adoption.

APPROVED AND ADOPTED this November 9, 2018

Motion by _______________________ and Seconded by ____________________.

SEVEN COUNTY INFRASTRUCTURE COALITION VOTING:

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______________________________
Co-Chair Phil Lyman

______________________________
Co-Chair Jae Potter

(COALITION SEAL)

ATTEST:

______________________________
Eric Johnson

(ATTACH 2019 TENTATIVE BUDGET)
## 2019 Proposed Budget

### Income

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**Total Income**                        | 1,433,961.31  | 2,286,250.00  | 1,305,702.60  | 148,989,350.00| 148,989,350.00| 60,407,500.00 |

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**Total Expense**                        | 1,529,600.62  | 2,286,250.00  | 1,305,999.42  | 148,989,350.00| 148,989,350.00| 60,407,500.00 |

**Net Income**                           | -75,639.31    | 0.00          | -296.82       | 0.00          | 0.00          | 0.00          |
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<thead>
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<th>PROJECT</th>
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<tr>
<td>DAGGET/UINTAH RECREATION TRAIL</td>
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<td>EASTERN UTAH REGIONAL CONNECTION</td>
<td>FUNDING IN PLACE FOR EIS (LEGISLATURE $2.2M, $0.8M CIB, $0.9M UTSSD), DESIGN AND CONSTRUCTION FUNDING PENDING</td>
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<td>GREEN RIVER NATURAL GAS</td>
<td>NEEDS FINANCING, PROPOSED $2,000,000 CIB GRANT, $1,000,000 EDA GRANT, $4,000,000 CIB LOAN REVENUE BONDS WITH GREENRIVER CITY GUAR</td>
</tr>
</tbody>
</table>
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Firms' Information.....................................................1.2
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Certifications and Licenses........................................1.4
Obligations and Availability......................................1.4

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LOCAL KNOWLEDGE AND EXPERIENCE
(Similar projects, local experience, relationships and issues are addressed in the following key local areas of expertise)

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APPENDIX
Resumes
Letters of Recommendation
Dear Mike and Coalition Selection Team Members,

Adding rail to the Basin will open opportunities to take Basin Crude to market, import critical materials to produce crude more efficiently as well as diversify our economy. I can’t believe my luck to have your project in my home state.

As the national freight rail leader, a 113-year Utah-based company with offices throughout Utah, including an office for the Basin (Vernal), I have assembled a team I personally know will make rail a reality in the Basin. As you might expect for a freight rail engineer, most of my projects take me away from Utah—home. To say I’m thrilled would be an understatement at the prospect of leading a railway project of this magnitude at home.

As I have already shared with some of you at the Coalition, I am passionate about freight railway projects because they consistently catalyze and diversify the economy of communities these projects touch. I recognize potential benefits as well as challenges of permitting and implementing Uinta Basin Railway and sincerely commend you for proactively moving forward. I am confident the future of our communities will benefit from our actions today.

Along with my colleagues and team members, we recognize that timely delivery is critical to success. We feel your urgency and acknowledge recent agency policies that provide a unique window of opportunity. Fortunately, the Coalition has been contemplating this project for quite some time and given us an opportunity to assemble resources you need.

I am proud of our team and trust you will agree that our team is best qualified and best positioned to help the Coalition successfully advance this important project to implementation. The enclosed proposal presents each of our team members and demonstrates our combined qualification and strengths to successfully deliver on-time engineering, base environmental, and right-of-way work for Uinta Basin Railway.

As you review our enclosed proposal, please look for examples of the following unique qualifications and capabilities that differentiate our team from others:

- **Local Freight Rail Expertise** - As a Utah-based manager with specialized freight rail expertise, I will manage your project aligning resources to meet Coalition objectives. Because the majority of our team is nearby, we are more accessible to the site.

- **Maximized Local Team Resources** - I look forward to working with the amazing partners that we have assembled into a team and think you will too. As the most local team, we can be more cost effective, better informed, and more committed to your success.

- **Resources and Approach for On-Time Delivery** - I have to admit, the aggressive schedule concerned me at first. But now that we have an incredible team and a solid approach, I say “game on!” By joining forces, our team members are ready to set new railway development records given I’ll be fully available to lead our team.

- **Efficient Use of Public Funds** - When comparing apples to apples in terms of scopes of work or value contribution, we are confident that our costs will be lowest because they reflect lower rates and added productivity of local team members.

In short, together as a team, we offer the Coalition a mix of world-class rail-specific expertise and local know-how for on-time completion of a project that is implementable and meets your objectives.

Sincerely,

CRS Engineers

Darren Eyre, Project Manager
1. Project Team

Why this Team? ........................................................................... 1.1
Firms' Information ....................................................................... 1.2
Key Personnel Strengths ............................................................. 1.4
Certifications and Licenses ........................................................... 1.4
Obligations and Availability ......................................................... 1.4
WHY THIS TEAM?

QUALIFICATIONS & EXPERIENCE

CRS has diligently become familiar with Seven County Infrastructure Coalition’s (Coalition) Uinta Basin Railway (UBRy) project and has organized a team of specialists needed for each discipline that can successfully permit and design UBRy through completion. Our team understands the vital importance of exporting Uinta Basin oil and gas to national markets via a new rail line which will secure jobs, import and export other products which will bolster and diversify Uinta Basin’s economy, and create tax revenue to reinvest in infrastructure.

We are uniquely made up of local firms with employees that live in the Uinta Basin and Utah community our entire lives. We have more at stake than just winning a project; we must perform at the highest level on this project to maintain the respect and relationships with the Coalition and local railroad staff because we will be here after the project ends. Our future livelihood depends on successfully completing this project.

In addition to the local relationships we have developed over decades, we have the technical expertise needed for this project, specifically freight railroad experience. The experts on our team have planned, designed, permitted, and managed construction of hundreds of miles of track for many rail users such as Union Pacific Railroad, BNSF Railway, multiple shortline railroads, and private industries who are served by these railroad companies.

Our team has the horses in the stable to run this race. Our team has strategically partnered together to provide the capacity needed to complete the project under a tight schedule. We have worked together before and have no doubt that we can work as a successful team again, this time for the Coalition.

CRS’ Team has planned, designed, and managed construction of $1.24 Billion of Freight Railroad projects in the last 3 years.
**CRS Engineers**

**Prime, Freight Rail Lead, Multi-Disciplined**

CRS Engineers solves complicated civil engineering challenges. We specialize in complex freight railroad infrastructure projects. Like Arcadis, we have been serving Class 1 railroads since 1993, helping hundreds of railroad communities, companies, government agencies, and private industries with feasibility studies, cost analyses, design, construction management of railroad tracks and terminals throughout the nation with emphasis in Utah and Colorado. We've played a pivotal role in development of hundreds of miles of track in main lines, branch lines, yards, industry spurs, and railroad crossings. CRS' involvement with rail lines has included projects for branch line feasibility studies, rail served industrial parks, rail served ports, oil refineries, ethanol plants, coal terminals, transload facilities, intermodal yards, automotive yards and other rail facilities essential for the growth and sustainability of our nation's economy. Working with Class 1 and short line railroad companies on a daily basis has helped CRS establish strong personal relationships, technical knowledge, and an intimate understanding of railroad permitting and approval processes. In addition to local railroad professionals, CRS has four offices in Utah, including one in Vernal.

**Arcadis**

Rail Design

<table>
<thead>
<tr>
<th>Years in Business</th>
<th>Rail Projects</th>
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<tbody>
<tr>
<td>24</td>
<td>6,000+</td>
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</tbody>
</table>

Arcadis has been serving the North American railroad industry since 1994. They serve all seven Class 1 railroads and have completed more than 6,000 projects for their rail clients. The Arcadis railroad team is your trusted partner, delivering solutions which meet all your needs because — like you — they live railroading, everyday.

**SWCA**

SWCA, Inc. Environmental

<table>
<thead>
<tr>
<th>Years in Business</th>
<th>Basin Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>30+</td>
<td>700+</td>
</tr>
</tbody>
</table>

SWCA is an employee-owned interdisciplinary (ID) environmental consulting firm with more than 850 employees across the United States. We have had an established presence in Utah for 25 years and an office in Vernal since 2006. SWCA is unique in its field as a strictly environmental consulting firm with a reputation of exceptional client service and permitting acumen. We regularly help our clients navigate their projects through the Endangered Species Act, Clean Water Act, National Historic Preservation Act, National Environmental Policy Act (NEPA), and more. SWCA is qualified as a third-party environmental contractor by the Surface Transportation Board.

**CIVCO**

Survey Engineer

<table>
<thead>
<tr>
<th>Years in Business</th>
<th>Basin Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>900+</td>
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</table>

CIVCO has been and is providing survey services, right-of-way design, utility coordination, complete project management, environmental clearances, roadway, drainage, and structure design for several agencies including the federal, state, county, and municipal projects throughout Utah and Colorado. CIVCO's team of highly skilled employees consists of 5 registered professional engineers, 3 engineering technician, 3 CAD technicians, 10 certified construction inspectors, 2 registered land surveyor, 3 survey chiefs, and 8 office technicians.

**RailPros**

Rail Design

<table>
<thead>
<tr>
<th>Years in Business</th>
<th>Freight Rail Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>500+</td>
</tr>
</tbody>
</table>

RailPros Field Services provides professional engineering design services and field support staff for infrastructure projects on or near railroad facilities. The organization is led and operated by a team with extensive railroad construction and maintenance experience. They provide trained, experienced, and qualified personnel to work in the railroad environment. “Rail isn’t a part of our business; it is our business.” Unlike other firms, rail is all they do. The RailPros Field Services staff have extensive previous construction and maintenance experience directly with Class 1 and short line properties. This firsthand knowledge of railroad operations, construction, and maintenance will provide SCIC with on schedule, on budget projects.
### FIRMS' INFORMATION

<table>
<thead>
<tr>
<th><strong>WSP USA</strong> Environmental &amp; Structures</th>
<th>30+ Years in Business</th>
<th>350+ Rail Projects</th>
</tr>
</thead>
</table>

WSP is a leader in rail transportation consulting, is a local firm with national resources. This means we can pull in subject matter experts when needed but also have local professionals who understand the local vision and context. They have experience in all facets of rail engineering, environmental, permitting, right-of-way planning, and related services. WSP has served Utah for over 30 years and helped study, program, and build over 70 miles of rail in Utah and hundreds of miles throughout the U.S. Their rail experts are well versed in the rail transportation of bulk commodities, including crude oil. They’re experts at identifying risks and developing innovative approaches to manage these risks in a time- and cost-efficient manner. They also understand how to reliably address the needs of a viable rail line. They can leverage our team’s relationships with local and national rail carriers to ensure we deliver all the elements necessary for a complete turnkey railroad that works with the realities of rail industry.

<table>
<thead>
<tr>
<th><strong>Kleinfelder Geotechnical</strong></th>
<th>17 Rail Projects</th>
<th>125 Basin Projects</th>
</tr>
</thead>
</table>

Kleinfelder is uniquely qualified to provide geotechnical services on this project because of our successful work history providing geotechnical support for numerous large transportation projects throughout Utah and Colorado over the past 25 years and have extensive experience with the unique geotechnical and geologic conditions in the Uinta Basin and surrounding areas. By applying the experience of our staff, we can provide efficient solutions that benefit our clients and minimize project costs. In addition to our strong, long-term local presence, we have the ability to draw on specialized expertise from over 1,800 employees in our other offices. Kleinfelder’s local team has extensive experience working on large design-build and design-bid-build transportation and rail projects, and has worked closely on many past transportation projects with members of the current project team.

<table>
<thead>
<tr>
<th><strong>Railroad Industries Shortline Operations</strong></th>
<th>30 Years in Business</th>
<th>30 Rail Projects</th>
</tr>
</thead>
</table>

Railroad Industries Incorporated (RII) has been a premier consulting firm for over 30 years. We have successfully helped clients to plan more streamlined operations and build revenue, to solve issues and develop partnerships, and to create lasting transportation programs. Their hands on focus with transportation, with most personnel having individual experience in the transportation industry, coupled with their professional project management practices provides for a client-centered process and smooth projects. Their innovative Out of the Box ideas help to solve problems and create win-win solutions for new systems that truly maximize transportation systems and new infrastructure technologies.

<table>
<thead>
<tr>
<th><strong>Monument Management &amp; Permits</strong></th>
<th>19 Years Experience</th>
<th>200+ Projects Managed</th>
</tr>
</thead>
</table>

Monument provides planning, engineering, and advisory services for transportation infrastructure projects like the Uinta Basin Railway. Monument specializes in early stages of infrastructure development, including project management, stakeholder engagement, environmental planning and permitting, engineering, and cost estimating. Monument offers a proven project management approach that first seeks to understand the community context for infrastructure needs and then applies technical expertise to drive success. Monument is proud to currently serve the Coalition and eastern Utah on other efforts.

<table>
<thead>
<tr>
<th><strong>CET Tribal Coordination</strong></th>
<th>8 Years in Business</th>
<th>15+ Tribal Projects</th>
</tr>
</thead>
</table>

Greg Buxton, PE established Civil Engineering Technologies, LLC (CET) in November 2010. Greg has developed a professional and personal relationship with many of the Tribal Business Committee members which has helped him with the completion of project on Tribal Lands. Greg, located in Roosevelt, UT, has provides professional engineering, surveying and right of way services to the Ute Indian Tribe and other local governmental agencies. Greg has demonstrated his ability to navigate Ute Indian Tribe processes to successfully complete projects in their jurisdiction. Greg will provide Tribal coordination and act as a liaison between the project Team and the Ute Indian Tribe.
KEY PERSONNEL STRENGTHS

Daren Anderson, PE
Project Manager
19 Yrs. of Exp. 300+ Similar Projects

As a Utah-based freight rail manager proven through local and national projects, I will lead our great team to solve complex challenges for the project.

Matt Collier, PE
Roll, Track Crossing, Grading Design
18 Yrs. of Exp. 100+ Similar Projects

I design challenging freight rail corridors that positively impact local communities.

Josh Setten, SE
Structures/Tunnels
17 Yrs. of Exp. 50+ Similar Projects

I design bridge and drainage structures that are innovative and implementable.

John Diamond, PE, PG
Geotechnical
16 Yrs. of Exp. 50+ Similar Projects

I provide soils and geotechnical expertise to inform practical designs that protect the long-term integrity of the railway.

Scott Vemon
Survey & ROW
25 Yrs. of Exp. 600+ Similar Projects 400+ Basin Projects

I apply land surveying best practices to verify survey data and develop reliable design base maps.

CERTIFICATIONS & LICENSES

See Appendix A: Resumes for technical certifications & license information.

PROJECT TEAM

 Uinta Basin Railway Design

CRS' Team | 1.4

NAME Design Project Role Current Obligations and Availability

Daren Anderson, PE Project Manager

Matt Collier, PE Roll, Track Crossing, Grading Design

Josh Setten, SE Structures/Tunnels

John Diamond, PE, PG Geotechnical

Scott Vemon Survey & ROW

NAME Design Project Role Current Obligations and Availability

Matt Collier, PE Roll, Track Crossing, Grading Design

Josh Setten, SE Structures/Tunnels

John Diamond, PE, PG Geotechnical

Scott Vemon Survey & ROW

NAME Design Project Role Current Obligations and Availability

I provide senior engineering reviews and support which create project efficiencies based on Uinta Basin-specific.

Carrene Gilbert, PE Rail Operations, Signals, & PTC

I design railroad signal and positive train control to maximize freight transport reliability and safety.

Ben Rood, PE Hydrology & Hydraulics

I design drainage facilities that meet all standards and protect the longevity of the railway and protect natural streams.

OBLIGATIONS/AVAILABILITY

Chuck Easton, RPA Environmental Lead

I bring together engineering and environmental resources to develop viable and effective solutions to support NEPA.

Jason Bight
NEPA Process Lead/Land Use Resources

I help clients succeed by providing multi-agency NEPA expertise to address client needs through Federal agency procedures.

David Brown
STB Studies Lead

I lead teams experienced with STB, BLM, and environmental resources to prepare analyses that meet STB requirements.

NAME Design Project Role Current Obligations and Availability

I apply recent UPRR on-job engineering scoping to design at-grade crossings that are practical, safe, and worthy of approval.

NAME Design Project Role Current Obligations and Availability

I apply experience modeling operations for freight rail corridors that positively impact local communities.

I design challenging freight rail corridors that positively impact local communities.

I design drainag...
2. Capability of Consultant

Capability to Perform ..............................................2.1
Control Systems ......................................................2.1
Relevant Experience ..................................................2.2
Resources Available (Team Organization Chart) ......2.6
SIMILAR PROJECT EXPERIENCE

Our team members have planned, designed, permitted, and managed construction of hundreds of miles ($1.24 Billion) of freight rail and associate facilities, including similar features such as branch lines, interchange yards between Class 1 and smaller shortlines, repair and maintenance shops, sidings, road crossings, structures, utility relocation / protection, and private industry loading and unloading facilities. Industry loading and unloading facilities,

As noted in our project experience, we deliver our projects on time and on budget. We also have experience assisting our clients in procuring federal funding/grants.

CAPABILITY TO PERFORM WORK

INTERNAL REVIEW OF QUALITY PROCESS

Our CRS Internal Review Procedure has three integrated standards: Project Planning checklist is established for each project. For larger projects, a customized critical path schedule is used showing key milestones and deliverables. Project schedule and budget are reviewed weekly by team. Management software allows us to track daily the status of the budget and work completed allowing real time information and the ability to identify items that are behind schedule.

Quality Control (QC) standards apply to every submittal, including plans, calculations, reports, specifications, and estimates. All individuals responsible for QC sign and date the internal review checklist after completing their review. A review checklist is required for all projects. Each document is reviewed by a designer, digital file review, hard copy review, and project manager review. CRS staff track and file completed QC process documents in our deliverable file for future reference. This QC process ensures each item has been properly reviewed and completed.
## Relevant Experience

<table>
<thead>
<tr>
<th>Prime Firm</th>
<th>CRS Engineers</th>
<th>Relevant Project Components</th>
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<tbody>
<tr>
<td><strong>Pecos Hi-Crush Facility</strong></td>
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<td><strong>Freight Rail Engineering</strong></td>
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<td><strong>Pecos, TX</strong></td>
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<td><strong>Corridor Impact Analysis</strong></td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td><strong>Design - Build</strong></td>
</tr>
<tr>
<td>Matt Collier, PE</td>
<td>PM/Design Engineer</td>
<td>Designed two mainline switches, two ways, three-unit train loop tracks, and four manifest tracks. The total design track footage included 44,000 ft. of track. The design included drainage and grading of nearly 300 acres of raw ground, including ditches, culverts, and detention basins.</td>
</tr>
<tr>
<td>Matt Hirst, PE</td>
<td>Principal In Charge</td>
<td><strong>Western Arkansas Railroad</strong></td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td><strong>Reconstruction Project</strong></td>
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<tr>
<td><strong>Matt Collier, PE</strong></td>
<td>PM/Design Engineer</td>
<td><strong>Freight Rail Engineering</strong></td>
</tr>
<tr>
<td><strong>Hi-Crush</strong></td>
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<td><strong>Corridor Impact Analysis</strong></td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td><strong>Design - Build</strong></td>
</tr>
<tr>
<td>Jeremy Thompson, General Manager</td>
<td>EPC</td>
<td>Quicksand</td>
</tr>
<tr>
<td>Kipp Heame, General Manager</td>
<td></td>
<td>Quicksand</td>
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<td><strong>Planning</strong></td>
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<td><strong>Environmental Permitting</strong></td>
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<tr>
<td><strong>Location</strong></td>
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<td><strong>Corridor Impact Analysis</strong></td>
</tr>
<tr>
<td><strong>Darren Eyre, PE</strong></td>
<td>Design Engineer</td>
<td><strong>Alternative Delivery Method Analysis</strong></td>
</tr>
<tr>
<td><strong>Team</strong></td>
<td></td>
<td><strong>Project Description</strong></td>
</tr>
<tr>
<td>Luke Papez, Project Associate</td>
<td>LS Power Development LLC</td>
<td>400 Chesterfield Center, Ste. 110, St. Louis, MO 63017</td>
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<tr>
<td><strong>Client Reference</strong></td>
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<tr>
<td><strong>Reconstruction Project</strong></td>
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<td><strong>Freight Rail Engineering</strong></td>
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<tr>
<td><strong>Project</strong></td>
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<td><strong>Planning</strong></td>
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<tr>
<td><strong>South Logan Chamber of Commerce</strong></td>
<td></td>
<td><strong>At-Grade Railroad Crossings</strong></td>
</tr>
<tr>
<td><strong>Client</strong></td>
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<td><strong>Right of Way Planning</strong></td>
</tr>
<tr>
<td><strong>Howe, OK to Danville, AR</strong></td>
<td></td>
<td><strong>Licenses/Permits</strong></td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td><strong>Corridor Impact Analysis</strong></td>
</tr>
<tr>
<td><strong>Darren Eyre, PE</strong></td>
<td>Project Manager, Design Engineer</td>
<td>Implemented into State Rail Plan</td>
</tr>
<tr>
<td><strong>Matt Hirst, PE</strong></td>
<td>Principal In Charge</td>
<td><strong>Project Description</strong></td>
</tr>
<tr>
<td><strong>Team</strong></td>
<td></td>
<td><strong>Client Reference</strong></td>
</tr>
<tr>
<td>Stacey McCollough, Executive Director</td>
<td>South Logan Chamber of Commerce</td>
<td>210 East Main, Booneville, AR 72927</td>
</tr>
</tbody>
</table>

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**Corridor feasibility study evaluating 80 miles of abandoned railroad corridor with over 100 road crossings from Howe, OK to Danville, AR. Analysis of track alignment and grade, earthwork quantities, construction cost estimates, impacts to private, federal, state and tribal lands, conflicts with drainages, roadways, utilities, and environmentally sensitive areas.**
## RELEVANT EXPERIENCE

### Arcadis
**Prime Firm**

<table>
<thead>
<tr>
<th><strong>Project</strong></th>
<th><strong>Client</strong></th>
<th><strong>Location</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>UPRR Yard Facilities &amp; Buildings</td>
<td>Union Pacific Railroad</td>
<td>Spafford, TX</td>
</tr>
<tr>
<td>Fast Track Diesel Shop</td>
<td>CP</td>
<td>Golden, CO</td>
</tr>
</tbody>
</table>

### Arcadis
**Prime Firm**

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<tr>
<th><strong>Project</strong></th>
<th><strong>Client</strong></th>
<th><strong>Location</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Utah Regional Connection (EURC) &amp; Book Cliffs Corridor Study</td>
<td>Uintah, Grand/Duchesne Counties, UT</td>
<td></td>
</tr>
<tr>
<td>Fast Track Diesel Shop</td>
<td>Golden, CO</td>
<td></td>
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</tbody>
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### CIVCO | WSP | Monument

**Prime Firm**

<table>
<thead>
<tr>
<th><strong>Project</strong></th>
<th><strong>Client</strong></th>
<th><strong>Location</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Planning Federal Land NEPA Application Uinta Basin Benefits Analysis Alternatives Analysis Stakeholder Coordination</td>
<td>Uintah, Grand/Duchesne Counties, UT</td>
<td></td>
</tr>
</tbody>
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### Arcadis
**Prime Firm**

<table>
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<th><strong>Project</strong></th>
<th><strong>Client</strong></th>
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<tbody>
<tr>
<td>Freight Rail Engineering Rail Facility Design Conceptual/Preliminary</td>
<td>Uintah, Grand/Duchesne Counties, UT</td>
<td></td>
</tr>
<tr>
<td>Freight Rail Engineering Rail Facility Design Conceptual/Preliminary</td>
<td>Golden, CO</td>
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### Arcadis
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<tr>
<td>Eastern Utah Regional Connection (EURC) &amp; Book Cliffs Corridor Study</td>
<td>Uintah, Grand/Duchesne Counties, UT</td>
<td></td>
</tr>
<tr>
<td>Fast Track Diesel Shop</td>
<td>Golden, CO</td>
<td></td>
</tr>
</tbody>
</table>

### Project Description

**Eastern Utah Regional Connection (EURC) & Book Cliffs Corridor Study**

These two very related projects involved the analysis and permitting for a transportation connection linking Seep Ridge Road in southern Uintah County to I-70 in Grand County. The economic/corridor study assessed benefit-cost analysis for roadway improvements and corridor-related economic impacts to tourism and energy industries. As part of the ongoing Eastern Utah Regional Connection project, our team members are supporting the Coalition as it seeks to permit federal lands for the 35-mile roadway connection.

**Fast Track Diesel Shop**

Design and construction management for a fast-track conversion of an existing car shop to a diesel shop including: wheel truing machine, drop table, inspection pit and service platforms, building modifications, progression system, wastewater treatment plant.
### RELEVANT EXPERIENCE

- **CIVCO**
  - **Seep Ridge Road**
    - **Project Client**: UTSSD
    - **Location**: Uintah County
    - **Project Manager**: Troy Ostler, PE
    - **Project Description**: 45 miles reconstruction roadway design - topography data, establishing right-of-way and documentation utility coordination, address impacts to existing facilities. Obtained Title 5 Right-of-Way from the BLM, oversaw acquisition of rights-of-way from SITLA and private property owners, and drafted a BLM environmental document.

- **Steel River Infrastructure**
  - **Project Client**: Steel River Infrastructure Partners
  - **Location**: San Francisco, CA
  - **Project Manager**: Gary Hunter
  - **Project Description**: Due diligence for acquisition of Steel River system including 11 short line railroads throughout the U.S. including inspection of equipment and track assets, rehabilitation costing, examining all traffic and operating plans, agreements and developing operational feasibility. Project revenues and profitability including capital costs and ongoing maintenance and expenses.

- **SWCA Environmental**
  - **Energy Gateway Transmission Expansion Program**
    - **Project Client**: Pacificorp / Rocky Mountain Power
    - **Location**: Utah, Wyoming, and Idaho
    - **Project Manager**: Dave Brown
    - **Project Description**: Since 2008, SWCA has been providing full-time on-site environmental support planning, design, permitting, construction, and development of over 2,000 miles of new extra high voltage transmission. Service expertise includes biology, cultural, paleontology, wetlands, agency coordination, and full permitting support.
RESOURCES AVAILABLE

CRS’ Team members are committed up to 100% availability depending on phase to achieve the Coalition goals and objectives.
3. Approach to Project

Overview ................................................................. 3.1
Communication Plan .............................................. 3.1
3rd Party Consultants ............................................... 3.1
Why We Have the Best Approach ........................... 3.2
Detailed Approach .................................................. 3.3
  Project Management ............................................ 3.3
  Kickoff/Site Visit ............................................... 3.3
  Stakeholder Coordination ................................... 3.3
Environmental Investigation .................................. 3.4
Right-of-Way .......................................................... 3.6
10-15% Design ....................................................... 3.7
Preliminary Vertical Design .................................... 3.10
Risks and Solutions ............................................... 3.12
**APPRAOCH OVERVIEW**

**EFFICIENT EXECUTION**

Our team’s work over the next two years will be critical to permit and construct Uinta Basin Railway to move freight by December 1, 2023. With a clear understanding of urgency, we have defined an approach that will successfully deliver baseline environmental work and studies, prepare railway designs, and identify right-of-way needs. Our detailed approach is on the following pages.

**3RD PARTY CONSULTANTS**

Although the Coalition will not have influence over STB NEPA work, quality and focus of our work and the way our team interacts with STB’s consultant can impact NEPA process efficiencies. Steps to provide environmental investigation and design information that allow STB and its consultant to move quickly through NEPA include:

- Leverage our STB environmental experience to anticipate and immediately launch resource studies required by STB;
- Coordinate efforts with STB consultant as soon as they are selected; and
- Proactively respond to STB consultant needs and inquiries. CRS’ detailed approach describes additional steps to minimize cost and time to obtain permits for construction of Uinta Basin Railway.

**COMMUNICATION PLAN**

We propose a systematic approach to fully engage with the Coalition and its consultants and to effectively collaborate with STB’s third-party environmental consultant, government agencies, tribes, Class I carriers, and other stakeholders. As illustrated here, our structured communications approach includes identifying the audience, communications tools, method and frequency of delivery, and the source of the message. Result is an organized set of process controls allowing the project team to make informed choices, including:

- Collaboration, resulting in shared consensus and commitment;
- Implementing consistent and firm project controls;
- Verifying project supports for the Coalition's goals, budgets, schedule and design vision;
- Communicating roles and responsibilities of CRS' team and the Coalition as well as finalizing tasks, deliverables and approvals expected at each phase of design;
- Setting clear expectations and communication protocols; and
- Seeking creative solutions within budget and schedule.

**ASSUMPTION:** Preliminary design is based on 10-15% conceptual horizontal design to meet STB, UPRR, and BNSF criteria and advance permitting process. To achieve an alternative delivery approach, CRS assumes a preliminary vertical design will be prepared, including typical cross sections.
WHY OUR APPROACH WORKS BEST FOR UBRY?

Our approach speaks for itself. Although a comprehensive description of our scope of work would be too detailed and lengthy for our proposal, we have prioritized a lot of space in our document to describe the course of action we propose to meet project objectives. Our detailed approach is clear evidence that our team is best suited to define and implement an approach that meets your needs. In addition to merits of our approach description itself, we offer the best approach for Uintah Basin Rail given we have:

- Depth of expert resources;
- Deep local understanding and experience;
- Sincere commitment to UBRy success; and
- Flexibility to adapt our approach to meet your needs.

**Desktop Environmental Investigations**

Although our team is willing and able to complete extensive environmental resource surveys, we recommend a desk-top focused approach that is more cost and time effective. We propose environmental investigations based primarily on desktop reviews and supplemented by high-level field reconnaissance. This approach will result in preliminary resource reports that guide initial railway designs and form baseline for STB consultant to advance NEPA process. This approach moves permitting process forward without wasting project funds on field investigations for alternatives that can be screened and eliminated without field surveys.

**Supplemental Base Map Preparation**

Our approach focuses on using mapping data provided by the Coalition and its consultant and supplementing those efforts as needed. Because survey data parameters to be provided are unclear in the RFP, our approach is based on high level assumptions of supplemental data collection needs. However, we propose immediately engaging the Coalition’s engineer of record to clarify how we will use mapping data and refine survey efforts by the Coalition as well as our team. As noted for environmental surveys, we caution the Coalition to avoid overly detailed topographical surveys for alignments that can be screened and eliminated without those details. Early and close collaboration with the Coalition and the engineer will help us adapt our resources to expedite delivery and save costs.

**Multiple Design Levels**

Our approach to design the railway focuses on first identifying a preferred alternative and informing the design efforts and then advancing designs to the level needed to procure a contractor. The initial 10-15% design will provide necessary design information to select the preferred alternative and baseline design information to advance STB’s NEPA process. Level of design needed to procure a contractor could range from 10% (or less) to 100% depending on the preferred delivery method (design-build, design-build, CMGC, etc.). To support the permitting process and optimize delivery time frame for construction, we recommend advancing 10-15% design requested by the RFP to a preliminary vertical design level. This approach would allow our team to either work with a CMGC contractor at the 10-15% level or procuring a design-builder at preliminary vertical design level. Although not specifically required by the RFP, this approach allows our design team to continue to advance designs with or without a contractor.
DETAILED APPROACH

PROJECT MANAGEMENT

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Description of Activities</th>
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</thead>
<tbody>
<tr>
<td>Weekly meetings with Coalition</td>
<td>Project management will be provided throughout the duration of the project. It will</td>
</tr>
<tr>
<td>and Jones &amp; Demille (J &amp; D)</td>
<td>focus on keeping the project moving and meeting project objectives, including obtaining</td>
</tr>
<tr>
<td>Weekly internal team meetings</td>
<td>permitting as well as measured and constant communication (weekly meetings with the Coalition,</td>
</tr>
<tr>
<td>Weekly schedule monitoring</td>
<td>weekly internal team meetings, schedule monitoring, and budget reporting) is critical.</td>
</tr>
<tr>
<td>Monthly budget reporting</td>
<td>Real time reporting tools will be used to allow everyone on the project team, including</td>
</tr>
<tr>
<td>Microsoft Teams/One Note real time</td>
<td>the Coalition and J &amp; D to view action items and “to-do” lists in real time as well as</td>
</tr>
<tr>
<td>reporting</td>
<td>provide transparency.</td>
</tr>
</tbody>
</table>

**DELIVERABLE(s):** Weekly status reports, monthly progress reports

KICKOFF SITE VISIT

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Description of Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare field visit maps for note taking</td>
<td>Our team will perform an up-front field visit of alignments prepared by J &amp; D to better</td>
</tr>
<tr>
<td></td>
<td>understand field conditions and project constraints. Prior to the field visit, maps will be</td>
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<td></td>
<td>prepared allowing staff to document conditions observed during project tour. In addition</td>
</tr>
<tr>
<td></td>
<td>to field notes, drone video recordings and georeferenced photographs will be taken along</td>
</tr>
<tr>
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<td>proposed corridors. Drone video footage to be recorded in FAA allowed and easily accessible</td>
</tr>
<tr>
<td></td>
<td>areas. Georeferenced photographs to be uploaded into a private Google Earth file allowing</td>
</tr>
<tr>
<td></td>
<td>CRS team members, the Coalition, and J &amp; D to see where and what compass direction</td>
</tr>
<tr>
<td></td>
<td>photographs were taken.</td>
</tr>
<tr>
<td>Team field review (using GIS corridor</td>
<td>CRS has participated in many long distance freight railroad corridor designs and found this</td>
</tr>
<tr>
<td>alignment data provided by J &amp; D)</td>
<td>approach of up-front data collection saves a great deal of time and cost. Greatly reducing</td>
</tr>
<tr>
<td></td>
<td>number of follow-up site visits normally required. CRS’ team office staff, Coalition review</td>
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<tr>
<td></td>
<td>staff, and J &amp; D will visualize the project without the need for a site visit.</td>
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<tr>
<td>Drone flight of proponent alignments</td>
<td></td>
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<tr>
<td>photography (not survey grade, but to</td>
<td></td>
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<tr>
<td>visualize existing conditions without</td>
<td></td>
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<tr>
<td>expense of a site visit)</td>
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<tr>
<td>Geo-referenced photo log and upload to</td>
<td></td>
</tr>
<tr>
<td>Google Earth (shows where photos were</td>
<td></td>
</tr>
<tr>
<td>taken and compass direction)</td>
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</table>

**DELIVERABLE(s):** Photo log for consultant team and Coalition use.

STAKEHOLDER COORDINATION

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Description of Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refine and implement communications plan</td>
<td>As part of the communications plan described above, our team will prepare a list of</td>
</tr>
<tr>
<td>for each stakeholder including: UPRR,</td>
<td>potential stakeholders to meet with immediately to gain added insights and better</td>
</tr>
<tr>
<td>BNSF, UDOT, CDOT, PUC, Tribes, SITLA,</td>
<td>understand design constraints. The communications plan for individual stakeholders will</td>
</tr>
<tr>
<td>BLM, Cities, Counties, STB, Public, etc.</td>
<td>be subject to Coalition approval. It is understood the Coalition is in the process of</td>
</tr>
<tr>
<td></td>
<td>selecting a public involvement firm, which may perform most meetings needed with stakeholders</td>
</tr>
<tr>
<td></td>
<td>. Our team is prepared to work with and support the public involvement consultant. The</td>
</tr>
<tr>
<td></td>
<td>enclosed pricing, dictated by the RFP, includes one meeting with each entity. Additional</td>
</tr>
<tr>
<td></td>
<td>meetings will be needed with Tribes and with the STB consultant. We recommend that our team</td>
</tr>
<tr>
<td></td>
<td>meet with UPRR, BNSF, UDOT, CDOT, and PUC to better understand Class 1 railroad connection</td>
</tr>
<tr>
<td></td>
<td>requirements at each location (Mack or Rifle) and at-grade crossing requirements along</td>
</tr>
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<td></td>
<td>proposed corridors.</td>
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**DELIVERABLE(s):** Meeting Minutes
# Detailed Approach

## Environmental Investigation

<table>
<thead>
<tr>
<th>Tasks</th>
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<tr>
<td><strong>Environmental Baseline Studies:</strong> Ultimate goal is to provide baseline environmental documentation that strengthens and streamlines the NEPA process, minimizes impacts to benefit design, and ultimately lowers construction and operations costs to the project.</td>
<td><strong>Description of the Proposed Action and Alternatives:</strong> CRS will support SCIC with a description of proposed action, including operations or maintenance practices. CRS to develop reasonable alternatives to proposed action, and illustrate with readable, detailed maps and drawings clearly delineating.</td>
</tr>
<tr>
<td>• Prioritize environmental analyses specific to the STB Application</td>
<td><strong>Draft Purpose and Need Statement:</strong> CRS will carefully craft each point of our project justification such that project alternatives can be appropriately narrowed, following the NEPA process of the next phase.</td>
</tr>
<tr>
<td>• Apply broad level of analysis equally to each alternative to provide an “apples-to-apples” comparison, creating highly defensible environmental document.</td>
<td><strong>Local and Regional Transportation Effects:</strong> CRS will coordinate with CDOT, UDOT and other transportation agencies to compare existing and future transportation performance on local systems—key for at-grade roadway crossings.</td>
</tr>
<tr>
<td>• Acquire the most relevant environmental data from recent infrastructural improvements and land management agency databases.</td>
<td><strong>Transportation of Energy Resources Effects:</strong> CRS will provide a corridor analysis of the alignments capacity to impact or benefit transportation of energy resources, including rail performance, capacity constraints, infrastructure planning and development.</td>
</tr>
<tr>
<td>• Document gaps in data through mapping and summary reports/memoranda.</td>
<td><strong>Air emissions impacts:</strong> We will start with a comparison of the attainment status for each alternative geographic area and calculate emissions based upon VMT and the type of trains servicing the corridor. We will also account for air quality improvements by capturing truck traffic that would normally be used to transport the same amount of product.</td>
</tr>
<tr>
<td>• Provide recommendations on how to fill gaps in baseline data (i.e.: limited field recon, modeling, additional consultation with stakeholders).</td>
<td><strong>Noise and vibration:</strong> Our team will determine a study area for noise and vibration analyses, and during the desktop analysis, quantify potentially impacted receptors. Existing noise and vibration levels will be estimated as design progresses, with projections provided to streamline the NEPA process.</td>
</tr>
<tr>
<td>• Refine areas that need additional environmental analysis to minimize the need for on-the-ground field surveys. This will streamline the future NEPA process.</td>
<td><strong>Public health, safety, hazmat:</strong> We will provide a summary of public health impacts, such as dust and criteria air pollutants, and safety impacts such as at-grade roadway crossings, risk of accidents, and utilities crossings. We will provide a corridor analysis of documented hazardous waste sites within 500 feet of each alternative.</td>
</tr>
<tr>
<td>• Synchronize environmental findings with design milestones to avoid and/or minimize potential impacts.</td>
<td><strong>T&amp;E, Sensitive Species, Critical Habitat:</strong> Our team will obtain available resource information from Utah Division of Wildlife Resources and Colorado Parks and Wildlife’s list of Utah sensitive species for Uintah County, Utah and Colorado Natural Heritage Program’s available GIS data for lease areas, Utah Division of Wildlife Resources and Colorado Parks and Wildlife’s mapped habitats, and U.S. Fish and Wildlife Service Information for Planning and Conservation (IPaC) on-line review tool. We will evaluate and describe an alternative’s potential impact on endangered or threatened species, areas designated as a critical habitat, wildlife sanctuaries or refuges, and National or State parks or forests. Our goal is to refine alternatives to reduce impacts to the point where formal Section 7 consultation with USFWS would not be needed.</td>
</tr>
<tr>
<td>• Prioritize environmental analyses specific to the STB Application</td>
<td><strong>Waters of the US:</strong> We will utilize the U.S. Fish and Wildlife Service National Wetland Inventory and U.S. Geological Survey National Hydrography Dataset to determine an alternative’s impact on jurisdictional waters of the United States and flood plains, and the subsequent need for permitting under Section 404 of the Clean Water Act. Our aim is to minimize alternatives’ impact to reduce the need for individual permits and water quality certifications. We have extensive experience with these permit requirements in Utah and Colorado, therefore, a robust project file to support USACEs 404(b)1 guidelines.</td>
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## Detailed Approach

### Environmental Investigation (continued)

<table>
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<th>Tasks</th>
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</table>
| **Environmental Baseline Studies:** | **Cultural, Historic, and Paleontology Resources:** We will conduct a desktop analysis via literature search (a review of available records). The search identifies previous cultural and paleontology resource projects and previously documented sites within one mile of project area and will help predict types and numbers of cultural resources present in the project area. Information is used to prepare Historic Report for STB application. Our experts will assist with development of a Programmatic Agreement to guide consultation.  

**Land use:** In coordination with local and regional planning agencies, we will provide a review of planning documents, and summary of land uses along each corridor and discuss the rail project’s compatibility with each. We will incorporate the criteria that constitutes Areas of Environmental Concern as listed by the Bureau of Land Management regarding open lands to firmly establish existing and planned land use.  

**Socioeconomic and Environmental Justice Impacts:** As alternatives are developed, we will evaluate socioeconomic or environmental justice impacts (as dictated by Executive Order 12898) to minority and low-income populations, with attention to tribal lands, using EPA’s “EJ SCREEN” and latest US Census data to identify potential areas to avoid disproportionately high and adverse effects.  

**Section 4(f):** We will identify known properties protected under Section 4(f) of the DOT act through available data on historic properties, wildlife and waterfowl refuges, and public recreation areas for each alternative to quantify potential 4(f) impacts. Unfortunately, this analysis would be cursory due to the relative lack of information on 50-year old structures that would be considered eligible for inclusion on the National Register of Historic Places. Due to this unknown, once we have identified potential structures we will assume National Register status and protection under Section 4(f) until field verification is obtained. This would minimize the risk to alternatives development.  

**Mitigation Measures:** Mitigation measures will be gauged throughout the environmental resource analysis and assessed with greater detail at 10% and 25% engineering design completion. As part of our mitigation analysis, we will maintain a register of potential risks to the project schedule and cost, in addition to potential permitting and mitigation measures.  

**Transition:** Our comprehensive risk register will be a pivotal document in creating a smooth transition from our “pre-NEPA” team to the team selected for the full NEPA analysis. This register will be accompanied by concise resource maps for each alternative with estimates of effect. We will ease the transition between “pre-NEPA” and “full-NEPA” phases by providing a more accurate estimation of impacts by obtaining 25% design of alternatives.  

With a highly defensible project Purpose and Need, alternatives description, and stakeholder involvement required as part of this preliminary project phase, the full-NEPA team will be well-positioned to streamline the scoping phase and obtain early approval of the Purpose and Need and alternatives. Our more accurate estimate of impacts (understood by proceeding into 25% design) will streamline the alternatives screening phase by providing the full-NEPA team with well-documented alternatives and a highly defensible NEPA process.  

**DELIVERABLE(s):** Environmental Resource and pre-NEPA analysis memoranda.
## DETAILED APPROACH

### RIGHT-OF-WAY

<table>
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<tr>
<th>Tasks</th>
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| Survey                                    | Review data from J&D and supplement to fill gaps by contacting state/local governmental offices. We will ground proof data by driving the area to verify utilities, roadways, river and other features are shown.  
  - GIS ownership-parcel data: Develop property ownership GIS maps to assess ROW impacts.  
  - Land use / zoning: Contact counties, city and states to obtain planning documents that show future planned facilities and land use.  
  - Utilities: Contact each utility company to verify data, obtain additional data and to ask for possible future facilities.  
  - Topography: Develop design basemaps.  
  - Roadway network: Contact state DOTs, Counties and cities to obtain roadway network of each. |
| Compile desktop data                      | Upon completion of obtaining environmental, geotechnical, and survey information from a desktop review, data will be compiled into a multilayer GIS database. An engineering base map will be created in AutoCAD Civil 3D using this data which will be used in the engineering portion of the project. The data will also be exported to Google Earth to allow Coalition members to view this data without the need for special GIS software purchases or technical training. This step in the project will assist the team during the design phase to avoid or minimize impacts. |
| Prepare base map with constraints and existing conditions |                                                                                                                                  |

**DELIVERABLE(s):** Design and GIS Base Maps
**DETAILED APPROACH**

### 10-15% Design

<table>
<thead>
<tr>
<th>Tasks</th>
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</thead>
<tbody>
<tr>
<td>Review design constraints</td>
<td>After existing conditions and constraints base map is prepared, alignments previously prepared by J&amp;D will be overlaid and compared to inform project constraints. This will help minimize and avoid environmental impacts. Streamline STB’s NEPA process. It will help to lower cost of design and construction.</td>
</tr>
<tr>
<td>Operational analysis</td>
<td>Estimated train counts and shipping volumes provided to CRS by the Coalition or from previous studies will be modeled to determine requirements for mainline connections with Class 1 railroads, number and length of interchange tracks, number and length of passing sidings, locomotive counts per train, and end of track turnarounds and switching yards. For modeling purposes, it is assumed a shortline railroad will operate track between Class 1/shortline interchange at Rifle/Mack ending at Uinta Basin track.</td>
</tr>
<tr>
<td>Divide project into segments</td>
<td>Due to size and complexity of this project, more than one engineer is required to complete the project within the Coalition’s desired time frame. To achieve schedule success, CRS has assembled a team of industry experts in the field of freight railroad engineering. These teams will divide the project alignments from Roosevelt to Rifle and Mack into multiple segments and simultaneously design each segment. All designs will be overseen by Darren Eyre to provide continuity between design squads. If desired by SCIC, CRS will investigate a Utah only railroad corridor to eliminate the need to obtain approvals in Colorado, with a separate scope of work.</td>
</tr>
</tbody>
</table>
| Preliminary horizontal alignment design | Preliminary horizontal alignments will be designed for:  
  - Mainline connection  
  - Interchange yard between Class 1s and shortline railroad  
  - Sidings  
  - End of track turnaround & switching yard  
  - Industry loading and unloading terminal (provide one concept loop track and loading area)  
Using UPRR and BNSF geometric design standards, the CRS team will prepare 10% horizontal plan view drawings for an alignment from Duchesne County, UT to Mack, CO and Rifle, CO. This includes the mainline connection, interchange yard, sidings, end of track turnaround and switching yard, one industry loading and unloading terminal, and railcar repair facility. Drawings from the mainline connection to end of interchange yard will be provided to the Coalition, UPRR and BNSF for review. Information depicted on drawings will include data for design speed of track, locations and radii of curves, turnout sizes, derail types, railroad crossings, bridges, culverts, track centers, end of track devices, right of way locations, and other information required by the railroads during review process. |
| Geotechnical                  | Proposed geotechnical scope of work to consist of a preliminary desktop geotechnical and geologic hazards assessment that will include a review of available published literature and maps to identify readily observable and/or previously documented geologic conditions and potential hazards along the proposed routes.  
The desktop review will provide a general sense of geologic and geotechnical issues that will likely be encountered along the proposed alignments to assist the Coalition in selecting a preferred route. The review with include:  
  - Review published geologic literature, maps, and aerial photography, and previous geotechnical reports completed in proposed vicinity of proposed alignments;  
  - Identification of potential hazards, including mapped faults, areas of shallow bedrock, areas of shallow groundwater, and locations where bridge structures or tunnels may be required; and  
  - Recommendations for minor alterations to proposed routes to avoid potential geologic or geotechnical hazards. |
### Detailed Approach

#### 10-15% Design (continued)

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Description of Activities</th>
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</thead>
<tbody>
<tr>
<td>Alternative of designing new rail in the location of existing roads and moving the roadways</td>
<td>Designing new rail in location of existing roadway in some segments could save time and cost, mitigating impact on utilities, streams, wetlands, structures, and properties given restrictive design constraints applicable to freight rail such as large curve radii and flat slopes, as opposed to more flexible design standards applicable to roadways. Additionally, roadway loadings on drainage pipes, bridges, and utilities are much less than freight train loadings, which could save the Coalition cost. In these constriction corridors, it may be faster and more cost effective to design and construct a roadway with much less impact to the items listed above.</td>
</tr>
<tr>
<td>Railroad crossings / diagnostic reviews: UDOT, CDOT, Public Utilities Commission, Cities, Counties</td>
<td>A major permitting item is viability to construct new at-grade railroad crossings versus separated grade crossings. CRS’ team to meet with applicable DOTs and other jurisdictional state and local agencies to perform diagnostic surveillance reviews to verify if at-grade crossings will be allowed in lieu of separated grade crossings as well as what type of advanced warning devices will be required such as lights and gates versus cross buck signs.</td>
</tr>
</tbody>
</table>
| Impact analysis after completion of 10% design                        | **Right-of-way.** Based on GIS and county plat parcel map data previously obtained, The CRS team will identify the number of parcels affected and assess which parcels are critical to obtain. Parcel ownership contact information and a corresponding map will be prepared and provided to the Coalition and their public involvement consultant.  
**Drainage.** Based on previous J&D work, it is assumed many of required culvert locations and sizes have already been determined at a preliminary level, therefore, preliminary locations to be reviewed and confirmed. At this early stage, it is assumed that a detailed drainage analysis of watershed delineation and storm water calculations will not be required but rather, observations of upstream and downstream culvert/bridge sizes. New drainage structures to be estimated of equal or slightly larger size than those of existing upstream and downstream conditions.  
**Roadways.** In addition to railroad crossing impacts mentioned, longitudinal roadway impacts to be determined studying safety and clear zone requirements. Discussions to be held with various road authorities to determine permit requirements if the proposed rail line is designed within existing roadway right of way.  
**Utilities.** Preliminary discussions will be held with Blue Stakes of Utah, Colorado 811, and known utility companies to determine extent of impacts and how to address conflicts.  
**Structures and Tunnels.** At this early stage, it is assumed that detailed structural design will not be required but rather, identification of approximate structure sizes, locations, and construction posts. |
10-15% DESIGN (continued)

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Description of Activities</th>
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<tbody>
<tr>
<td>Impact analysis 10-15% design alignment</td>
<td><strong>Environmental:</strong> Impact analysis begins at 10% design when each preliminary alternative has been defined. The first step in this analysis will be to refine each alternative study area and thus refine resource data to reduce or avoid impacts. Key to the process is consideration for NEPA analysis among alternatives to be equivalent such that one alternative is not analyzed more than another. Our analysis for each alternative will be applied equally to provide balanced impact data. Once we complete this first level of impacts screening, we will evaluate the need for additional data to provide a second level of impacts screening. Additional data will be acquired through refining our desktop analyses, and assessing the need, in consultation with the STB, for in-field analysis. Once impacts screening at 10% design is complete, we will propose preliminary applicant-committed measures to minimize impacts and incorporate best practices. At the 10% and 25% design milestones, our team will re-evaluate the study area for each preliminary alternative, update them if needed, and conduct additional analyses to refine potential impacts.</td>
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**Deseret Power Railroad:** It is understood there could be significant cost and schedule savings if Deseret Power Railroad’s (DPR) existing track could be utilized by the Coalition’s proposed train service—CRS’ team will meet with DPR, Coalition and J&D to investigate. If DPR agrees to share trackage rights with the Coalition, CRS will work with DPR to determine what modifications to the locomotives or power systems would be required to make this track share possible. This may include modifications to overhead catenary systems, modifications to locomotives, or utilizing electric locomotives in this segment of track rather than traditional diesel powered locomotives. Additionally, a review will be performed of DPR’s existing FRA inspection reports.

Field review of plans with project team: (CRS team, Coalition, J&D)

After 10% plans have been prepared and impacts have been analyzed, a field drawing review to be performed by the project team, including CRS team members, Coalition members, and J&D.

**DELIVERABLE(s):** 10-15% design documents; Geotechnical desktop study report.
### PRELIMINARY VERTICAL DESIGN

<table>
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<th>Tasks</th>
<th>Description of Activities</th>
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<tr>
<td>Preliminary vertical profile design</td>
<td>After the Coalition and J &amp; D approve recommended horizontal design alignment prepared by the CRS team, a preliminary vertical design will be prepared for the preferred alignment. This includes preparing plan, profile, and cross section drawings, estimating quantities of earthwork cut and fill, and depicting square footages of land to be impacted. Depending on cut/fill and other impacts, proposed alignment location will be modified to reduce impacts. Due to tunnel-related costs, the level of effort for this more detailed design could be considerably higher for the Mack alignment than Rifle alignment. To avoid unnecessarily inflating costs for a scenario that does not include tunnels, the project cost estimate for the preferred alignment is based on the Rifle alignment. However, our team is prepared to work with the Coalition to refine the scope as needed to advance tunnel designs. Additionally, there may be a need to perform some preliminary vertical design during the 10% design level to evaluate approximately 50 miles of the Mack and Rifle corridors in steeper grade areas. It has not been included in the project cost estimate; however, if the Coalition and J &amp; D believe there would be a value added service, CRS can employ an automated subscription service to provide automated analysis of alignments and comparison of cost estimates to further optimize the rail alignment.</td>
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<tr>
<td>Cross section design</td>
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| Impact analysis        | We will provide a higher level of impact analysis at the preliminary vertical design milestone for the following items:  
  - Right-of-way  
  - Drainage  
  - Roadways  
  - Utilities  
  - Structures and Tunnels  
  - Geotechnical  
  - Environmental  

  This effort will serve as a second level of screening to further refine preliminary alternatives and to define impact data. Once this second level of screening has been performed, our team will identify areas where field surveys would be required, clarifications of impacts needed, and where plans to avoid, minimize, or mitigate resource impacts would be recommended. During this process, and into our hand-off to the NEPA team, we will review any design revisions and advise on potential impacts to simplify STB’s environmental document. |
| Horizontal route modifications | Horizontal route modifications will be made to alter preferred alignment to reduce or avoid impacts after impact analysis is performed.                                                                                                                                                                                                                                                                                                                                                                                     |
| Construction cost estimate analysis | After the Coalition and J & D approve recommended horizontal and vertical 25% design for the preferred alignment. Cost estimates will be prepared for the preferred alternative. Unit costs for various construction items such as track, turnouts, earthwork, structures, etc. to be obtained by talking with contractors, examining construction cost publications, and reviewing bid tabulations on recently completed projects by the CRS team. |
## PRELIMINARY VERTICAL DESIGN

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<th>Tasks</th>
<th>Description of Activities</th>
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<tr>
<td>Field review of plans with project team (CRS team, Coalition, J&amp;D)</td>
<td>After preliminary vertical plans have been prepared and impacts have been analyzed, a field review of the drawings will be performed by the project team including CRS team members, the Coalition members, and J&amp;D staff.</td>
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**DELIVERABLE(s):** 25% Design Documents

## BID PACKAGES

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<th>Description of Activities</th>
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<tr>
<td>Alternative delivery method analysis</td>
<td>The goal of advertising construction bid documents by December 1, 2020 can be accomplished by several means, including alternative contracting methods such as CMGC, CMAR, and design-build are great tools used to expedite construction. Our team has been at the forefront of alternative delivery projects in Utah. The most recent alternative delivery methods trends are for owners to stay engaged longer in the design process to gain benefits of collaboration among owner, designer and contractor. Progressive design-build is a relatively new design-build delivery approach that cut it’s teeth mostly in the water and waste water sectors, but has made great in-roads into transportation projects as it maximizes benefits of owner engagement while placing responsibility of delivery on contracting and design team. CMGC and CMAR similarly utilizes significant owner involvement through the design process. Our team knows these delivery types, understands contracts and has helped owners deliver more than 40 projects using alternative contracting with each project having unique delivery criteria. John Bale is a certified instructor for the Design-Build Institute of America, who teaches classes of design-build best practices to owners and practitioners around the Country. He has authored several publications for DBIA regarding best practices for design-build delivery.</td>
</tr>
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</table>
| Prepare construction bid documents | Once a delivery method is selected, CRS will prepare bid documents to allow contractors to prepare a guaranteed maximum price (GMP). Each delivery method mentioned above requires different levels of effort to prepare various methods of bidding documents. For purposes of providing an engineering fee, it is assumed bid documents will be prepared for a CMGC type contract. Bid documents for CMGC delivery include preparing a qualifications based selection package. We recommend a two step process. This approach is beneficial when there are numerous qualified firms because it allows SCIC to focus final selection of a team on what matters most. There may be many qualified teams. However, in today’s busy market by using a two step approach we can better select the most qualified team. First step is to short list a team based on collective experience. Second phase we delve deeper into who understand the project best. We request each team provide a detailed project approach and risk mitigation plan. We further enhance selection by requiring monetary commitments to overhead and/or profit to determine a guaranteed maximum price these elements of pricing are pre-determined. 

Additional bid documents include contract language, general conditions, performance specifications, and preliminary or schematic designs for establishing a baseline for the project. 

A similar philosophy can be used in design-build specifically progressive design-build. |

**DELIVERABLE(s):** Bid packages as determined by project need.
Our experience delivering freight rail projects and working closely with government agencies, such as the STB, provides key insights to the unique issues for the project and risks that must be mitigated to successfully advance the project through implementation. Our local experience in the project area and experience working with Class I and shortline provide further insights to potential risks and how to successfully mitigate them. Also, because the Uinta Basin Railway represents more than “just another project” for our team, our risks mitigation insights extend beyond the scoped project itself and look to the successful implementation and operation of the railway itself.

To be concise, we have highlighted in the table below some of the most impactful issues and risks that are critical to successful and on-time delivery of the project. Along with each risk, we highlight solutions and mitigations that our team is qualified to implement. Additional insights to issues and solutions are presented in the “Local Knowledge and Experience” tab of this proposal. Additional issues addressed include potential opposition from non-governmental organizations, potential challenges of a Coalition-led project in Colorado, unanticipated environmental impacts, potential delays to the engineering and construction schedule, complexities of tunnels, and potential impacts of numerous at-grade roadway crossings needed for the project and the potential for grade separated crossings.

### RISKS & SOLUTIONS

<table>
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<tr>
<th>Risk</th>
<th>Our Solution</th>
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<tr>
<td><strong>Material availability:</strong> Use of federal funds to construct the railway will pose Buy America constraints. US suppliers may not be able to readily supply 150+ miles of railway materials. Steel material constraints could impact the schedule and cost of construction.</td>
<td>Our recent experience on large-scale rail projects provides insights to the availability of rails and ties for major rail construction. Also, ramp up to produce materials could take a year or more. To mitigate potential schedule and cost risk, our team will contact multiple rail and tie material suppliers to define a strategy and provide ample notice for suppliers to respond to the material needs of the project.</td>
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<tr>
<td><strong>NEPA Control:</strong> Because the NEPA process will be led by STB (or some other federal agency), the Coalition will have limited control or influence over the NEPA process. This could impact project characteristics, such as the preferred agency alternative, and project delivery, such as the schedule.</td>
<td>Our approach is to leverage our experience with STB to complete timely and relevant environmental resource studies that will be used by the STB’s consultant. We will work with the Coalition to define a draft purpose and need that is acceptable to the STB and lead to a project solution that meets the needs and objectives of the Coalition. We will also coordinate proactively with the STB’s consultant to create efficiencies and to anticipate and respond to their needs.</td>
</tr>
<tr>
<td><strong>Tribes:</strong> Working Tribal Lands to accommodate a portion of the Uinta Basin Railway can represent a significant hurdle for the project. Failed negotiations with Tribal Lands could increase project by 20 miles and consequently increase costs.</td>
<td>We will enhance the Coalition’s on-going discussions with the Ute Tribe by engaging our team member’s (Greg Buxton, Troy Ostler, etc) relationships with the tribe. Based on our successful track record with the Ute Tribe, we propose to support the Coalition’s Director by holding in person meeting with the Tribal Business Committee and developing technical support documents to support negotiations with the tribe.</td>
</tr>
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</table>
4. Local Knowledge and Experience

(Similar projects, local experience, relationships and issues are addressed in the following key local areas of expertise)

- Benefits of our Local Team........................................4.1
- Local Coalition Champion........................................4.2
- Use of Public Funds..................................................4.2
- Access to Railway Corridor......................................4.2
- Access to Commissioners & State Officials...............4.2
- Environmental Groups.............................................4.3
- Class 1 Carrier Relationships................................4.3
- Tribal Lands............................................................4.3
- Uinta Crude to Market............................................4.4
- Environmental Resources.......................................4.4
- Colorado Railway....................................................4.4
THE MOST LOCAL TEAM

We are proud to offer you a team that is more local than any other. We can honestly claim the most local team because we know the make-up of local professionals. A local-focused team is beneficial to the Coalition because local resources are more cost effective, better informed to define workable solutions, and more committed to project success because in part, it’s our project too. As such, a local-focused team can best deliver a project that meets the Coalition’s needs and objectives.

To assemble the most qualified and local team, we first engaged professionals from the Basin, we next engaged Utah-based professionals, then Colorado-based professionals, and finally national resources. Based on our proposed team and approach, we anticipate 80% of the project work to be completed by Utah-based team members and nearly 90% by combined Colorado and Utah-based resources. More importantly, team resources will be led by a local project manager with local task leads. This means that resources will be flexible and prioritized to ensure efficiencies that have real impact on schedule and quality of deliverables.

As presented in the Project Team and Capability sections of this proposal, our local resources offer national rail, environmental, and right-of-way expertise. By assembling a team well in advance of the anticipated project RFP, we offer the Coalition a team that leverages both local and national expertise. As a result, our team is highly qualified and able to apply solutions that are relevant to the Uinta Basin and the Coalition.

BENEFITS OF OUR LOCAL TEAM

Following is a description of the local knowledge and experience that our team offers to successfully deliver the Uinta Basin Railway project. To emphasize benefits to the Coalition and the project, our team’s value contributions are organized by describing key local issues that our team is uniquely qualified to address.

Our local presence and longstanding relationship with the Coalition helps our team members understand the political and economic forces driving an expedited schedule for the permitting and construction of the railway. The following descriptions of issues and our local knowledge and experience to address those issues demonstrate our team’s proven ability to deliver the engineering, permitting, and right-of-way planning in two years and then continue to support the Coalition for on-time implementation of the railway.

- Local Coalition Champion
- Cost/Public Funds
- Access to Corridor
- Access to Commissioners and State Officials
- Environment Group Pushback
- Class 1 Carrier Relationships
- Uinta Crude to Market
- Tribal Lands
- Environmental Resources
- Colorado Railway
BENEFITS OF OUR LOCAL TEAM

As a local-based team, we can act as a local champion for the Coalition because we understand unique needs of eastern Utah and will apply technical resources to address those needs. This does NOT mean that we are biased on technical matters. Rather, because we are close to you, we understand your needs and can apply technical expertise to define innovative, technically sound, and implementable solutions that meet your needs. Failure of the previous Uinta Basin Rail effort in 2014 can be attributed, in part, to a lead agency and consultant team that failed to define solutions that fit local community needs and objectives. As a result, features of the selected rail solution were escalated to a point where the cost, in essence, killed the project. On the other hand, our team has a successful track record of providing solutions that fit the need of eastern Utah communities. For example, Troy Ostler and CIVCO guided Seep Ridge Road through environmental permits, design, and construction completion in 5 years while the NEPA process alone was anticipated to take 7 years. By acting as your champion, our team can help you achieve on-time delivery of a railway solution that is implementable and relevant to the Coalition’s objectives.

Utahn’s are cost-conscious and proud of it. Responsible use of public funds is an important responsibility of Coalition board’s elected officials as well as consultants who support its efforts. As a local-focused team, we offer lower rates than national firms and the ability to provide higher levels of productivity and efficiencies because we are close to the project and close to the client. We are confident that when comparing apples to apples, our costs will be lower than competitors proposing more national personnel and you’ll get more time and attention. When comparing scopes of work or value added to the competition, our rates are lower. Also, because our local presence gives us a better understanding of your needs, we have defined a scope of work that will meet your needs while minimizing costs. As a result, our team can help public funds invested in this project go further.

The location of our team members gives us ready access to the Railway Corridor. Our proximity to the project site creates added familiarity with the corridor and added efficiencies for site visits and field work. For example, because of our proximity, in August of this year, our team completed a pre-proposal site visit of the various railway alignments under consideration. Our proximity to the railway corridor will result in cost and schedule savings for the project. Many of the pictures included in this proposal are pictures of route alternatives for the Uinta Basin Railway captured during that site visit.

Being close to the project gives our team easy access to Commissioners and State Officials. This benefits both you and our team by providing timely communication with the Coalition’s director, consultant, and board members. We are near you and—with our established relationships—you can comfortably reach out to us anytime you need information. We have found that if we maintain direction coming from the right channels (in this case the J&D and the Coalition’s Director), access means increased credibility and productivity for everyone. Our relationships with other officials can also foster credibility and create opportunities. For example, CRS was recently asked by the Community Impact Board to review the RL Banks Study. Also, elected officials will often turn to Troy Ostler for engineering advise. Our credibility, combined with unmatched access, will provide efficiencies needed to expedite delivery of the Uinta Basin Railway project.

Opposition from special interest Environmental Groups will almost certainly happen on this project. We expect this because some special interest groups will see the Uinta Basin Railway as aiding the development of hydrocarbons.
We have witnessed this opposition on previous local projects, including the extension of Seep Ridge Road to Interstate 70 in Grand County. As part of that project, team members WSP, Monument, and CIVCO, held public and stakeholder meetings in the Moab area. These meetings were well attended by both supporters and opponents of the roadway connection. Both Diego Carroll and Troy Ostler successfully conducted and managed these meetings. Our ability to control the atmosphere of the meetings, allowed meetings to be civil. Also, our ability to communicate proactively helped manage misinformation. Our proven local experience means our team can communicate effectively and thus reduce distractions and mitigate risks related to pushback from environmental groups.

Strong Local Class I Carrier Relationships (UPRR and BNSF) given they represent an important link to implementing an operable and successful short line that connects the Uinta Basin to national markets. Class I carriers UPRR and BNSF represent an important link to implementing an operable and successful short line that connects the Uinta Basin to national markets. For example, UPRR and/or BNSF will need to review and approve Coalition plans for interchange yards and connections to Class I carriers. Our team is experienced working with Class I on local projects. CRS has worked with local economic and industrial development staff for UPRR and BNSF for over 50 rail projects in Utah and Colorado, including projects completed for the Class I carriers themselves. Our local relationships with Class I carriers and our experience with their processes and requirements will help our project team obtain timely responses from Class I carriers, and thus expedite delivery and implementation of Uinta Basin Railway.

Anticipated routes for Uinta Basin Railway alignment may have an impact on Tribal Lands. Working with Tribal government and obtaining rights-of-way on Tribal Lands can represent a significant hurdle. However, crossing Tribal Lands could reduce length of construction by up to 20 miles. A reduction of 20 miles would provide considerable cost savings. Our local experience working with Ute Indian Tribe on rights-of-way is a tremendous value to the Coalition and the Uinta Basin Railway project. We understand that the Coalition has been in discussion with the Tribal Business Committee. Our team members Troy Ostler (CIVCO), Greg Buxton (CET), and Daren Anderson (CRS) have worked with the Ute Tribal Business Committee on previous successful right of way procurements. For example, our team members have obtained rights-of-way and permission to construct infrastructure for Seep Ridge Road in Uintah County, US-40 Widening near Myton in Duchesne County, and Woods Road project in Uintah County. Additionally, Troy Ostler and Greg Buxton have worked with the Ute Indian Tribe and have an established and trusted relationship with the tribe. As a result, our team provides unique local experience and capabilities to help the Coalition facilitate necessary rights-of-way and permits.
**BENEFITS OF OUR LOCAL TEAM**

**Uinta Crude to Market** represents a unique local transportation challenge for this project. Although we offer experience transporting oil via railways, we recognize that other oil transport operations are not the same as those contemplated for the Uinta Basin Railway project. As such, we plan to engage our expert rail professionals together with Coalition resources, such as your waxy crude consultant, Marc Eccles, to define project solutions. This means our designs, base environmental, and right-of-way efforts will result in more viable solutions, practical for transporting Uinta crude. New and innovative solutions which engage tribal lands, turn tribal involvement from a potential risk to a catalyst for success.

Our understanding the **Unique Environmental Resources** for the project area in eastern Utah and Western Colorado give our team a distinct local advantage to complete the environmental baseline work. Because our team members CRS, SWCA, Kleinfelder, and CIVCO have had offices in eastern Utah for many years, our team members have acquired a lot of critically-important resource knowledge that will lower the cost and time needed to complete the environmental baseline work for the project. For example, we can provide cost and time savings related to siting routes through populations of special-status species. As the lead authors of the 2014 Conservation Agreement and Strategy for biological resources in the Uinta Basin, our team member SWCA developed creative solutions to confront Basin-specific environmental issues. Our team is also familiar and experienced with northwest Colorado issues, including the prevalence of Greater sage-grouse habitat that will also require innovation to minimize permitting and mitigation expenses. Our team will apply unique local knowledge of these type of issues to proactively integrate resource challenges into our environmental baseline work and minimize the need to conduct costly field surveys. Our team’s combined local experience will result in the highest quality advice and risk, schedule, and budget insights to support decisions for the alignment and design characteristics of the Uinta Basin Railway.

Our team has experience with **Colorado Railway** elements that affect the railroad network and communities of Colorado. Colorado team members have a long history of extensive experience working with rail in western Colorado. Their work extends back to the Meeker-Piceance Basin Rail Feasibility Study in 1981 and Isolated Empire Rail Project in 2001. Our team has extensive rail experience in Colorado, includes Randy Grauberger’s (WSP) lead role to prepare CDOT’s Colorado State Rail Freight and Passenger Rail Plan and Lance Kippen’s (RailPros) recent employment with UPRR in Colorado as the Engineering Manager of Industry and Public Projects. Lance spent several years reviewing and managing at-grade and grade separated crossing projects throughout the State, working closely with CDOT’s Program Manager - Railroads and the Colorado Public Utilities Commission’s Chief Rail Safety Coordinator. Other team members, including CRS, CIVCO, and SWCA, also have working relationships with CDOT, western Colorado county commissioners, and the politically influential Club 20 organization in western Colorado. Combined with Utah-based folks, our team’s relationships with Colorado stakeholders and partners will help define solutions that meet common objectives of eastern Utah and western Colorado stakeholders.
5. Cost

Total Cost .................................................................5.1
Cash Flow Schedule by Quarter ........................5.1
Detailed Cost ..........................................................5.2
6. Schedule Control

Project Schedule ....................................................... 6.1
Project References .................................................... 6.1
SCHEDULE CONTROL

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<th></th>
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PROJECT SCHEDULE DATES:
- Kick Off Site Visit
- Preliminary Stakeholder Coordination
- Environmental Investigation
- Base Map Preparation
- 10% - 15% Engineering Design
- Preliminary Vertical Design
- Construction

SC HE DULE EXAMPLE
CRS is no stranger to time critical schedules. A recent example, West Memphis RailPort Logistics Park project received an $11M TIGER grant which was tied to specific deliverable deadlines. CRS set up a schedule and action item monitoring plan, paving the way for the project to be completed within the time sensitive schedule. Continuous communication made this a success. Web conferences were held 1-2 times per week to review critical path items.

Cloud based software facilitated real time sharing of data and action items to meet critical path tasks. Adaptability to unforeseen items allowed for updated action plans, and adjusting priorities to keep the project on schedule.

In summary, the project was a success due to communication, accountability and follow up, technology, and the ability to adapt to unforeseen circumstances. These same principles will be followed on the Coalition’s project to achieve the same success.

EXAMPLES & REFERENCES

Union Pacific Railroad
Melissa Meier, Regional Manager-Economic & Industrial Development | 801.573.3299 | mmeier@up.com
REFERENCE FOR: CRS has an excellent relationship with Melissa and has worked with her on many projects in Utah and Colorado. Please call Melissa and ask her about our technical qualifications, customer service, relationship with UPRR staff, and knowledge of their review and approval process.

BNSF Railway
Ean Johnson, Regional Manager-Economic Development | 480.225.0304 | ean.johnson@bnsf.com
REFERENCE FOR: CRS has an excellent relationship with Ean. We have worked with him on multiple projects, most recently the Utah Inland Port project. Please call Ean and ask him about our technical qualifications, customer service, relationship with BNSF, and knowledge of their review and approval process.

Marathon Oil/Andeavor/Tesoro/AE/Sbig West Oil/Flying J
Brian Hess, Freight Rail Division Manager | 385.414.2111 | brian.hess@andeavor.com
REFERENCE FOR: Brian has hired CRS to design rail for him at every energy company he’s worked for over the last 10 years. We have designed multiple industrial tracks for oil, gas, and frac sand loading and unloading facilities. Please call Brian and ask him about our ability to meet project deadlines, our understanding of technical specifications, and our ability to get project approval with multiple Class I and shortline railroad companies.

City of West Memphis
Philip Sorel, Economic Development Director | City Engineer | 970.514.9751 | psorel@bywm.com
REFERENCE FOR: CRS assisted the city in obtaining an $11 million TIGER grant, master planned a 2,500 acre railport logistics park, prepared construction drawings for Phase I, bid the project, and performed construction management and project closeout. Please call and ask Philip about our ability to meet tight schedules, comply with FRA and USDOT reporting methods for federally funded projects, customer service, and the ability to obtain approvals from Class I railroad companies.

Ute Tribe
Crystal Adams | 435.723.3830 | crystala@utetribe.com
REFERENCE FOR: Greg Buxton from Civil Engineering Technologies (CET) has an excellent relationship with the tribe. He has successfully negotiated for his clients with the tribe. Please call Crystal with the Ute Tribe and ask her about Greg’s relationship with and ability to help clients interface with the tribe.

Utah Department of Transportation
Eric Cheng, Chief Railroad Engineer | 801.633.6402 | echeng@utah.gov
REFERENCE FOR: CRS has worked with Eric for the last eight years for the additions and safety upgrades of at-grade railroad crossings throughout Utah. Please call and ask Eric about our ability to cooperatively work with UDOT for the development of railroad crossings.

Colorado Department of Transportation
Rob Martindale, Railroad Crossing Safety Coordinator | 970.210.5913 | Rob.martindale@state.co.us
REFERENCE FOR: Lance Kippen from RailPros has an excellent relationship with Rob and has worked on many at-grade railroad crossings and bridges with him. Please call Rob and ask him about Lance’s ability to cooperatively coordinate about permitting of railroad crossings and bridges.

LETTERS OF RECOMMENDATION
City of West Memphis - Appendix
Ute Tribe - Appendix
7. Appendix

Resumes & Letters of Recommendation
DIEGO CARROLL, PE, MBA
Principal
Uinta Basin Rail Deputy Project Manager

Key Relevant Qualifications

As a seasoned infrastructure professional, Diego offers 19 years of experience in the assessment, permitting, design, and construction of a broad range of transportation infrastructure projects. Diego’s education includes an MBA as well as Bachelor and Master’s degrees in Civil Engineering. His mix of business and engineering education and on-the-job training give him critical insights to lead permitting and administrative elements of the project so that Darren can focus more time on engineering critical path elements and further expedite delivery of the Uinta Basin railway. Diego’s recent and ongoing experience with the environmental and engineering analysis for the Uinta Basin and Book Cliffs, including the Eastern Utah Regional Connection project, give him clear understanding of the context to for this project and the need for expedited delivery. As the Deputy Project Manager, Diego will oversee the project schedule and drive multi-disciplinary tasks so that they are completed on-time. In this role, Diego will also review technical work to ensure consistency with the objectives of the Coalition and project stakeholders. He will also own responsibility for delivery of the permitting documents and interface with STB’s third-party consultant. By providing clear roles, our dual management team approach provides critical checks to enhance quality and speed while avoiding redundancies.

Sample Relevant Project Experience

Eastern Utah Regional Connection (Book Cliffs) NEPA, Uintah and Grand Counties, Utah: Diego is the deputy project manager for this project, which together with WSP and CIVCO team members, is supporting the Coalition as it seeks to advance a transportation corridor to connect Seep Ridge Road in Uintah County to I-70 in Grand County.

Book Cliffs Corridor Economic Study, Uintah, Grand, and Duchesne Counties, Utah: Diego was the project manager for this project, which investigated the economic desirability and impacts of improving a transportation corridor to link Seep Ridge Road to I-70. The study analyzed industry (oil, natural gas, oil shale, and oil sands) and tourism economic impacts to Grand, Duchesne, and Uintah counties and the state as a whole.

Point of the Mountain Transportation Analysis, Utah and Salt Lake Counties, Utah: Diego was the project manager for this project, which advised transportation agencies and municipalities about multi-modal transportation investment needs for the high-growth area in northern Utah and southern Salt Lake counties. Modes considered included rail light and heavy rail systems.

Integrated Corridor Management (ICM) Deployment Planning Project, Utah and Salt Lake Counties, Utah: Diego was the project manager to prepare a concept of operations for integrated corridor management in Salt Lake and Utah Counties. The project considered opportunities to deploy state-of-the-art technologies and investments to improve the operational performance of multi-modal transportation systems, including multi-modal rail.

Mountain Accord, Cottonwood Canyons Transportation, Salt Lake County, Utah: Diego first served as project manager and then technical advisor to for the transportation analysis, including the evaluation of rail infrastructure investments for the Cottonwood Canyons in Salt Lake County.

Education
Master of Business Administration
Strategy and Finance, Brigham Young University, Marriott School of Business

Master of Science, Civil Engineering
Transportation Planning and Design, Brigham Young University, Fulton College of Engineering

Bachelor of Science, Civil Engineering
Brigham Young University, Fulton College of Engineering

Professional Registrations
Professional Engineer:
Utah (5047539)
Idaho (14961)
Montana (21022)
Wyoming (13399)

Professional Affiliations
Institute of Transportation Engineers (ITE) Utah Member
American Council of Engineering Companies (ACEC) Utah Board Member
Troy D. Ostler
Professional Engineer, Principal of Firm
1256 West 400 South, Suite 1 • Vernal, Utah • 435-789-5448 • 435-790-5448
troyostler@civcoengineering.com

—Professional Experience—

Experience Summary
Mr. Ostler has been a professional engineer in the State of Utah since 1985. Since 1987
he has been the principal in various civil/structural engineering firms. CIVCO
Engineering, Inc. was founded by Mr. Ostler in Vernal, Utah in 2000.

His career has involved environmental assessments, geotechnical and geological
investigations, pavement design, major and minor structural design, surveying and
mapping services, ROW services along with complete preconstruction and construction
engineering. He has the understanding and knowledge required to complete any size or
complexity of project from start to finish. He has assisted several clients in developing
projects and submitting and obtaining federal monies for the projects.

He has been the Engineer of Record for more than a 1000 civil/structural design
projects valued at more than $250,000,000 during his career as a professional engineer.
His experience includes more than 100 highway design and construction projects (UDOT
administered). He is intimately familiar with roadway design and construction.

As the principal of CIVCO Engineering, Inc., he strives to ensure that each project meets
the needs of the client(s) and that quality, schedule and budget commitments are met.

Recent Project Summary
Mr. Ostler’s more recent experiences with the liner infrastructure-type projects include:

- **Seep Ridge Road in Uintah County:** The project involved the planning, ROW federal
  applications, ROW SITLA acquisition, ROW private property acquisition, Environmental
  Assessment, design and construction management of a new 45 mile long highway.

- **Eastern Utah Regional Connection (EURC):** The project involved the preparation of
  the Plan of Development (POD), ROW Federal Application, environmental studies and
  public coordination for a 40+ mile new roadway in Grand County.

- **Redwash Road:** The project involved the design and construction management for
  12.5 miles of roadway, consisting of 6 miles of new alignment and 6.5 miles of
  reconstruction. The project also involved right of way acquisition, drainage design,
  environmental clearances, pavement design, box culvert design and safety features.

- **Uintah County Transportation Master Plan:** The project involved master planning of
  approximately 535 miles of paved roadways and 1,500 miles of gravel surfaced
  roadways, with cost estimates for maintenance, reconstruction or rehabilitation and
  the design of roadway maintenance, projects and future needs.

Academic Qualifications
- Bachelor of Science in Civil Engineering —Brigham Young University 1980

Professional Licensing
- Utah License Number: 167895
- Colorado License Number: 24616
- Licensed in the states of Utah, Colorado, Wyoming, Nevada and Arizona

Other Certifications
- UDOT Construction Engineering Management Training
- UDOT Partnering Training
- UDOT Environmental Control Supervisor Training
- UDOT Stream Rehabilitation and Restoration
- UDEQ Onsite Wastewater Systems Program
- UDWR Proof Professionals Training
- FHWA Environmental Impact Statements
- FHWA Roadside Design Guide Training
- FHWA Highways in River Environments Training
Key Personnel Resumes

SHAWN MARSHALL, PE  Project Manager/BNSF Industry Track Design Lead

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<tr>
<td>BS, Civil Engineering, University of Utah</td>
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<td>Member, American Railway Engineering and Maintenance of Way Association (AREMA)</td>
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Summary of Qualifications

Mr. Marshall is a professional engineer specializing in rail and site design, including rail facilities and commercial/industrial site layout, track, grading, drainage, and pavement design. He has designed or led the design of several projects for both Class I and Class II railroads and industrial rail users. Shawn has managed and led the design of pavement reconstruction projects for Class I railroads including program management and coordination. He is dedicated to providing quality services and meeting client expectations, and uses his technical and personal skills to represent clients in a professional manner.

Project Experience

UDOT I-15 Widening Project, Midvale, Utah

Mr. Marshall managed and provided engineering services for track design for three locations where the proposed roadway widening crosses the Union Pacific Railroad.

- **7200 South Track Shoofly and Bridge Replacement**: Mr. Marshall managed and led the design of track plans for the replacement of the railroad bridge over 7200 South to accommodate the 7200 South roadway widening. This included design of shoofly tracks to phase construction of the bridge and provide an additional track over the bridge. He coordinated with the RailPros structural engineers, geotechnical engineers, surveyors, UDOT, the Union Pacific Railroad, Utah Railway (Genesee and Wyoming Railroad), and Savage. Scope includes submitting 100% Track Design Plans and 30% Structure Plans for Bridge.

- **UTA 7200 South Bridge Replacement**: This project also included design of crossovers of the two UTA Trax lines over 7200 South for phasing construction of the bridge replacement. Scope includes submitting 30% Track Design Plans and 30% Signal Design Plans.

Union Pacific Railroad California High Speed Rail Coordination and Engineering Services, Fresno, CA

Mr. Marshall led the design for various track design projects, concept layouts, and provided engineering services in reviewing designs from other consultants on behalf of UPRR for the following projects:

- **Union Pacific Railroad CTC Improvements**: Mr. Marshall managed and provided engineering services for the design of CTC improvements for the UPRR Fresno Subdivision. This project consisted of replacing existing turnouts with new power turnouts, signal, crossing improvements, mainline track shift for a new universal crossover, and a lead extension. Plans, profiles, typical sections, cross sections, culvert and grading details, grading and drainage plans, and erosion control plans were developed. Mr. Marshall coordinated with the railroad for utility protection and relocation. He also developed the storm water management plans, bid documents, estimates, and project specifications.

- **Union Pacific Railroad Francis Materials Yard**: Mr. Marshall managed and provided engineering services for the design of an industrial yard. This project consisted of replacing existing turnouts and relaying existing track for the lead into this facility and design of two new rail spurs into this materials storage facility for the proposed industry. Plans, profiles, typical sections, cross sections, grading and drainage plans, and erosion control plans were developed. Mr. Marshall coordinated with the railroad for utility protection and relocation.
SEAN MARKEY, PE
SR. PROJECT MANAGER – RAILROAD PROJECTS

Mr. Markey is a Senior Project Manager with considerable experience in the administration, project management, inspection, rehabilitation, design, review, and construction of various freight railroad projects. His experience includes the design and oversight of various freight railroad projects. Many projects that he has been involved with have short schedules and involve coordination of multiple team disciplines to achieve the project goals.

Project Experience

National Gateway
CSX Transportation, Ohio, Pennsylvania, West Virginia, District of Columbia, Maryland & Virginia

Overall Program Manager for the Vertical Clearance Improvements for the National Gateway Initiative. National Gateway is a freight intermodal project involving 64 vertical obstructions requiring modification, replacement or removal to achieve a minimum of 21'-0" of clearance from top of rail to the bottom of the obstruction. Project management involves leading several teams of professions with schedule, funding pursuit, design activities and various procurement activities. Project involves modification of 13 mountain tunnels, replacement of the Virginia Avenue Tunnel (Washington, DC), and replacement of several overhead highway bridges throughout the corridor along with other locations involving trails and other railroads. Project packages include the development of several Design-Build Packages for advertisement on complex projects. AECOM has been tasked with providing weekly reports and coordination of this large effort to progress the designs for all locations through the various identified agencies for review. Funding for the project involves TIGER funding, State Funding from Pennsylvania and Ohio along with all various requirements with ARRA funding. The construction cost is estimated at $360 million for the vertical clearance improvements and $850 million for the total efforts.

Intermodal Container Transfer Facility (ICTF) Design Criteria Package and Construction Management
Port of Jacksonville, FL

Design Project Manager for the development of the design build criteria package. This project involved creating a 30% design for a new intermodal container transfer facility connecting to Confidential Client Transportation for JAXPORT. Responsibilities included oversight and guidance of staff
Key Personnel Resumes

TERRY M. TATE

UP Coordination

Education

MBA, Finance, Brandman University, Roseville
BS, Accounting/Finance/Transportation, University of Colorado

Summary of Qualifications

Mr. Tate has over 41 years of continuous experience in transportation operations management, with the majority of his career spent as an employee of Union Pacific Railroad (UP) and Southern Pacific Railroad. He was closely involved with the Utah Transit Authority (UTA) as they built their passenger railroad and has negotiated with both internal and external entities. He possesses strong project management acumen, solid analytical skills, and detailed knowledge of rail operations.

Project Experience

General Director, Quality Service, UP, Roseville, CA

As the General Director of Quality Service for UP, Mr. Tate was responsible for the Western Region Transportation Plan, including patterns of train operations and asset utilization for the UP’s territory in Washington, Oregon, California, Nevada, Utah, Idaho, Arizona, and New Mexico. He was also responsible for Customer Development in the Region. He interacted with many UP departments, including Marketing & Sales, Business Development, and Joint Facilities.

By its nature, the Region involved multiple commuter and intercity passenger services, including ACE, Capitols, Caltrain, Surfliners, and Metrolink. Part of Terry’s role was to understand those services, how they would interact with UP’s freight traffic, and the infrastructure needs (both current and forecast) associated with them.

Director, Transportation Service, UP, Salt Lake City, UT

Mr. Tate was both the Chief Transportation Officer and previously the Director of Terminal Operations for Union Pacific’s Salt Lake Service Unit, with overall responsibility for operations on a territory reaching from western Wyoming to eastern California and to southern Idaho. He held overall budgetary responsibilities for the Service Unit and worked with Marketing and Sales on the development of new business.

During this time, Mr. Tate worked with the Utah Transit Authority to develop the terms under which Utah Transit Authority would use and/or purchase portions of the UP Corridor between Ogden and Provo. Mr. Tate helped identify the requirements of UP’s transportation plan, and subsequently worked with UP’s engineering staff to determine infrastructure configurations that would support that plan. This effort included identifying the physical space UP would need to allow for future expansions, and identifying upgrades or relocations of existing facilities, such as the Salt Lake City Intermodal Ramp, to allow for the construction of the $600 million commuter line. He also served as the Union Pacific’s representative on the Partnership Committee, which along with Utah DOT and UTA, worked to identify win-win solutions as the commuter rail infrastructure was developed.

Senior Director, Harriman Dispatch Center – Western Region, UP, Omaha, NE

Mr. Tate was responsible for the dispatching operations of Union Pacific’s Western Region at the Harriman Dispatching Center. This assignment capitalized on Mr. Tate’s understanding of regional and operating unit transportation plans and daily traffic flows, and his previous experience as a field manager, addressing the day-to-day complexities of rail operations. His responsibility included freight operations in ten states, as well as several corridors which also hosted passenger operations.
Lance Kippen
2546 White Wing Rd., Johnstown, CO
Cell: 402.689.7027   Email: lance.kippen@railpros.com

CAREER SUMMARY

- Excel in collaborating with clients, contractors, and government agencies to meet or exceed design, timeline, and budget expectations.
- Excellent leader with over 14 years experience as an engineer, team leader, and project manager.
- Proven ability to manage and coordinate projects to successful completion.

Education | Certification
---|---
BS Civil Engineering – University of Utah (2005)  
Professional Engineer - UT # 7908392-2202 (2011)

PROFESSIONAL EXPERIENCE

Union Pacific Railroad (UP), Denver, Colorado        Nov. 2011-2018

Senior Project Engineer – Industry and Public Projects
Represent the railroad to plan, negotiate, design, schedule, manage, and monitor construction of industry track & signal, crossing signal, crossing surface, grade separation, crossing inventory, and other projects that protect and enhance Union Pacific’s franchise. Develop the scope, budget, and schedule of engineering projects including both track and signal.

- Provide technical assistance and coordination between outside agencies / industries and UP track, signal, structures, operating, law, and real estate.
- Prepare and review agreements with agencies, industries, other railroads, and private parties.
- Coordinate construction efforts between agency/industry contractors and UP track and signal construction.
- Assess crossings for the UP CAP program utilizing a standard work process.

Manager Special Projects – Terminal Design
Manage the design development of Intermodal and Automotive expansion and reconstruction projects throughout the UP network. Provide overall engineering coordination on all project aspects associated with engineering concepts, designs, and construction contracts.

- Manage the scope, budget, permitting, and schedule of engineering projects from concept through TOTO.
- Provide for the coordination of all departments and parties involved in the design process and integration of their ideas into a comprehensive design.
- Ensure all designs are in compliance with governmental regulations and company standards.


Team Leader – Rail Services
Engineered and managed design work of industrial railroad, railroad crossings, pavement rehabilitation and expansion, utility relocation and design, along with commercial development projects. Coordinated and communicated with local and state authorities, clients, and consultants to maximize efficiency during design and construction. Managed a team of engineers and designers ensuring high quality design projects within the schedule and budget constraints.
Key Personnel Resumes

CARRENE GILBERT, PE
Signals and Communications Specialist

Education
BS, Electrical Engineering, Georgia Institute of Technology

Professional Affiliations
AREMA Member – Committee 37

Registrations
Registered Electrical Engineer - Texas No. 88498, California No. 20387, Colorado No. 508322, Utah No. 8811253-2202, Washington No. 50838, Louisiana No. 40091, North Dakota No. 10540, New York No. 93470, New Jersey No. 24GE53827, Massachusetts No. 50614, Florida No. 83546

Summary of Qualifications
Ms. Carrene Gilbert is an Electrical Engineer with over 23 years experience in the rail and transit industry. Her experience has involved signals, systems, and communications elements. For the last seven years at RailPros, she has led the signals and systems team. Carrene understands the design and integration of systems and is able to review and inspect existing systems to provide comments to eliminate service interruptions. She has worked extensively with rapid transit authorities on a number of systems engineering projects.

Project Experience

Oceanside Quiet Zone, City of Oceanside, CA (2014 – Present)
Carrene is the Systems Project Manager responsible for the railroad signal and PTC design modifications required by the addition of pedestrian treatments and gates to establish a quiet zone through the City.

Van Nuys Station Project, Los Angeles County Metropolitan Transportation Authority (2014 – Present)
Carrene is the Systems Project Manager responsible for the railroad signal and PTC design modifications required by the station platform reconstruction. The project provided operational and passenger improvements by eliminating the narrow center island platform, replacing it with a center island platform with under-grade access. The operational improvements facilitated by the project included elimination of the hold-out rule, elimination of delayed-in-block provisions by addition of signals near the ends of the new platform, and also increased speeds for through trains (those not stopping at the platform) by revision of existing curvature, superelevation, and tangents between reverse curves. Track revisions also allowed speed improvements for freight trains entering/exiting the main at the adjacent Gemco yard. The increased train speeds required subsequent signal re-spacing, as well as modifications to grade crossing warning devices. The platform improvements include customer information display systems and new ticket machines, as well as the associated communications equipment, as well as relocation of existing third-part fiber optic.

St. George Interlocking Constructability Review, Staten Island Railroad, NY (1/2014)
Carrene performed a signal System Constructability Review of design modifications due to Hurricane Sandy.

Carrene was the Signals Designer providing the crossing equipment layout and performance specifications for the bidding process. The project includes a new at-grade crossing to improve vehicular movement in the City of West Jordan. Coordination with the following agencies was required: Utah Department of Transportation, Union Pacific Railroad, and the City of West Jordan; as construction documents were required to meet their standards.

Pier T Lead Grade Crossing Relocation, Port of Long Beach, CA (2013-2015)
Carrene was the Signal Design Manager responsible for the relocation of the highway-rail grade crossing warning equipment at the Pier T lead due to the Pier T lead and Highway 710 realignment.
Key Personnel – Gary V. Hunter

Railroad Industries Incorporated
Full Service Transportation Consulting
Gary V. Hunter
gvh@railroadindustries.com
775-825-6570

Experience

Railroad Industries Incorporated
Chairman and Chief Executive Officer - Reno, Nevada 1997-Present
Chairman and Chief Executive Officer - Hot Springs, Arkansas 1993-1997
President - Reno, Nevada 1983-1993

Mr. Hunter put his rail hands-on experience into his own consulting firm to provide expertise to rail shippers, railroads, public transportation and economic development agencies, private investors and other transportation service companies across the country. Work has included branch line analysis, equipment utilization and analysis, development of operating plans, market development, transportation costing, intermodal analysis, merger studies, developing short line railroads, and financial analysis. Mr. Hunter serves as the Chairman and CEO of the firm, managing all major business decisions, in addition to serving as Project Manager for most projects. He ensures quality control and provides most input for contract negotiations between Class I’s, shippers and short line railroads, alternative operations scenarios and traffic development strategies. Projects of note include Expert witness services for injury, rate, equipment, operations, right of way, STB and contract issues; Project Management for Utah Coal Rail Line development; 100’s of NLV and GCV evaluations for short line, regional and branch line railroads; yard and terminal operations analysis for 12 BNSF Railways’ terminals nationwide; Contract switching, operations and economics analysis for shippers nationwide, including Procter and Gamble, Cargill Grain, AK Steel, Palladon Iron, Sierra Pacific Power, Martin Marietta Materials and Bayer Materials; and rail abandonment and acquisition projects in Maine, California, Louisiana, Oregon and Utah to protect rail service for future economic development.

Arkansas Midland Railroad, General Manager 1993-1994
Jones Mill, Arkansas

Mr. Hunter was responsible for the overall operations of a $5 million short line railroad which includes 131 miles of track, 37 employees, and 21,000 annual carloads. The maintenance of way, maintenance of equipment, operations, marketing and agency departments all reported to Mr. Hunter. In addition, Mr. Hunter was responsible for all purchasing activities and real estate transactions for the company.

Transportation Marketing Services, Inc., Consultant 1987-1989
Pleasant Hill, California

Mr. Hunter was responsible for achieving revenue and profit objectives of the firm as directed by the President. His duties included market development, strategic planning, equipment analysis, physical distribution analysis, branch line acquisition analysis, competitive analysis, market research, contract rate negotiations, sales development, operations analysis, and development of business plans. He prepared testimony, traffic and revenue projections diversion estimates, and traffic flow analyses for the Anschutz Corporation and Rio Grande Industries in their acquisition of the Southern Pacific Transportation Company. Clients included the government, shippers, transportation companies, and port authorities.
Benjamin Rood, PE, CFM
Water Resources Engineer

Education
MS, Civil Engineering, University of Utah, 2011
BS, Civil Engineering, University of Utah, 2009

Registrations
Professional Engineer, Utah
Certified Floodplain Manager

Years of Experience
With Current Firm: 10
With Other Firms: 0

Mr. Rood is a senior team leader and project manager of the Surface Water Department in the AECOM Salt Lake office. He has ten years of experience working in several surface-water disciplines including, hydraulic modeling, hydrology, flood hazard mapping, FEMA letter of map changes, steady and unsteady modeling using 1D and 2D methods, hydraulic structure and scour analysis. Mr. Rood leads a team with 2 senior and 3 junior level engineers. Mr. Rood has experience in both the private and public sectors. The majority of his public sector work has been working for the Utah Department of Emergency Management, FEMA, Salt Lake County Flood Control, and UDOT.

Project Experience

Project Manager, UDOT Drainage Manual of Instruction, Utah Department of Transportation: Mr. Rood was the project manager for the UDOT Drainage Manual of Instruction produced June 2018. As project manager Mr. Rood organized a team of experts in hydrology, data collection, storm drain systems, bridge hydraulics, open channels, detention ponds, and culverts to write the criteria for UDOT roadway drainage design. This manual provides the criteria that are used for all UDOT roadway projects throughout the State of Utah.

Project Manager, FHWA/UDOT Every Day Counts (EDC) Collaborative Hydraulics: Advancing to the Next Generation of Engineer (CHANGE). Mr. Rood was project manager for the UDOT EDC-CHANGE initiative to use photogrammetry, 2D rain-on-grid hydrology, 2D HEC-RAS and SRH-2D to provide bridge scour evaluations for the UDOT 0C-856 and 0C-816 bridges on the Dirty Devil River and San Juan River respectively. This was the first project UDOT sponsored through the FHWA EDC CHANGE initiative and will be presented at the UFSMA and UDOT Conference in 2018.

Project Manager, Surplus Levee Deficiency Rehabilitation Project, Salt Lake County Flood Control: Mr. Rood is the project manager for this multi-year levee rehabilitation project. This project encompasses a full range of stormwater improvements and design, levee design, utilities, right of way, survey, permitting, construction and stakeholder management. Successful milestone completion has been achieved through close coordination with USACE to help reinstate the surplus levee into the Levee Safety Program. The goal of this project is to provide levee certification through remediation of all encroachment violations.

Deputy Project Manager, Provo River Levee Analysis and Mapping Plan, Utah Department of Homeland Security FEMA Risk MAP Update Project: Mr. Rood developed engineering hydrologic and hydraulic modeling to provide a detailed analysis of 9 miles of levee along the Provo River in Utah County, Utah. Mr. Rood was instrumental in forming and cooperating with the Local Levee Partnership Team consisting of over 15 stakeholder organizations for the Provo River. Mr. Rood performed hydraulic analysis using 1D & 2D HEC-RAS modeling.
MATT FOWLER
Professional Associate

CAREER SUMMARY
Matt has three decades of project management and engineering experience in the analysis and design of tunnels, shafts, and mined and cut-and-cover structures for transit, highway, water, mining, communications, and underground storage. Based in San Francisco, Matt has managed or held technical roles on a broad range of underground projects involving excavations in urban settings, protection of sensitive structures, utility relocations, seismic retrofit, deep foundations, ground improvement, geologic investigations, shoring, and instrumentation.

SELECTED PROFESSIONAL EXPERIENCE

— SFMTA Central Subway Phase II, San Francisco, CA: for the preliminary design of this 1.7-mile-long twin-tunnel subway with three underground stations, Matt served as Tunnel and Station Design Lead, responsible for identifying alignment alternatives with feasible portals and work sites, assessing construction methods, and preparing preliminary designs for the tunnels and stations. For the final design phase, Matt served as Project Manager with a team of 14 subconsultants who prepared final plans, specifications and quantity estimates for the $20M utility relocation contract and the $241M tunnel contract. A major challenge successfully addressed in the tunnel design and construction was the crossing of the BART and SFMTA Tunnels under Market Street, which required extensive numerical modeling and coordination with BART during the design phase and the inclusion of real-time monitoring and settlement mitigation measures during construction. Matt was involved throughout construction of the twin bores that were excavated using EPB TBMs.

— LA Metro Red Line, Hollywood to Universal City, CA: As Lead Tunnel Engineer, Matt was responsible for preparation of plans, specifications, and a geotechnical design summary report for the excavation and lining of twin, 20-foot-diameter tunnels to extend the subway 2.5 miles through the Santa Monica Mountains. Required elements of project included selection and design of ground support systems for the TBM tunnels; design of permanent rock dowel and shotcrete ground support systems for large-span caverns, intersections, and crossovers; and development of instrumentation programs to monitor ground convergence. The tunnels cross the Hollywood Fault, where a unique oversized tunnel cross-section employing a ductile and flexible lining of shotcrete, lattice girders, and dowels was designed to accommodate possible future fault movement.

— Westside Corridor Project, Portland, OR: project tunnel engineer on the team responsible for the preparation of plans, specifications, and cost estimates for twin 19-foot-diameter, three-mile-long tunnels and a 260-foot-deep underground station—the deepest underground transit station in North America—for the $692M, 11.5-mile westward extension of the Banfield light rail transit line. Matt was responsible for selection and design of initial ground support for shafts, portals, tunnels, and caverns for a broad range of volcanic rock and soil conditions. The resulting specifications included TBM and drill and blast excavation methods. He has continued his involvement on the project during construction, providing as-needed technical assistance to the resident engineer by inspecting installed initial ground support, reviewing contractor ground support designs, and assessing value engineering proposals.
JOSHUA J. SLETTEN, S.E.
Senior Supervising Structural Engineer

CAREER SUMMARY
Josh Sletten has over 17 years of experience in the transportation industry, successfully managing and executing projects as well as supervising staff. Josh is currently the I-15 Lehi Tech Corridor structures segment lead for 11 bridges, working directly with Ames and the Utah Department of Transportation (UDOT). He was also the project manager for I-80 Wildlife Crossing Overpass, a two-span bridge delivered using CMGC, which is now under construction.

Josh was formerly the UDOT bridge management engineer; during that time, he actively participated in the development and review of UDOT’s Structures Division QC/QA procedures and design manuals (PDN, SDDM, and BMM). He has an excellent understanding of each document. As the UDOT bridge management engineer, his responsibilities covered the Bridge Inspection Program, the Underwater Bridge Inspection Program, the Bridge Load Rating Program, the Bridge Scour Program, the Bridge Planning Program, bridge programming, asset management, bridge maintenance, emergency response, and local government outreach and coordination.

During his initial five years in transportation, he designed or helped design over 30 bridges as well as several retaining walls, box culverts, and noise walls. For the past two years, Josh has been involved in over 20 bridge projects for WSP. These have included all facets of delivery including planning, asset management, preliminary and final design, and construction. Josh was introduced to project management and department supervision in 2007. Today, he supervises a department of seven people within the WSP Structures Division.

EDUCATION
M.S., Structural Engineering, Purdue University, West Lafayette, Indiana, 2002
B.S., Civil Engineering, South Dakota School of Mines & Technology, Rapid City, South Dakota, 2001

PROFESSIONAL EXPERIENCE

Structural Engineer

— UDOT I-15 Lehi Tech Corridor, Utah: the I-15; Lehi Main to SR-92 project consists of the reconstruction of I-15 from Lehi Main Street to SR-92, including appropriate transitions into existing roadway features to the south and north of the project limits. WSP designed 11 bridges.

— Railroad Safety Project Management; UDOT; Salt Lake City, Utah: as project manager, Josh managed and implemented UDOT’s safety program responsible for statewide projects dealing with at-grade railroad crossings of vehicular streets and roads. Together with UDOT’s Chief Railroad Engineer, Josh was responsible for clearly defining this program’s objectives and implementing a plan to improve safety at select at-grade crossings across the State of Utah.

— TRAX Airport Line Preliminary Engineering; UTA; Salt Lake City, Utah: as lead structural engineer, Josh was responsible for leading the preliminary structural engineering phase of this nearly 6-mile light rail extension from downtown Salt Lake City to the Salt Lake City International Airport. The corridor required eight structures to accommodate the proposed alignment. The primary structure involved the incorporation of the light rail corridor with the existing North Temple Viaduct, an 11-Span 1,390-foot-long bridge over the UPRR corridor, FrontRunner tracks, and city streets.

— UDOT’s I-80 Wildlife Crossing Overpass, Salt Lake County, Utah: project manager for designing a new 365-ft-long, 45-ft-wide bridge spans I-80. Josh worked collaboratively with UDOT and the CMGC contractor to develop a structures design for a two-span bridge over I-80.
John W Diamond, PE
Project Manager

John Diamond has been a geotechnical project manager on many highway projects in Utah, including the I-15 CORE project, where he managed the instrumentation program during construction. He has worked on projects that have included design and construction of roadways, bridges, diverging diamond interchanges, embankments, Mechanically Stabilized Earth (MSE) walls, towers, tanks, pipelines, commercial development, and multi-story office buildings. His technical experience includes instrumentation, analysis and monitoring of consolidation settlements, foundation design, seismic analysis, evaluation including liquefaction and lateral spread potential, slope stability, and pavement design. John’s experience includes project management, report preparation, engineering analysis, laboratory testing, instrumentation, and field supervision. He has provided geotechnical recommendations for walls, embankments, and foundations constructed on soil conditions from soft, saturated clay soils with large settlements and stability concerns to dense sands and gravels throughout the State of Utah.

RELEVANT EXPERIENCE
Union Pacific Railroad Communal Track at Promontory Point, Box Elder County, UT, Senior Engineer

Mid-Coast Corridor Transit TO2, San Diego, CA, Senior Engineer.

I-15 Technology Corridor Reconstruction Project, Utah County, Utah; Design Project Manager

State Route 248; Proposed Widening, Park City, Utah, Project Manager.

US-191; Passing Lane Additions, San Juan County, Utah, Project Manager.

I-15 CORE Reconstruction Project, Utah County, Utah; Design Assistant Project Manager

Interstate 80: Climbing Lane from Lamb’s Canyon to Parley’s Summit, Summit County, Utah, Project Manager.

Wahlquist Bridge Widening, Fair West, Utah, Project Manager.


Interstate 15 Widening: 90th South to 106th South, Sandy, Utah. Assistant Project Manager and Project Geotechnical Engineer

State Route 10; Quitchupah Passing Lane, Emery County, Utah, Project Geotechnical Engineer.

Interstate 405 Sepulveda Pass Widening Project, California; Project Geotechnical Engineer.

Legacy Parkway in Salt Lake and Davis Counties, Utah; Staff Geotechnical Engineer.

Mona to Oquirrh 345 kV Transmission Line, Northern Utah, Project Manager.

I-405 Sepulveda Pass HOV, Los Angeles, CA, Project Engineer.

Years of Experience: 16 total; 12 Years Highway Design Experience

Licenses and Registrations:
- Professional Engineer, Civil Utah #5959080-2202
- Professional Geologist, Utah #5959080-2250

Education and Training:
- B.S. Applied Geoscience
- M.S. Geological Engineering
- M.B.A. Business Administration

Areas of Expertise:
- Project Management
- Design Build
- Geotechnical engineering related to transportation projects
- Geotechnical Instrumentation
JOHN BALE, PE, MBA

VP/TRANSPORTATION

John has over 32 years of experience as a Project Manager and managing project managers on large civil and transportation projects. His extensive experience in design, construction, QA/QC, materials testing and environmental compliance.

Since 2000, John has worked exclusively in the transportation sector including more than 40 alternative contracting projects most of which involved federal funds. He can quickly and easily identify project risks, present solid solutions and ideas that will benefit a project, and facilitate project teams through challenging project issues. John's career is one of facilitation, collaboration and communication.

32 10 1
YEARS EXPERIENCE SIMILAR PROJECTS YEARS WITH CRS

Education
M.A. Business Administration
University of South Carolina
B.S. Civil Engineering
University of Wyoming

Registration
Professional Engineer:
Utah, Wyoming, Nebraska, Colorado, North Dakota, Minnesota
UT# 4835780
WY# 5804
NE# E-7630
CO # 29644
ND # 4098
MN # 49387

Associations
Design-Build Institute of America

john.bale@crsengineers.com

RELATED EXPERIENCE

I-15 South Davis Operational Upgrade Project F-I15-7(301)313
Designed the schedule, budget and quality from North Salt Lake to Farmington 200 North Exit (2014-2015). He successfully managed design of roadway utilities, structures, and acquisition of right-of-way.

SR-92 Timpanogos Highway Design-Build Project F-0092(12)1
John assisted in training project personnel in this $120 million design-build project, and created proper documentation needs for the project. He directed the project documentation system set-up to ensure documentation was in place for all aspects of the project for Federal Participation.

US-89 Farmington to I-84 in Weber County
Provided high level consultation under a project management contract with the UDOT program director (2017-2018). On this $250-$300 million project, John managed risks and delivery approaches include assisting in establishing the first Progressive Design Build RFP for UDOT.

SR-232 & I-15 Hillfield Road Interchange Modification
John was responsible for leading his team in the SOQ process and in project delivery on this approximate $28 million design-build project.

Independent Quality Manager Legacy Highway Phase I Design-Build Project
John served as the first independent quality manager in Utah leading a team that was contracted to the design-builder and reported jointly to the owner and design-builder.

Consultant Resident Engineer Riverdale Road CMGC Project
John managed the first phase of construction engineering for an urban arterial roadway project. He managed the documentation in UDOT's PDBS system for this $40 million project.
Key Personnel Resumes

RENA J. ROBISON

AVP Real Estate & Development

<table>
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<tr>
<th>Education and Training</th>
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<tr>
<td>The University of Nebraska, BS in Political Science</td>
<td>National Development Council, 1999- Certified</td>
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<tr>
<td></td>
<td>Economic Development Institute, University of Oklahoma, 1995</td>
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Summary of Qualifications

Renay has been involved in real estate for over 25 years. She began her career in her family’s real estate and appraisal businesses while attending college. After graduation, she worked in a title company before starting with her spouse, her own company High Point Ventures, LLC. Renay Robison is an experienced, hard-working individual. She has in-depth knowledge of railroads having worked for one of the largest railroad companies in the nation. She provides leadership, management, and advanced sales expertise in all areas of her work.

Project Experience

RailPros, Assistant Vice President, Real Estate and Development (2018 - Present)

Renay works to develop and oversee RailPros’ real estate management services in the national railroad market including application and occupancy permitting process; contract preparation and management; rental management; acquisition and property sales oversight; and negotiations and fair market value pricing of railroad real estate.

UNION PACIFIC RAILROAD, Omaha, NE (2008 - 2018)

North America's premier railroad franchise, covering 23 states in the western two-thirds of the United States.

Director/Assistant Director – Real Estate

In this position, Renay provided leadership to real estate contract managers for negotiation and preparation of contracts with utilities, public and private entities, and individuals who wished to access or occupy the Railroad’s property. She advised or represented Contracts Group in negotiations with public and private utilities in contract revisions and disputes, complex projects and litigation. Renay also developed internal and external systems and procedures to ensure licensee and lessees where compliant with Railroad’s engineering and safety standards. She managed annual rent collection, rental redeterminations and rental dispute resolutions and supported Government Affairs by providing written responses and oral testimony on pending legislation that affected the Railroad’s real estate interests.

Manager – Real Estate (May 2008 - July 2010)

As manager of real estate, Renay marketed and sold Union Pacific surplus real estate and established relationships with developers, realtors, adjacent property owners and other potential buyers. She conducted market research, reviewed comparable sales, appraised and set property value as well as structured and negotiated sales contracts and prepared letters of understanding, purchase and sales agreements, and deed documents. Oversaw internal and external sales closing processes.

Senior Vp, Economic Development; Executive Director, Greater Davenport Redevelopment Corporation; Executive Vice President, NewVentures Initiative, DAVENPORTONE, Davenport, IA (2005 - 2008)

$2.8 million chamber of commerce and economic development organization with over 1200 member businesses.
DAVID BROWN, M.L.A., NATURAL RESOURCES PROGRAM DIRECTOR

Mr. Brown specializes in electric transmission line permitting and project development. He currently serves as the Natural Resources Program Director for SWCA’s Salt Lake City office and a senior project manager with more than 16 years of experience in environmental permitting with an emphasis on the electric transmission industry. Mr. Brown has served as the project manager for numerous projects including Xcel Energy’s 345-kilovolt (kV) expansion program in southeast New Mexico. He is familiar with each phase of project development from initial feasibility studies and agency coordination through permitting, construction, and operation. Mr. Brown’s experience includes line and substation siting, technical engineering and design studies, federal, state, and local permitting, right-of-entry and right-of-way acquisition, contractor procurement and request for proposals development, community outreach, landowner coordination, environmental compliance, mitigation planning and implementation, and environmental compliance. In his professional career, Mr. Brown has worked extensively on projects requiring compliance with the National Environmental Policy Act (NEPA), Clean Water Act, National Historic Preservation Act, and Endangered Species Act.

SELECTED TRANSMISSION PROJECT EXPERIENCE

Energy Gateway Owner’s Environmental Consultant; Salt Lake County, Utah; PacifiCorp. SWCA has been engaged since 2008 as the Owner’s Environmental Consultant for PacifiCorp’s Energy Gateway Expansion Program. In this role, SWCA staff function as an extension of the Owner and are primarily tasked with the oversight of the permitting and construction phases of several concurrent projects. Role: Project Manager overseeing team of 5-15 specialists and responsible for all deliverables and related project controls.

Hobbs-China Draw 345-kV Transmission Line Project; New Mexico; Xcel Energy. SWCA is assisting Xcel Energy in siting, permitting, and environmental compliance for a 345-kV transmission expansion program in southeast New Mexico. Mr. Brown provided expert testimony before the New Mexico Public Service Commission supporting the project’s siting process and adherence to Rule 592 of the New Mexico Administrative Code. Role: Project Manager overseeing execution of EA, POD, and responsible for all deliverables and related project controls.

Parvin 138-kV Transmission Line Project; Texas; Sandbrock Investments. SWCA provided expert testimony as part of Brazos electric’s application to amend a certificate of convenience and necessity submitted to the Texas Public Utilities Commission (PUC). Mr. Brown testified in support of the utility’s adherence to PUC Substantive Rule 25.101 and Texas Utility Code § 37.056. The final decision ruled in favor of the utility’s preferred route. Role: Production of environmental report and expert witness testimony.

Environmental Mitigation Cost Study; Salt Lake County, Utah; Western Electricity Coordinating Council. SWCA prepared an environmental mitigation costs study for Western Electricity Coordinating Council to inform the development of their long range planning tool. Role: Project Manager. Prepared the environmental mitigation costs study. As part of the study, Mr. Brown contacted individual developers for 29 different projects in the Western Interconnect to gather mitigation cost information that was ultimately used to identify specific factors that typically drive a project’s environmental mitigation risk.

Southline Transmission Environmental Impact Statement; New Mexico and Arizona; Southline Transmission LLC. SWCA is serving as the third-party NEPA consultant to the Bureau of Land Management (BLM) and the Western Area Power Administration for a proposed project.
TEAM RESUMES

CHUCK EASTON, RPA

ENVIRONMENTAL/ PI
Chuck serves as CRS’ Environmental Manager with 20 years’ experience in project compliance with the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), Section 404 of the Clean Water Act, and Section 4(f) of the Department of Transportation Act. This includes developing and writing Purpose and Need statements, alternatives development and screening, environmental resource analysis, and public and stakeholder coordination. Having written hundreds NEPA documents of all levels, he has a thorough working knowledge of all other resources considered in NEPA such as Land Use, Environmental Justice, traffic noise and air quality impacts analysis, hazardous materials, and indirect and cumulative effects.

Chuck has been managing and supporting the Public Involvement and Public Relations efforts for dozens of preliminary design and environmental projects, including large EISs and EAs. Chuck is a skilled communicator, with expertise in public involvement, strategic communication planning, conflict resolution and facilitation. His responsibilities in public involvement include early identification of potential project stakeholders, preparing strategic communication plans for large projects with potentially significant impacts, presenting projects and their impacts to elected officials and other elected bodies, forming project stakeholder groups to better understand and resolve project concerns, preparing and conducting public hearings and open houses.

SELECTED EXPERIENCE

West Memphis Railport Logistics Park
2,500 acres of land, 28 mile of rail master plan, 3 miles of Phase 1 rail construction, 2 road crossings | West Memphis, Arkansas | 2016-2018

Hill Air Force Base - Utah Test and Training Range
New railroad spur spanning 14.6 miles, in addition to 65 acre USAF/UPRR land exchange, multiple alternatives plus 200 feet buffer | Hill Air Force Base | 2016

Rock Point Canal Environmental Assessment
8.2 miles of proposed pipeline, covering 600 acres of multiple alternatives, within Uinta Basin | Uintah County | 2016-2017

Tooele Midvalley Highway EIS and Re-Evaluation*
10 miles of new roadway, covering a 7,000 acre study area of multiple alternatives. Rural, commercial, industrial, and residential areas | Tooele County, Utah | 2009-2010, 2015

Pleasant View Skyline Drive Environmental Assessment*
2 miles of new roadway, covering a study area of 5,000 acres, over 20 roadway alternatives, oppositional private interests | Weber County, Utah | 2014-2015

US Forest Service - Wheeler Creek Environmental Assessment/CatEX
Diversion structure replacement, 2 miles of pipeline within a 40-acre study area. Project area within a steep-walled canyon. Multiple T&E Species, historically significant structures | Weber County, Utah | 2017-Present

Elberta Mega Site Environmental Analysis
600 acre study area located in undeveloped open land. Federal, state, and local coordination and collaboration | Utah County | 2017

Education
M.A. History
B.S. Anthropology
The University of Utah

Registration
Professional Archaeologist
Utah PLPCO Permit #43

Associations
UPAC
chuck.easton@crsengineers.com

Prior Employment
PEC - 5 years
J-U-B - 1 year
UDOT - 5 Years
SWCA - 4 years
UofU Faculty - 3 years
JASON BRIGHT

**Environmental Planning Manager**

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### CAREER SUMMARY

Jason Bright has 25 years of environmental problem-solving experience in planning, environmental review, and construction projects. Jason’s experience includes the full range of federal requirements under the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act, Section 4(f) of the Department of Transportation, with extensive experience in Utah and Colorado. He works in WSP’s Colorado and Utah offices, and previously worked in UDOT Region 3, which includes much of the Coalition’s area.

### SELECTED PROFESSIONAL EXPERIENCE

- Honolulu Rail Transit Project, Honolulu Authority for Rapid Transportation, Honolulu, HI: Jason managed a team of environmental planners as part of a three-year, $150M GEC contract for the $5.2B transit project. He supported HART by providing environmental documentation and compliance for a dozen construction contracts. Responsibilities included managing a team of several WSP staff and sub-consultants to provide wetlands, wildlife, cultural resources, and daily stakeholder engagement. The planning and environmental tasks included $20M.

- I-70 Floyd Hill Environmental Document, CO: Jason supported CDOT in a NEPA Analysis of Alternatives for six miles of I-70 through an important and sensitive corridor in the mountains west of Denver. The project is a Tier 2 document, studying alternatives to the existing alignment, which has safety and geometric concerns.

- US 50 East Tier 1 EIS, CDOT Region 2: The Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT) are working with government agencies, communities, and the public in the analysis and development of proposed improvements to US 50. During the process of developing this US 50 Corridor East Tier 1 Draft EIS, the project team evaluated alternative corridor locations for future improvements versus the No-Action Alternative based on the project’s purpose and need.

- I-70 East EIS, Denver, CO: Jason is supporting CDOT in completing the Supplemental DEIS, FEIS and ROD. The EIS analyzes impacts from multiple build alternatives for the reconstruction of 11 miles of Interstate 70 through Denver. Since the signing of the ROD, Jason assisted with four re-evaluations for the construction project.

- Tooele Midvalley Highway Corridor EIS, Tooele, UT: As Project Manager, Jason led a team of planners, engineers and subconsultants in producing an Environmental Impact Statement and preliminary roadway and drainage design for multiple alternatives for 11-13 miles of new freeway through Tooele Valley, UT. The project was a local government project for Tooele County, providing additional north-south capacity to SR-36, and the Lake Point Interchange on I-80.

- I-15 South Corridor Environmental Impact Statement, Utah County, UT: As Environmental Manager, Jason assisted in the preparation of the draft EIS, and then became the Task Leader assigned to complete the Final EIS and Record of Decision. The effort involved responding to all public comments, including agency review, public meeting attendance, and producing the FEIS. Jason also managed subconsultants to complete a Biological Assessment for an endangered fish.
TEAM RESUMES

CHRISTOPHER M. VANEK, P.E.
Senior Engineer

CAREER SUMMARY
Chris Vanek has extensive experience working in multiple design-build and innovative projects, including accelerated bridge construction (ABC) techniques and complex bridge expansions. Through his career, Chris has extensive experience in various design media for accelerated bridge construction techniques including precast concrete, hybrid composite beams (HCB) and inverse modular bridge deck units. He is proficient in using Midas Civil, SAP 2000, LEAP Bridge Suite, MDX, FB-Multipier, and Microstation.

SELECTED PROFESSIONAL EXPERIENCE

— Interstate 15 (I-15) Tech Corridor Design-Build, Utah County, Utah: providing oversight for the structures design on this $278.4-million design-build project. The project involves reconstructing and widening to add to new lanes to I-15 between Lehi Main Street to State Road (SR) 92. A one-way frontage road system will also be constructed from 2100 North to SR 92. Interchange reconstruction will occur on I-15 at SR 92 and 2100 North. Thirteen bridges will be replaced and a new bridge will be constructed over I-15 at 2300 West. Bicycle and pedestrian movements will be improved. NM 6/Main Street Bridge over the Rio Grande River, New Mexico: structures engineer responsible for this design-bid-build replacement of the existing Rio Grande River crossing. Chris’ responsibilities include the evaluation and implementation of ABC techniques for the proposed crossing.

— Texas High-Speed Rail Public-Private-Partnership (P3), Dallas, Texas: structural engineer for preliminary design for this 240-mile new high speed rail line located between Dallas and Houston. The project will include the design of a two-way track, with approximately 60% of the track located on elevated viaduct, allowing for under-the-facility travel by assorted domestic and wild life, while local roads and expressways will go above or below the tracks. Unique design features will accommodate the N700-I Tokaido Shinkansen bullet train vehicle, with a travel time of approximately 90 minutes between Dallas and Houston, with maximum speeds of 205 mph in a fully sealed corridor. The project will be delivered in 10 design segments, including maintenance of way facilities and station facilities. At an estimated cost of $70 billion, the project is being funded by the Country of Japan.

— Veterans Memorial Bridge Replacement, Volusia County, Florida: structures engineer responsible for plan preparation and substructure and superstructure design of this signature high-level fixed bridge to replace the deteriorated existing bascule bridge. The replacement bridge will be on approximately the same alignment as the existing bridge to minimize environmental and right-of-way impacts. The new bridge will have a vertical clearance of 65 feet and a horizontal clearance of 125 feet. The typical section consists of two 11-foot through lanes, one in each direction, and five-foot outside shoulders. Five-foot sidewalks, separated by a 1.5-foot railing on both sides of the bridge.

— State Road (SR) 83 (US 331) over Choctawhatchee Bay Design-Build, Florida Department of Transportation (FDOT) District Three, Walton County, Florida: lead structures engineer on this $118M design-build project in the Florida panhandle. This project includes construction of a new northbound bridge, relocation of a local park, and deep ground improvements to the causeway surrounding the bridge. At project’s end, the bridge and causeway will be two lanes each way, to promote traffic flow and provide a better evacuation route from the island in case of hurricanes. All permitting was completed during the construction phase.
DAREN ANDERSON, PE, SE

UTAH LOCAL LIAISON

As Senior Review Engineer, Daren will provide QA/QC and act as a technical advisor as needed on pipeline materials selection due to “hot soils” in JVWCD proposed project area and benefit cost analysis options for the District’s approval. Daren will be present at every critical District design review meeting.

Daren’s major projects have included managing design and construction of Union Canal Piping Project; Vernal City 5.5+ mile waterline replacement, and 6+ miles of the Island Ditch Piping Project. Other projects include transportation systems, water, wastewater, irrigation systems, roads, hydrologic and hydrology studies, master plans and site development.

22 YEARS EXPERIENCE
10 YEARS SIMILAR PROJECTS
4 YEARS WITH CRS

REPLATED LARGE DIAMETER PIPELINE EXPERIENCE

Education
B.S. Civil Engineering
University of Utah

Registration
Professional Engineer:
Utah, Wyoming, North Dakota, New Mexico
Structural Engineer: Utah

Associations
American Society of Civil Engineers
Rural Water Association of Utah

daren.anderson@crsengineers.com

Prior Employment
Engineering Services, Inc.
18 Years

24” Vernal City Raw Waterline
Principal | 30,000 ln.4t 24-inch PVC | Vernal | 2015

30” HDPE M & S Pipeline
Project Manager | 12,000 ln.4t. 30” HDPE | Uintah County | 2013

Vernal City 500 East Storm Drain
Principal | 1,000 ln.4t. 42-inch Poly | Vernal | 2013

Simplot 42” and 30” Steel Pipe
Principal | 8,000 ln.4t. 42-inch Steel Pipe & 2,000 ln.4t. 30-inch Steel Pipe | Vernal, UT | 2011

Oaks Park Canal Pipe Project
Project Manager | 13,000 ln.4t. 42-inch HDPE & 18,000 ln.4t. 36-inch HDPE | Vernal | 2009

Island Ditch Pipe Project
Project Manager | 19,000 ln.4t. 24-inch PVC | Vernal | 2007
TEAM RESUMES

MATTHIRST, PE

PRINCIPAL IN CHARGE

Matt brings over 22 years of experience to CRS Engineers. He has extensive experience in program management in transportation, roadways, railroads, and utilities. He has extensive experience in large scale roadway and utility design such as UDOT’s $2 Billion Access Utah County project. Many of the projects he is asked to assist with have included extensive negotiation and arbitration with Federal, State and Local agencies including the United States Bureau of Reclamation, Utah Department of Transportation, multiple municipalities, regulated utility companies and private telecommunications providers.

Matt recently completed his work for the I-15 CORE Design-Build projects as the 3rd Party Manager & Utility Coordinator for the Provo River Constructors team, responsible for over 120 individual design and utility relocation packages totaling approximately $14 million dollars in work. During the project Mr. Hirst was responsible for 200 agreements between UDOT, the Design-Builder and fifty 3rd Party utility companies. This is the largest design build project for the State of Utah, totaling well over $1.1 billion dollars in total construction. During the execution of the project he conducted well over 1000 project and public meetings to execute his responsibilities for this project.

RELATED RAILROAD EXPERIENCE

- Emery Refining
  Principal | $12 Million | New oil refinery, 400 acres of land, grading, drainage, utilities, roadways, railroad tracks, highway connection | Green River, UT | 2012-2013
- Malt-o-Meal
  Principal | $ Million | Cereal and other product distribution plant, 100 acres of land, pavement, grading, drainage, utilities, railroad tracks | Tremonton, UT | 2008-2010
- Ogden Trackline Industrial Park
  Principal | $12 Million | Rail served industrial park, roads, utilities, surveying, railroad tracks | Ogden, UT | 2011-2013
- West Memphis Rail Port Logistics Park Master Plan
  Principal | $12K | 2,500 acres of land, 28 miles of rail, 2 road crossings, grading, drainage, utilities | West Memphis, AR | 2011-2013
- QEP LNG Facility
  Principal | $12 Million | Questar liquid natural gas transfer facility, 10 acres, grading, drainage, railroad tracks | Veme, WY | 2012-2013
- Union Pacific Railroad GIS mapping, asset management and GPS data acquisition
  Project Manager | $120M & CRS Fee: $5M | Asset management for $2B of rail facilities, rail yards, create database and GIS to track system upgrades, repair, and maintenance | Systemwide | 2004-2018

I-15 Core Design-Build

3rd Party Manager and Utility Coordinator | design and utility relocation packages, agreements with stakeholders, public involvement and coordination with stakeholders | 2012

Access Utah County: SR-77, Pioneer Crossing, SR-92 and Vineyard Connector
$400M & CRS Fee: $3.2M | Lead Utility and Railroad 3rd Party Manager | As a member of the UDOT management team for AUC, Mr. Hirst is responsible for all the utility and railroad procurement related documents, over fifty (50) master utility agreements, a dozen (12) railroad agreements, and 3rd party and design-builder coordination during the construction of each project | 2012

Education
M.S. Civil Engineering
B.S. Civil Engineering
University of Utah

Registration
Licensed Professional Engineer: Utah, Arizona, Colorado, Hawaii, Idaho, Kansas, Missouri, North Dakota, Texas
UT # 313039-2202
ID # 11596
AZ # 41634
HI # 11485
CO # 39633
MO # 2008012192

Associations
ASCE- American Society of Civil Engineers
ACEC- American Council of Engineering Companies
ESRI - Authorized Consultant/ Business Partner/ Reseller
University of Utah, Department of Civil and Environmental Engineering (CvEEN) Industrial Advisory Board Member
matt.hirst@crsengineers.com
Bret Reynolds
Professional Engineer
1256 West 400 South, Suite 1 • Vernal, Utah • 435-789-5448 • 435-790-5624
bretreynolds@civcoengineering.com

—Professional Experience—

Experience Summary
Mr. Reynolds’ career has focused on the quality control, design, construction oversight and project management of small to complex projects. He has been involved in all aspects of projects, including funding, management, planning, traffic analysis, geometric design, hydraulic design, structural design, traffic engineering, public involvement, inspection and testing, utility coordination, right-of-way, data collection, and agency coordination. Mr. Reynolds has dealt with state and federal government agencies, cities, and counties throughout the State of Utah, Colorado and other states.

Mr. Reynolds’ focus is to provide a quality project that meets the project schedule, budget and standards and is properly documented. His experience in working in various states and on complex projects brings valuable knowledge of the variety of solutions available. He is familiar with AASHTO and state highway design standards and keeps current with them by attending various seminars and classes throughout the year.

Recent Project Summary
Mr. Reynolds has recently been the lead designer, project manager, field engineer, or resident engineer on several projects that have included public involvement, utility coordination, roadway design, drainage design, right-of-way, culinary water lines, sewer lines, irrigation lines, survey and mapping, construction inspection and management, and material testing. Below is a listing of recent relevant projects:

- **US-40 Gusher:** The project involved the widening of 6 miles of a major arterial through a developed area. Involved relocation of utilities and coordination with the Bureau of Indian Affairs and the Ute Tribe.

- **Seep Ridge Road in Uintah County:** The project involved the planning, ROW federal applications, ROW SITLA acquisition, ROW private property acquisition, Environmental Assessment, design and construction management of a new 45 mile long highway.

- **Eastern Utah Regional Connection (EURC):** The project involved the preparation of the Plan of Development (POD), ROW Federal Application, environmental studies and public coordination for a 40+ mile new roadway in Grand County.

- **Woods Road:** The project involved the design and construction management for 6 miles of roadway. The project also involved right of way acquisition, drainage design, environmental clearances, pavement design, box culvert design and safety features.
RANDY GRAUBERGER
Senior Principal Technical Specialist

Years of Experience
44 (14 with WSP; 30 with others)

Education
B.S., Mathematical Engineering, Colorado School of Mines, 1973
Additional Training: Rail Transportation Seminar, University of Tennessee at Knoxville

Key Qualifications
Randy Grauberger is a team-oriented transportation project manager with extensive project management and professional experience in the broad range of planning activities of WSP and previously at the Colorado Department of Transportation (CDOT). Mr. Grauberger achieves successful projects while working with stakeholders maintaining very different points of view. His expertise includes project management related to rail planning, transit planning, corridor, regional and statewide planning, pavement management, and traffic analysis.

Railroad Transportation

• Denver Rock Island Railroad (DRIR) Consolidation/Relocation Project: WSP Project Manager for an effort to relocate/consolidate DRIR rail lines through the National Western Center complex in NE Denver. Effort includes participating in negotiations between City of Denver and DRIR, interchanger negotiations between DRIR and BNSF Railway’s Short Line Development Group, and preparation of conceptual design of new DRIR rail lines and facilities. Randy also managed a subconsultant that conducted a valuation of DRIR’s rail lines and assets as a part of this Project. 1/2017 - Current

• Colorado State Freight and Passenger Rail Plan: WSP Project Manager for the development of PRIAA compliant State Rail Plan. Plan developed in accordance with Federal Railroad Administration (FRA) and state guidelines. Managed sub-consultants and led extensive public involvement effort by way of the Rail Plan Steering Committee and two rounds of stakeholder workshops and open houses held around the state. 1/11 to 3/12

• Railroad Relocation Implementation, Eastern Plains, Colorado: WSP Project Manager for this 2008 $1.75 million study for CDOT. The purpose of the study was to identify a 100+ mile railroad bypass of the Colorado Front Range onto the Eastern Plains of Colorado for north/south through rail freight movements of the BNSF Railway and Union Pacific Railroad. Key elements of the study were to determine steps necessary to carry out the formation of a public-private partnership, to define and finalize the rail infrastructure project scope and costs, to investigate available funding sources and determine a financing plan for the project and to conduct an environmental overview. 6/07 – 1/09

• Short Line Railroad Program Analysis, Kansas: WSP Project Manager for this 2005 study of the effectiveness of Kansas Department of Transportation’s (DOT) loan/grant program for short line railroad infrastructure improvements. This $255,000 study analyzed whether or not 1999 legislation creating a $3 million per year program should be extended/expanded or eliminated. Randy personally conducted 42 face-to-face interviews with Class I and short line railroads, shippers and local economic development agencies as part of this Study. Randy also managed an economic sub-consultant on this Study which led to the Kansas Legislature extending the KDOT Short Line Loan/Grant program. 5/2005 to 11/2005

Prior to joining WSP, Mr. Grauberger was responsible for rail programs at CDOT serving as a Branch Manager in CDOT’s Transportation Planning Division.
GREG L. BUXTON, P.E.
383 East Lagoon St.
Roosevelt, UT 84066
(435)725-5678 Office
(435) 823-2468 Mobile
gbengineer@gmail.com

REGISTRATION:
Nevada Professional Engineer 16675
Utah Professional Engineer 176961
Colorado Professional Engineer 34154
Colorado Land Survey Intern Oct. 2001

EDUCATION:
BS Civil Engineering, 1989, Utah State University
Utah Technical College, 1985 Course Work in Drafting & Design
Associates of General Education, Dixie College, 1984, St. George, Utah

PROFESSIONAL AFFILIATIONS:
American Public Works Association (APWA) – Member

BRIEF STATEMENT OF EXPERIENCE:
Mr. Buxton’s experience includes preparation of a variety of civil engineering plan sets, for highway & rural roadway design, water & sewer systems conveyance & collection, and land development residential/commercial projects. Additional skills include water system modeling, contract document preparation, drainage studies, fluency with Land Development Desktop, materials testing, and construction/boundary surveying. Mr. Buxton has over 30 years of experience in the civil engineering profession.

President – Civil Engineering Technologies, LLC, Henderson NV/ Roosevelt UT January 2011 – Present
- Project Liaison/Owners Representative Ute Tribe Justice Center construction cost $37,000,000. See below
- Ute Tribe Justice Center – Provided all civil engineering and construction inspection for a 15 acre development
- Ute Tribe Head Start Admin. Building topography survey, grading plan, utility plan, and construction staking
- Ute Tribe V.A. Memorial Park grading plan, utility plan, topography survey
- Ute Tribe Fiber Optic Project – A 5 mile fiber optic planning project looping throughout Fort Duchesne Utah
- 5 Miles of Utility Corridor Mapping in support of a 5 mile fiber optic project for the Ute Indian Tribe
- 20 Acre topography survey prepared in support of a 100,000+ sq.ft. Justice Center for the Ute Indian Tribe
- Site Design and Utility Design & Quality Assurance Inspection Ute tribe Justice Center

Ute Indian Tribe – Justice Center
Fort Duchesne, Utah – Completed June 2016 – Construction Cost $37,000,000
Reference: Crystal Adams, Ute Tribe Justice Facility Planner (435)725-4027

Civil Engineering Technologies, LLC was contracted by the Ute Indian Tribe to provide all civil engineering and preliminary topography surveying aspects. Additionally CET was contracted to be the owner’s representative to pursue the construction of a 15 acre, master planned, $37,000,000 correctional facility. Master planning translated into construction of all utilities for a future justice court and four at risk shelters. CET supported the tribe in the feasibility of various site locations, soliciting and selection of a qualified architect, geotechnical engineer, and the general contractor (CM/GC). CET further provided the construction inspection of all civil engineering components and employed a quality assurance inspector for building code compliance. CET also reviewed all testing results for verification of all material test requirements per the contract documents and specifications. CET provided review of all contractor pay applications and change orders and enforced completion of all punch list items prior to release of retention funds to the CM/GC.
October 25, 2018

Seven County Infrastructure Coalition

RE: In Support of Interest on Behalf of the Ute Indian Tribe.

Darrin.

This letter of support on behalf of the Ute Indian Tribe to be included in any interests that the will beneficial to the economic system of the Tribe. We will be interested to take part in any discussion on how we will fit into this massive undertaking. We are confide that Mr. Greg Buxton will keep us engaged and informed of any meetings and other information that will need to be given to the Tribe for any approval or recommendations in the dissemination of information to the Tribe as a whole.

We are pleased you have chosen Mr. Buxton to be a part of your team and will continue to serve your firm as well as the Tribe’s liaison throughout this process.

Your consideration for the tribe’s interest is admirable.

Regards,

Crystal Adams
Grants Planner/Monitor
Ute Indian Tribe
PROPOSAL
Professional Services for Engineering, Environmental, Permitting, Right-of-Way Planning, and Related Services

Seven County Infrastructure Coalition
Uinta Basin Railway Project

November 1, 2018
November 1, 2018

ATTN: Mike McKee, Executive Director
Seven County Infrastructure Coalition
via secure link upload

RE: Uinta Basin Railway Project

Dear Mike McKee and Selection Committee Members:

HDR is eager to help the Seven County Infrastructure Coalition deliver railroad service to the Uinta Basin by December 1, 2023. We know you need to complete your railroad with the least engineering, permitting, and construction cost, and the fastest possible environmental clearance. HDR has the vision and the proven methods to deliver your desired results.

We understand the strategic value of speed to market. Our team has the experience and drive to accomplish this. From the 1,500-mile Alberta to Alaska Railway to the 150-mile CN-EJ&E merger to the 30-mile New Orleans & Gulf Coast, we have successfully delivered Surface Transportation Board (STB) and Federal Railroad Administration (FRA) environmental approvals, grants, loans and engineering for the largest freight railway projects across North America.

Our team has been assembled for its experience, commitment, and performance. We possess the right blend of local knowledge and national expertise. We have partnered with Johansen & Tuttle Engineering, Juliano Consulting, Sunrise Engineering and other specialty consultants who also have deep Uinta Basin project experience and stakeholder understanding.

Our outstanding Project Manager, Mark Hemphill, is a client-oriented professional with a proven track record in all of the skills needed to plan, engineer, permit, and construct a large greenfield railway. He is known in the railroad industry for his ability to navigate the federal permitting process to deliver commercially successful railway projects for private and public clients ranging from the State of Iowa to BNSF Railway. He will leverage his STB relationships and will have laser-like focus on schedule, budget, and your goal.

You asked for an innovative approach to meet your schedule and keep costs low:

• We’ve located an all-Utah route competitive in capital cost and mileage to your Rifle and Mack routes, avoiding potential political problems with Colorado and funding constraints from the Community Impact Board (CIB). This will provide equal access to BNSF Railway and Union Pacific (UP) near Westwater, and the opportunity for future railroad line expansion into San Juan County and southward.

• We believe a Design-Build or Construction Manager/General Contractor (CM/GC) approach will deliver your railroad the fastest, and also substantially reduce your up-front costs.

• We’ve included in the first 60 days of the project a Route and Alternatives Selection step, leading to an early meeting and consensus with the STB and your third-party contractor, to reduce cost and time for survey, engineering and baseline environmental studies. This will also minimize opportunities for environmental opposition.

• We’ve priced our proposal to preserve your consultant budget, and we have included an option for Design-Bid-Build if that later becomes your preferred delivery option.

We stand committed to deliver our respective firms’ resources as well as our personal best to deliver the Uinta Basin Railway on time, and within budget. We are truly excited by the opportunity this project represents. Our dedication and focus on a successful outcome will be unwavering.

Sincerely,

Mark Hemphill
Project Manager

Bill Hjelholt
National Freight Rail Director

Dave Nazare, PE
Principal-in-Charge
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Section 1
Project Team
Section 1 Project Team

Why the Coalition should Select HDR

Years of experience, cultivated relationships, technical, permitting and financing expertise, and unique vision and approach — all with a laser-like focus on results...these are the traits the HDR team brings to the Coalition. We have partnered with Johansen & Tuttle Engineering (J&T), Juliano Consulting, Sunrise Engineering, and other specialty subconsultants to not only meet, but exceed, all requirements set forth in the scope of work in the Request for Proposal. Our strengths, highlighted below, will help the Coalition obtain the required federal regulatory approvals by December 1, 2020 and meet their December 1, 2023 operational target date.

A Veteran Leadership Team

Our leadership team — including Mark Hemphill, Don McCammon, and Kevin Keller — have led HDR’s largest greenfield rail projects for over 12 years. Most recently, they worked together on the Newfield Uinta Basin Rail Feasibility Study, the 1,500-mile-long Alberta to Alaska Railway to haul Canadian oil to tidewater, the 500-mile Canadian Pacific Railway Powder River Basin Extension, and a 2,000-mile-long project to create a 12-train-per-day crude oil corridor from secondary main lines and branch lines to a western Class I railroad. Mark, Don, and Kevin will be dedicated full time to the Coalition’s project, working in HDR’s Salt Lake City office to keep the project on schedule.

Relationships with BNSF and Union Pacific

HDR is the preferred and largest provider of planning, engineering, environmental analysis and permitting, and real estate services for both BNSF and UP. We have more than 100 projects ongoing with these railroads including 20 which are major capacity or greenfield projects. We are currently leading the engineering, permitting, real estate acquisition, bid and procurement package development, and construction management of UP’s new $550 million Brazos Rail Yard in Hearne, Texas — the largest capital investment on a single project in UP’s 155-year history.

“HDR has consistently delivered on a myriad of project deliverables within a very challenging and dynamic project environment. This level of performance has been instrumental for on-time project delivery, high customer satisfaction, and more accurate financial forecasting. I would recommend the HDR team to anyone looking for truly professional design and project management services.”

Nicholas Konen, Manager of Engineering, BNSF Railway

Federal, State, and Local Stakeholder Relationships

HDR is well-known to FRA through several large projects including four intercity passenger rail projects and two major rail relocation projects. We have cultivated relationships with county governments, the local USDA and NRCS offices, state SHPOs and other Section 106 consulting parties, and local midstream and oil production companies located in the Basin. HDR is also respected by UDOT and CDOT. We’ve also consulted with over 200 federally-recognized tribal entities over the past 4 years as BNSF’s program manager for the PTC Tower Permitting project. Pamela Juliano brings excellent Navajo and Ute Tribal Business Council relations on land and water, emergency resource, and transportation issues.

HDR is one of only three firms that STB relies on to successfully deliver NEPA documents for major rail actions in the past 5 years. Our recent applicant project experience includes BNSF’s build-in at Bayport, Texas, and the Alaska Railroad’s Port MacKenzie Extension project where we completed baseline, engineering, and operational studies.

Local Depth and Capacity of Staff Expertise

HDR has a large office in Salt Lake City with 80 technical professionals supporting projects from planning through construction. We offer a full-service suite of real estate and utility relocation services with extensive railroad and oil and gas experience. We also have complementary offices in Colorado with access to more than 200 technical professionals. In addition, with their extensive eastern Utah experience, Sunrise Engineering and J&T will complement HDR’s design team from investigation through design.

Financing Expertise

HDR has secured nearly $1.5 billion in federal funds for 60 projects for our clients, accounting for 19% of the total construction funds awarded to date through USDOT grant proposals. This includes our recent support of UDOT to win a TIGER grant for the Dog Canyon Climbing Lanes and INFRA Large Project funding for the Northwest Quadrant Freight Mobility Project.
Unique Vision and Approach
New rail lines can be over-engineered for the freight volumes and operational speeds needed, because most teams don’t have HDR’s real-world experience with greenfield railroad lines. Our designers envision that the use of the correct Class I railroad standards and materials will save the Coalition 20% or more in capital cost over typical engineering approaches, with similar safety and reliability.

HDR recently achieved a US patent for its “Infinity Loop” design for terminals/transloads for crude oil and other bulk products. We are currently designing Infinity Loops for projects in British Columbia, Alberta, Washington, Texas, and Louisiana. These infinity loops offer real estate cost savings and flexibility unprecedented in railroad terminal design, and will reduce the Coalition’s land purchase costs and potential impacts on agricultural land.

HDR is also an expert in alternative delivery methods including Design-Build and CM/GC that will an advantage in meeting the Coalition’s need for rapid speed to market.

Our Teaming Partners

Juliano Consulting
Pamela Juliano has nearly two decades of experience in government and public relations. After serving for nearly a decade as a Congressional advisor, she launched Juliano Consulting, which specializes in positioning key governmental and community relations for benefit of project development and funding procurement support. She has also developed key federal, community, tribal and state government relationships for the benefit of successful legislative and project outcomes.

Johansen & Tuttle Engineering, Inc.
J&T has provided full-service civil engineering services in rural Utah, particularly in the Uinta Basin, for over 45 years. They’ve worked for many of the municipalities in the seven counties and competed projects in the Uinta Basin for several federal agencies. Areas of expertise include land surveying, right-of-way acquisition, roadway design, site design, erosion control design, water modeling, hydrological analysis, and utility design including sewer, water, drainage, and dry utilities.

Sunrise Engineering
Sunrise Engineering has been providing civil/municipal and site development services for 40 years. They are an active member of the Vernal Area Chamber of Commerce, presenting our team with many opportunities for coordination with local stakeholders. They currently have 330 staff, 47 of which are licensed engineers; they are licensed to practice in 17 states including Utah, Wyoming, and Colorado.

SWCA Environmental Consultants
SWCA has been a full-service provider of cultural resources consulting services to clients in northeastern Utah and northwestern Colorado for over 25 years. Their Vernal, Salt Lake City and Denver offices employ more than 40 archaeologists, anthropologists, architectural historians, historians, and paleontologists who are supported by a large pool of qualified and capable seasonal field personnel, allowing them to execute quickly and efficiently on projects of all sizes.

Montgomery Archaeological Consultants, Inc.
MOAC has successfully completed more than 3,000 cultural resource investigations on state, federal, and private lands. These projects range from Class I literature reviews to large block inventories, excavations, ethnographic overviews, predictive models, and independent, problem-oriented research. The majority of MOAC’s work over the last two decades has occurred in the Uinta Basin, where they have successfully completed nearly 2,000 cultural resource survey, monitoring, and data recovery projects.

Gerhart Cole
GC provides geotechnical and geologic engineering services and has practical experience with geotechnical/geologic data collection and assessments of rail lines, utility corridors, roadways, and highway widening projects. GC also brings hands-on experience with utility corridors, highways, canals, and pipelines through similar terrain expected for the Uinta Basin Railway project. They’ve provided geotechnical data collection and analysis for several oil shale facilities and feasibility studies throughout the Uinta Basin for such clients as Union 76, Chevron, Shell, and Mobil.

Parametrix
Parametrix’s Salt Lake City office has been performing rail and freight planning in Utah for the last decade. Vern Kessler provided capacity analysis on HDR’s team for the Uinta Basin Transportation Study. He’s performed freight planning projects for UDOT including the Utah Freight Plan (compliant with FAST Act requirements for road, rail, intermodal, pipeline, aviation, warehousing and distribution), Utah State Rail Plan, and Utah Railroad Crossing Inventory and Inspection.

McMillen Jacobs Associates
McMillen Jacobs has been providing engineering services to Class I and II railroads, state DOTs, local municipalities, and regional short line carriers for over 30 years. They are experts in design and construction of tunnel and portal rehabilitation, rock slope and soil embankment stability, and deep foundation systems. They’ve been serving BNSF and UP through master services agreements for over 20 years, and have a comprehensive understanding of geologic and conditions throughout the West.

We have constructed a team that balances the need for specialized expertise and capacity with the desire to involve firms that are local to the Seven Counties. The local firms bring valuable connections and understanding of the local environment to our team, and after all, this project is about supporting the local economy.
## Uinta Rail Railway Team Organization

Our team is:
- Mostly located in Utah
- Compact, with individuals filling multiple roles
- Complete, able to provide the project from beginning to end

### Engineering
- **Engineering Lead**: Don McCammon, PE
- **Deputy Engineering Lead**: Kyle Robe

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<th>Subconsultants Key:</th>
<th>Johansen &amp; Tuttle = J</th>
<th>Sunrise = SR</th>
<th>SWCA = S</th>
<th>Montgomery Archaeological = M</th>
<th>Gerhart Cole = G</th>
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<td>Parametrix = P</td>
<td>Ron Clegg = RC</td>
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**Alignment & Earthwork**
- Ken Kuehne, PE
- Bridges
- David McCune, PE
- Peter Graff, PE

**Roadway**
- Jonathan Johansen, PE
- Phillip Peterson, PE
- Merrial Johansen, PE
- Tyler Young, PE

**Right-of-Way**
- Jonathan Johansen, PE
- Phillip Peterson, PE

**Shipper & Receiver Terminals**
- Paul Weber, PE
- Robert Smith, PE

**Locomotive & Rail Car Facilities**
- Chris Rand, PE

**Railroad Communications & Train Control**
- Dan Herbert, EIT

**Hydrology & Hydraulics**
- William Pope, PE
- Gracelyn Neville, PE
- John Ballageer

**Geomorphology**
- Tunnels

**GIS**
- Frank Pisan
- Sarah Rigard
- Travis Tzioumis

**UDOT Coordination**
- Dave Nazare, PE

**CDOT & CO Coordination**
- Rick Pilgrim, PE

**BNSF & UP Coordination**
- Tony Klaumann, PE

**Stakeholder Coordination**
- Aaron Averett, PE

**Agency Coordination**
- Ron Clegg, PE

### Environmental & Permitting
- **Environmental Lead**: Kevin Keller, PG
- **Deputy Environmental Lead**: Terry Warner, PE

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**STB Coordination**
- Kevin Keller, PG

**Biology/Ecology**
- Mike Perkins
- Amy Croft, PhD

**404 Permit**
- Kevin Kilpatrick

**Water Resources**
- Karen Nichols, PE

**Cultural Resources**
- Matt Edwards, PhD
- Archaeology

**Jody Patterson, PhD**
- Paul Burnett

**Paleontology**
- Vicki Meyers

**Architectural Historian**
- Anne Oliver

**Hazardous Waste**
- Corrina Hugaboom, PE

**Air Quality, Noise & Vibration**
- Ed Liebsch
- Tim Casey

**Socioeconomics**
- Heidi Spoor

**Community Land Use**
- Sarah Rigard

**Tribal Coordination**
- Pamela Juliano

### Related Services
- **Construction Procurement Strategy**
- Doug Jackson, PE

**Economics**
- Fred Kramer

**Finance**
- Serguei Kouznetsov

**Federal Grants & RRIF Loans**
- Kevin Keller, PG

**Freight Planning**
- Vern Kessler, PE

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Subconsultants Key:
- J ohansen & Tuttle
- S without subconsultants
- M Montgomery Archaeological
- G Gerhart Cole
- MC McMillen Jacobs Assoc.
Key Team Members

Mark Hemphill | Project Manager

Mark is personally committed to Uinta Basin Railway achieving commercially successful operation. His 38-year railroad career has provided him with broad experience and detailed knowledge of every aspect of railroads: engineering; environmental permitting; operations and maintenance, locomotive and rolling stock acquisition and maintenance; STB economic and environmental regulation; FRA grants, loans, and regulation; public and strategic communications; finance and economics; and labor policy and legal compliance. As a Westerner raised in rural Colorado, and an officer at western railroads, Mark knows the special value of railroads to western mineral extraction and agricultural development and jobs. He applies his broad expertise to provide a complete development process from initial concept through detailed design and permitting to commercial strategy and agreements with railroads, shippers, and government funding agencies. Mark will tell you the truth at every step and be an uncompromising advocate for your railroad because he believes in it.

RELEVANT PROJECT EXPERIENCE

• Newfield Exploration, Uinta Basin Railway Feasibility Study | Project Manager
• Six County Infrastructure Coalition, Railway Reassessment | Study Lead
• UDOT, Uinta Basin Railway Feasibility Study | Planning Lead
• Confidential Western Class I Railroad, Crude-By-Rail Corridor Development | Project Manager
• Alberta to Alaska (A2A) Railway | Operations Lead
• New Orleans Gulf Coast Railroad and Port Plaquemines, Coal and Container Port and Railway Development | Planning Lead

Don McCammon, PE, ENV SP | Deputy Project Manager / Engineering Lead

Don’s 43 years in railroad engineering provides his clients with unparalleled experience and value. His railroad experience includes serving as lead engineer on new-build railroads throughout North and South America, Africa, and the Middle East. His expertise includes tunnels, major bridges, and locomotive repair shops, and he has extensive experience in construction of all railroad features including the need for maintenance and upkeep in the designs. Don applies his construction background from Burlington Northern into his planning and design projects, and utilizes a Value Engineering approach to provide best-value solutions to clients. Don has utilized all types of alternative delivery method, including Design-Build and CM/GC, to help his clients achieve their value, cost, and schedule goals.

LICENSES/CERTIFICATIONS

Professional Engineer: UT 9201939-2202, CO 26464, WY 5931, ID 9889, MO EN-26702, SD 5295, ND PE-9786, KS 10548, MN 46466, NM 11249, MT 7479, NY 098265, OR 78236PE, NE E-9943, WA 30049, TX 112542
International Registered Professional Engineer
NCEES Certified
Envision Sustainability Professional

RELEVANT PROJECT EXPERIENCE

• Newfield Exploration, Uinta Basin Railway Feasibility Study | Engineering Lead
• Six County Infrastructure Coalition, Railway Reassessment | Engineering Lead
• UDOT, Uinta Basin Railway Feasibility Study | Engineering Lead
• Alberta to Alaska (A2A) Railway | Engineering Lead
• DM&E/CP Railway Powder River Basin Project | Engineering Lead
Kevin Keller, PG | Environmental Lead / Federal Grants & RRIF Loan

Kevin has 32 years of management, planning, environmental and engineering experience in the freight rail sector, including 11 years with HDR. He has managed the planning, permitting, engineering design, and evaluations of new rail alignments, transportation corridors, new maintenance facilities, new structures, logistics planning, and fleet management. He has also managed public benefits analyses, economic development studies, industrial development studies, feasibility studies, and environmental assessments for numerous federal, state, and private transportation clients, including development and preparation of numerous State Rail and Freight Plans and successful federal grant applications. As a result of his knowledge and expertise, Kevin is recognized by USDOT, FRA, and STB as an expert in the area of freight rail planning and development, and has been invited to assist these federal agencies with the development of the National Rail Plan.

LICENCES/CERTIFICATIONS
Professional Geologist: WY PG-2222, IN 1030, KS 471, KY 1590, TN TN1334
Certified Groundwater Professional: IA 1009

RELEVANT PROJECT EXPERIENCE
- Newfield Exploration, Uinta Basin Railway Feasibility Study | Environmental Lead
- UDOT, Uinta Basin Railway Feasibility Study | STB Relations
- Mississippi DOT, Port Bienville Rail Feasibility Study (FRA) | Project Manager
- New Orleans Regional Planning Commission, New Orleans & Gulf Coast Railroad/LA23 Relocation (FRA) | Project Manager

Jonathan W. Johansen, PE | Roadway Engineer

Jonathan has 15 years of experience managing projects in both the private and public sectors. These projects include right-of-way acquisition, road design, residential, commercial and industrial site development, state park improvements, wastewater collection systems, potable water systems, irrigation systems, and drainage systems. Jonathan has provided design services for water and wastewater projects ranging from subdivision distribution and collection systems to culinary water systems for the State Parks. His involvement has included coordination and design of the relocation of irrigation lines, culinary lines, and sewer collection lines. He has provided design services for drainage projects that included large and small collection systems. His involvement has included drainage modeling and design, contract document preparation, and permitting.

LICENCES/CERTIFICATIONS
Professional Engineer: UT 5148749-2202

RELEVANT PROJECT EXPERIENCE
- Green River City West Industrial Park Master Plan | Project Manager
- Cottonwood Creek Consolidated Irrigation Company Irrigation Water Master Plan, Design, and Construction | Project Manager
- Moore Cutoff Road Improvement | Design Engineer

Pamela Juliano | Tribal Coordination

Pamela has nearly two decades of experience in government and public relations. She specializes in positioning key governmental and community relations for benefit of project development and funding procurement support.

RELEVANT PROJECT EXPERIENCE
- Navajo Uranium Water Contamination EPA Clean Up | Established key Utah Navajo Nation Chapter leadership, BIA, EPA, and DOE to benefit communications during the clean-up
- Navajo Nation, Trust Land Agreement | Responsible for US House communications and collaborative language with Utah Navajo Nation Chapters, BIA, Lt. Governor’s office
- Navajo Mountain Water Distribution | Provided collective support between BIA, the president of Navajo Nation, and Lt. Governors of Utah and Arizona
- Utah Recreational Land Exchange | Developed outreach strategy for federal roll between Ute Business Committee leaders, BIA, BLM, county and state leaders including SITLA, and legislative staff
- Emergency Funding for Water Systems in Uintah County | Implemented congressional communication strategy with Ute Business Committee, county, and state USDA
Aaron Averett, PE | Stakeholder Coordination

Aaron is experienced in the planning, design and construction management of a wide variety of projects throughout Utah and Nevada including culinary and irrigation water projects, transportation and site planning. Many of the projects Aaron has participated in include planning, funding coordination and acquisition, environmental clearance, technical design and coordination with regulatory agencies. Several of Aaron’s projects in the Uinta Basin have required high levels of community involvement and coordination, including the Uintah County Trails Master Plan, the Ashley Valley Stormwater Master Plan, and others.

Relevant Project Experience
- Uintah County Trails Master Plan | Project Manager
- Santa Clara City, South Hills Utility Corridor | Environmental Assessment
- Kane County Water Conservancy District, Culinary Supply Line, Tank, and Distribution System | Environmental Assessment

Mark Holder | Right-of-Way Planning Lead

Mark is HDR’s Freight Rail Real Estate Lead with over 38 years of experience in rail real estate projects including sales and marketing, acquisitions, joint ventures, eminent domain, private road crossing management, valuation, and public and private partnerships. His work history includes 30 years of real estate experience at CSX Transportation. His experience includes environmental mitigation of real property assets, GIS, timber and land management and sales to public agencies. He has extensive knowledge of leading a team and motivating a diverse, engaged and sustainable workforce. Mark has participated in and led negotiations for multiple public agency and private real estate projects.

Relevant Project Experience
- Negotiated sale of a former rail yard converted to an industrial park in Washington, DC | $40 million
- Positioned a former rail yard parcel in Washington DC for transition and sale for high rise residential and mixed uses development | $100 million
- Negotiated the sale of former Union Station site in downtown Chicago | $32.5 million
- Managed the strategic direction and disposition of a Class I railroad’s interest in Western Pocahontas Properties LP, a real estate, timber and mineral company | $46.4 million

Bill Hjelholt | Project Advisor

Bill has been developing innovative railway projects for a quarter century; 20 years ago he led CN Rail’s first ever Design-Build project for a new terminal in Memphs, Tennessee. He led the unique Jet Fuel Transload Facility which won the President’s Award. Bill was Project Director for the Simandou Railway, a $5 billion, 400-mile greenfield project in Guinea, West Africa for Rio Tinto Iron Ore. He also led the Cote Nord Railway project, which studied several alternative alignments to multiple Iron Ore mine sites in Quebec and Labrador and developed the optimal railway design to serve them. More recently, Bill has been assisting A2A (Alberta to Alaska Railway) will all aspects of their ambitious project to link the Alaska Railroad and Pacific tidewater to the North American Railway network and the Oil Sands of Alberta.

Relevant Project Experience
- Alberta to Alaska Railway | Project Director ($4.5 billion capex)
- Canadian National Railway, Cote-Nord Mining Railway (Quebec and Labrador) | Project Director ($500-km heavy-haul iron ore railway, $3.5 billion capex)
- Rio Tinto, Simandou Railway (Guinea, West Africa) | Project Director ($600-km heavy-haul $4.5 billion capex)
- UP, Colton Crossing (California) | Project Director
- BNSF various rail, facilities, and capacity projects | Project Manager
As HDR's National Freight Rail Director, with the authority to commit staff and resources, I am pledging to commit Mark Hemphill and Don McCammon to relocate to Utah and be devoted to the Uinta Basin Railway project until the scope of this contract is completed to the Coalition's satisfaction. The Uinta Basin Railway project will not be delayed due to HDR's lack of commitment or insufficient allocation of resources.

Bill Hjelholt, National Freight Rail Director, HDR
Section 2
Capability of the Consultant/Experience
Section 2 Capability of the Consultant/Experience

Experience on Similar or Related Projects

**Uinta Basin Railway Feasibility Study**
Newfield Exploration Company | Uinta Basin

- Demonstrates extremely accelerated schedule
- Demonstrates extensive knowledge of Uinta Basin
- Considerable work and knowledge can be re-purposed
- Project similar to Coalition’s Uinta Basin Railway

Newfield desired a fast-turnaround answer to understand the construction cost, environmental permitting feasibility, and revenue potential of a railroad serving Newfield and potentially other oil and gas producers in the Uinta Basin. HDR leveraged our deep knowledge of Uinta Basin topography and our ability to rapidly develop feasible railroad alignments and environmental screening to provide Newfield with a complete feasibility study in 45 days. The study included a financial model, business plan, environmental screening, and a complete pathway to achieve a license and environmental clearance from STB. The environmental process was vetted with the STB’s Office of Environmental Analysis. We also worked closely with Newfield to develop conceptual design, environmental screening, and a financial model for a crude oil and frac sand terminal that could be located at Roosevelt, Myton, Craig, or other locations. This complete package included capability to expand to accommodate other producers, using oil production forecasts developed by Newfield and other producers.

Newfield had three key goals in this feasibility study: least practical construction cost commensurate with a reasonable operating and maintenance expense, environmentally permittable with the least risk of schedule delay or lawsuits, and fastest possible time to market. HDR achieved all three goals through our expertise in choosing alignment; operating standards and engineering standards were matched to Newfield’s needs yet practical. We used our environmental and local knowledge in the Basin to avoid tribal lands, minimize impacts to sensitive areas, and meet the requirements of the local and regional federal agency offices that are gatekeepers for environmental clearance and permitting.

HDR delivered this accelerated feasibility study on schedule and proved that the true cost to build a viable, practical railroad into the Uinta Basin could be reduced substantially by choosing the best route with the correct operating and engineering standards, and that environmental clearance could be obtained on a much faster schedule than had been previously believed.

**Work completed by HDR that is available for reuse on the Coalition’s Study includes:**
- Development of a similar alignment
- Extensive desktop environmental analysis
- Development of geotechnical, hydrology and hydraulics, and geomorphology data and analysis
- Alignment and engineering data
- STB EIS and permitting plan
Alberta to Alaska (A2A) Railway
A2A Railway Development Corporation | Alberta, British Columbia, Yukon Territory, and Alaska

- Demonstrates ability to manage extremely large and complex project
- Demonstrates understanding of STB NEPA process
- Demonstrates capabilities to set design and construction standards and optimize design for client best value
- Demonstrates consultation experience with First Nations and Tribes

The proposed 1,500 mile long A2A Railway will link northern Canada and the Alaska Railway. The railway’s primary traffic will be bitumen produced in Canada’s Oil Sands Region, along with containerized goods traveling between Asia and the central and eastern US and Canada, mineral concentrates mined in northwestern Canada and Alaska, and construction materials, motor fuels, machinery, and consumer goods consumed in northwestern Canada and Alaska. The railway is designed for up to 28 200-car trains per day in its initial phase. Economic and financial analysis of railway transportation of bitumen versus pipeline shows that rail transportation is substantially lower cost than pipeline because the bitumen does not have to be diluted for rail transportation as it does for pipelines. In recent months, HDR has:

- Developed environmental clearance with STB authorization to construct
- Developed a Presidential Permit Plan for the US-Canada border crossing
- Conducted A2A's First Nations and Independent Tribes consultations and agreements
- Assisted with a detailed financial model and financing plan
- Refined and improved conceptual engineering and operating plans in order to define land occupancies
- Developed a financial and economic comparison of rail transportation versus pipeline transportation for Canadian bitumen
- Worked with First Nations and Independent Tribes to establish successful joint ventures that include the Tribes providing services such as surveying, geotechnical investigation, and labor training
- In support of A2A's Canadian National Trade Corridor Fund grant application, HDR provided a detailed analysis of the costs and benefits of the project, monetized through a Cost-Benefit Analysis

CN Railway Merger and Acquisition of the Elgin, Joliet & Eastern Railway Company
Surface Transportation Board | Northeast Illinois and Northwest Indiana

- Demonstrates deep relationships with STB and knowledge of STB
- Demonstrates expertise with federal NEPA process
- Demonstrates ability to perform EIS on highly accelerated schedule
- Demonstrates ability to resolve severe public opposition

In 11 months, HDR prepared a third-party EIS to the STB for the CN and Grand Trunk Corporation’s (GTW) acquisition of the Elgin Joliet and Eastern (EJ&E). This line runs in an arc around the City of Chicago and into northwest Indiana and provided a vital link in CN’s rail corridor. HDR also performed the environmental baseline studies, preliminary engineering, operations planning, and strategic communications for the EIS, due to the owner’s need for an accelerated schedule.

HDR hosted more than 7,000 interested stakeholders at a series of public meetings to explain the proposed rail acquisition and obtain input from residents in the 60 communities along the EJ&E rail lines. A multitude of concerns — including safety, air quality, transportation and environmental issues — required explanation in the final document so STB could understand all factors that might affect the people, places and natural environment within the proposed merger area. This EIS marked the first time that members of STB made a site visit to a project and the first environmental staff briefing before the entire board.

The result was a final EIS that provided STB independent and objective information to make a fully informed decision on the rail acquisition. In the end, STB used the information to approve the merger while imposing more than 170 conditions designed to protect the public and the environment. HDR subsequently conducted extensive post-merger monitoring, assessment of compliance with merger conditions by CN, and STB consulting until April 2017, to address ongoing public and community concerns.
New Orleans & Gulf Coast Railway New Rail Corridor
FRA, New Orleans Regional Planning Commission, and Rio Grande Pacific Railroad Company | Jefferson and Plaquemines Parishes, Louisiana

- Demonstrates adherence to tight schedule for EIS
- Demonstrates expertise with federal NEPA process
- EIS and engineering process similar to Coalition’s Uinta Basin Railway

New Orleans & Gulf Coast Railway (NOGC) operates a 32-mile-long short line serving heavy industries and ports on the lower Mississippi River. In order to serve Port Plaquemines, a new mega-port currently opening in stages starting with the first VLCC-capable crude oil export facility ever constructed new in the US, a new 12-mile-long line is needed so that NOGC no longer runs through streets and more than 280 at-grade crossings in the New Orleans metropolitan area. The FRA is the lead federal agency in the preparation of this EIS, with the STB as a cooperating agency. HDR developed from only a “connect-the-dots concept” the alternatives analysis, preferred alignment, preliminary engineering, an FRA-administered EIS, a real estate acquisition plan, and a permitting plan for the rail line in 18 months, with FRA approval of the EIS scheduled for October 2018. HDR is currently performing conceptual engineering and environmental analysis to extend the NOGC to the Port Plaquemines’ mega-container terminal under development, and initial studies on a new 30-mile double-track mainline providing a direct connection of the container terminal to UP and BNSF.

Port Bienville Railroad Feasibility Study and EIS
FRA and Mississippi DOT | Hancock and Pearl Counties, Mississippi

- Demonstrates adherence to tight schedule for EIS
- Demonstrates expertise with federal NEPA process
- EIS and engineering process similar to Coalition’s Uinta Basin Railway

Port Bienville, located on the Pearl River and home to the US Navy’s Swift Boat force, is building a 24-mile-long greenfield freight rail line that would provide a direct connection between the Port Bienville Railroad and the Norfolk Southern, north of NASA’s John C. Stennis Space Center. This connection would provide a second Class I rail connection to Port Bienville and the Port Bienville Industrial Park which is currently only served by CSX. The FRA is the lead federal agency in the preparation of the EIS, with the STB as a cooperating agency. HDR provided planning, engineering, environmental baseline studies, permitting, real estate acquisition planning, and NEPA document development. The Record of Decision is anticipated in December 2018.

Chicago-Omaha Intercity Passenger Rail System
Iowa DOT | Illinois, Iowa, and Nebraska

- Demonstrates extremely accelerated schedule
- Demonstrates HDR’s expertise with federal NEPA process
- Demonstrates HDR’s close relationship with FRA
- EIS process similar to Coalition’s Uinta Basin Railway

Iowa DOT, in partnership with Illinois DOT, completed an EIS and preliminary engineering for construction and operation of a 470-mile passenger rail corridor from Chicago to Omaha. The corridor uses BNSF and UP railway, and Iowa interstate railroad trackage. Most of the cost was to create new infrastructure for freight trains to operate without interference with the passenger trains. The project is currently in final design; several of the freight-railroad mitigation projects in Illinois have already been completed. HDR developed the EIS, engineering, and planning under the supervision of FRA in 22 months. Personal relationships with decision makers at the three host railroads and with the cooperating agencies such as USACE and USFWS, transparency and extensive communication with the public during the comments period, were key to the aggressive schedule. HDR’s deep resources pulled in more than 150 subject-matter experts from more than 40 offices to solve technical details. Mark Hemphill led the planning and engineering teams, leveraged his personal relationships with the host railroads to reach early crucial decisions, and applied practical decision-matrix methods so that his team could quickly rule out costly or infeasible alternatives to the satisfaction of the DOTs and FRA. Kevin led the federal NEPA compliance work and leveraged his relationships with cooperating federal agencies to assure rapid turnarounds of their reviews. Don’s engineering oversight provided standardization of approach and design that reduced consultant cost and construction cost, and accelerated the timetable.
**Hill AFB Utah Training and Test Range Rail Spur and Missile Transfer Facility**  
**USACE - Sacramento District | Lakeside, Utah**

- Demonstrates ability to manage greenfield rail project with multiple and conflicting stakeholders and evolving criteria
- Demonstrates ability to work with UP on complex new railroad project

The Utah Test and Training Range (UTTR) is in the design phase for constructing a new 13.4-mile railroad line from Lakeside, Utah, where it connects with UP to UTTR. The rail line will haul missile motor components for storage and eventual destruction. HDR prepared USACE’s Customer Concept Document, in the process of final design, and providing construction cost estimating for the Missile Motor Receipt Storage Facilities at UTTR which includes the railroad spur. Due to the highly technical requirements of the design and its interface with the proposed and existing building systems, the loading and unloading procedures for an explosive commodity, and building interface platforms and footprint, HDR performed two 3-day on-site planning charrettes to develop a concept design that meets all functional and end-state US Air Force and US Navy requirements. The charrettes identified the main function of the end users’ activity, the number of people involved, the equipment involved, space requirements, storage requirements, communications requirements, security requirements (current and future), and any unusual civil, structural, mechanical and electrical requirements.

**Uinta Basin Railway Screening Study**  
**Six County Infrastructure Coalition | Uinta Basin**

- Demonstrates extensive knowledge of Uinta Basin
- Project similar in part to Coalition’s Uinta Basin Railway
- Information developed for this project has re-use value to Coalition

The Coalition sought a reassessment of the cost and feasibility to construct a railway in the Uinta Basin, building on prior work performed by HDR for UDOT, but seeking a lower capital cost than had been inherent in the UDOT study due to its requirement that the rail line could not enter Colorado. As part of the Jones & DeMille team, HDR reassessed the 26 routes it had developed for the UDOT study, and chose three routes, all terminating near Craig, Colo., for further examination, as each had substantially reduced capital costs from the UDOT-preferred route. HDR also reassessed the UDOT study’s revenue and operating and maintenance cost forecasts, and developed a conservative business plan and pro formas. This demonstrated that the railway would be commercially viable. The study, with limited budget and an aggressive schedule, reused information from the UDOT study as much as possible. The net result was that construction costs dropped from $3.1 billion to $1.0 billion, with opportunity to further reduce costs once more detailed alignment design could be conducted, and with better knowledge of the operating plan and freight volumes that would be obtained in future studies.

**Uinta Basin Transportation Study**  
**UDOT | Uinta Basin**

- Demonstrates extensive knowledge of Uinta Basin transportation
- Considerable work and knowledge can be re-purposed for Coalition

HDR prepared a transportation study that examined near- and long-term needs of state and county roads in the Uinta Basin. The project team developed a vision for the Uinta Basin Transportation System and a phasing of construction projects to support that vision. While limited analysis was performed on the county road systems, the transportation plans for Uintah and Duschesne Counties were incorporated into the County Route Project Phasing map, and incorporated into UDOT’s UPlan website. The majority of analysis for the county road systems was focused on the feasibility of a roadway connection between I-70 in Grand County and Seep Ridge Road in Uintah County; the team completed a feasibility report and made a formal presentation to the Grand County Commission for this roadway. The feasibility of extending Pariette Wash Road across the Green River to intersect Seep Ridge Road was also investigated. The state-owned routes were implicated in the Grand County analysis. Within the I-70 corridor, the team analyzed a series of unsuitable segments, then considered methods to overcome potential technical barriers. The team’s analyses led to the recommendation of extending Pariette Wash Road across the Green River to Seep Ridge Road, with a series of phasing options, and the recommendation of upgrading the I-70 corridor.

**PROJECT VALUE**  
**Rail: $44 million**
**Total Project: $100 million**

**RELEVANT TEAM**  
**Mark Hemphill**
**Don McCammon**

**YEAR COMPLETED**  
**ongoing**

**REFERENCE**  
Arianna Raymundo, Project Manager  
USACE  
1325 J St., Sacramento, CA 95814  
Arianna.f.raymundo@usace.army.mil  
916.557.6748

**PROJECT VALUE**  
**$1 billion**

**RELEVANT TEAM**  
**Mark Hemphill**
**Don McCammon**
**Kevin Keller**

**YEAR COMPLETED**  
**2016**

**REFERENCE**  
Brian Barton, PE  
CEO, Jones & DeMille Engineering  
1535 South 100 West  
Richfield, Utah 84701  
brian@jonesanddemille.com  
435.896.8266

**PROJECT VALUE**  
**$500 Million**

**RELEVANT TEAM**  
**Dave Nazare**
**Frank Pisani**

**YEAR COMPLETED**  
**2015**

**REFERENCE**  
Craig Hancock  
Sr. Project Manager  
UDOT Region 3  
658 North 1500 West  
Orem, Utah 84057  
chancock@utah.gov  
801.928.9158
Seven County Infrastructure Coalition | Uinta Basin Railway Project
Section 2 Capability of the Consultant/Experience

### Johansen & Tuttle Project Experience

**US-40 MP 140 to 136 Vernal Construction Surveying and As-Built Survey**
UDOT | Uintah County, Utah

J&T provided project control and construction surveying for highway reconstruction and road widening through the 12-mile Wash area west of Vernal. This included the staking of the project limits, roadway grading, layout of drainage and structures, and roadway alignment for pavement marking. J&T also provided the layout and grading for a new weigh station building and infrastructure. As-built plan set was also mapped and provided. J&T coordinated with the contractor and UDOT for permitting.

**PROJECT VALUE**
$10 million

**YEAR COMPLETED**
2014

**RELEVANT TEAM**
Lee Swasey
Brent Tuttle
Jason Knowlton

**REFERENCE**
John Nielson,
Staker Parson-Neilson Construction
825 North Loop Rd.
Huntington, UT 84528
435.687.2494

### Intersection Improvements Construction Survey
UDOT | Duchesne County, Utah

J&T provided project survey control and construction survey to layout roadway improvements at the intersection of State Roads 87 and 35 located north of Duchesne. Improvements included roadway widening to provide additional lanes, utility relocation, drainage relocation, signage and lighting. J&T also provided an as-built plan set.

**PROJECT VALUE**
$1 million

**YEAR COMPLETED**
2017

**RELEVANT TEAM**
Lee Swasey
Brent Tuttle
Jason Knowlton

**REFERENCE**
Lee Goodrich
Staker Parsons – Burdick Construction
1368 South 3000 West
Roosevelt, UT 84066
435.722.5013

### Nutter Ranch Diversion Structure Design, Survey, and Inspection
Nutter Ranch | Nine-Mile Canyon, Duchesne County, Utah

The existing irrigation diversion structure was washed out in a flood that occurred in 2013. J&T developed the engineering and acquired the stream alteration permit through USDA and USACE. The stream alteration permit was granted with the request that the diversion structure allow for fish passage. A diversion structure was designed and installed that consisted of a weir structure and rock rip rap. A temporary diversion was installed to dewater the project site.

**PROJECT VALUE**
$100,000

**YEAR COMPLETED**
2014

**RELEVANT TEAM**
Merrial Johansen
Howard Tuttle
Craig Johansen
Jason Knowlton

**REFERENCE**
Blair Eastman
Ranch Manager
Nutter Ranch
PO Box 202
Elmo, UT 84521
435.820.8893

### Management and Organization Capabilities

**Management and Organization Capabilities**

Our project management approach is built on trust, a clear definition of shared goals, and a mutual understanding of the necessary steps to achieve those goals.

**Management Tools**

Trust is achieved through transparency and effective communication. We foster transparency and communication through partnering meetings, task force meetings, weekly project team coordination meetings, and a number of electronic communication tools. Our project dashboard integrates scope-of-work activities with schedule, resources, and budget details and presents the project status to you in concise, comprehensible summaries. This allows our team to identify variances and plan corrective actions to maintain schedule and budget targets.

Our project management approach is reinforced through proven accountability measures, which can include co-location and design task forces to meet commitments and emphasize shared goals. Everything we do will be a coordinated effort on behalf of you to achieve our shared objectives.

### Cost Control: The Bottom Line

**Cost Control: The Bottom Line**

Our cost control starts before project activities begin. The work scope, prepared in close cooperation with the Owner’s Engineer, becomes the blueprint for the project team. We monitor costs and progress through internal weekly accounting and team meetings. Monthly reports highlighting work status and actual-versus-scheduled progress are prepared by our Area accountant. These reports will be compared with Microsoft Project, which tracks the schedule, work plan, and HDR’s internal cost-control system, which yields a cost-to-complete. The cost-to-complete is analyzed to identify and mitigate potential problem areas before the project is over budget and the schedule has slipped.

### Team Collaboration

**Team Collaboration**

Our team members have worked together on numerous projects: we understand how to work together, know how each individual operates most effectively, and when it’s critical to meet and work through project issues. We’ll closely collaborate with the so all project needs and schedule commitments are met. Key elements of our project management plan include:
• Using ProjectWise to share files and manage reviews.
• Discussing the project goals, lines of communication, and schedule at project initiation so all team members understand how the process will be structured.
• Holding weekly team update meetings/teleconferences during key phases of the project so issues are understood and mitigated, and schedules and goals are met.

**Available Resources**

Mark Hemphill’s primary role is to communicate the Coalition’s needs to his team and the team’s progress to the Coalition. He has two essential tools. The first is our Project Management Plan, with a communications procedure, which is a program he’ll use to schedule staff, as well as quality assurance/quality control (QA/QC) reviews and deliverables. This tool helps him identify which staff are available far in advance, so that he can adjust staff as needed. Our Salt Lake City office as more than 80 local staff that can provide a variety of services, from planning through construction management. Their technical expertise encompasses a bevy of disciplines including environmental, roadway, structures, rail, drainage, strategic communications, real estate, project controls and schedulers, cost estimators, GIS, and technical editing.

The second, and most powerful project management tool, is our national team of nearly 10,000 people. Technical leaders from across the country are available to make sure Mark Hemphill has adequate resources and reviewers to supply you with quality deliverables on time. **No other firm has the resources by order of magnitude that HDR has to meet the challenging schedule demands of the Uinta Basin Railway project.**

HDR has more than 200 dedicated freight rail staff and 300 additional environmental, right-of-way, and design professionals ready to work for you. While this will be one of our larger projects, the size in no way intimidates us. Allocating 40,000 hours of staff time over the next 18 months will not be a problem for us; we perform more than 300,000 hours of work for the Freight Railroad sector every year.

**Quality Management System**

HDR’s QA/QC program describes specific steps to follow. As the project manager, Mark Hemphill will have the day-to-day responsibility of directing work elements and making sure that quality-control reviews are scheduled and performed. The project schedule identifies specific quality control milestones so all documents receive the appropriate review. Our subconsultants will operate either under their own QA/QC plans, as approved HDR’s project manager, or under the HDR plan adopted by the subconsultant.

**Quality Assurance/Quality Control**

HDR’s approach to quality is founded on our experience with quality management processes and procedures applied on numerous projects. HDR has a corporate quality management process that is required to be implemented for all projects and is based on the fundamental principles and guidelines set forth by the ISO 9001:2008 series of international standards for quality management. This requires that all team members complete our web-based HDR University training courses on General Quality, Quality Auditor, and QA/QC Procedures; courses range from QA/QC concepts, to quality audit principles, and detailed checking procedures.

As part of our QA/QC process, HDR develops a Quality Management Program (QMP) for the program. In addition, we tailor a QMP for each project as necessary. Our QMP sets forth the QA, QC, and quality management processes and procedures. Our QMP clearly establishes the separation of QA, which is a management function, from QC which is a production function. The QMP will be based on the rail-specific QA/QC program that HDR developed several years ago and is currently used throughout HDR.

All our deliverables go through a make, check, back-check, correct, tracing check, QC review, back check of QC comments and final tracing check. We also require a review process for construction submittals reviews and responses. This process is instilled in how we conduct our business. By living “Quality,” we meet or exceed the Coalition’s requirements.

Our team implements a two-step approach for quality in our environmental documents. First, before work begins, an internal peer review team agrees on a methodology for gathering and analyzing the environmental and engineering data. Our second step involves a final review by senior managers and a technical edit of the final document. Engineering plans, specifications, calculations, reports, and other design documents are checked by an experience senior engineer. All documents are checked for conformance with the criteria, standards, and the contract.
Section 3
Approach to the Project
Section 3 Approach to the Project

Introduction
HDR and our teaming partners are focused on one goal: build your railway on time at a cost that’s commercially successful. The Coalition’s goal is an operational, commercially successful railroad by December 1, 2023. We have developed the following creative solutions for you to accomplish this goal:

- We’ve identified an all-Utah route competitive in length and cost to the Coalition’s proposed routes to Mack and Rifle, but with reduced political, environmental, and financial risks.
- We’ve included an up-front route screening step immediately after the project begins, which will satisfy the STB and reduce your cost for survey, engineering, and baseline environmental from two or three railroad lines to just one.
- We recommend a Design-Build or CM/GC approach to accelerate the railway’s time to market and reduce your up-front costs.
- We’ll leverage our 20 years of trusted relationships with the STB to accelerate and streamline their approval.
- We’ve selected design and construction standards that will substantially reduce your capital costs.
- We’ve teamed with Seven-County-area experts who have a deep understanding of the physical, environmental, political, and land-use needs of the Uinta Basin.
- We’ll leverage our deep relationships with the gatekeepers at FRA to help you obtain Railroad Rehabilitation and Improvement Financing (RRIF) financing.

We’re focused on time-to-market, low cost, and a smooth environmental clearance process.

We completely agree with the Coalition’s urgency! Others have failed to appreciate that market and political opportunities aren’t static. With this in mind, we’ve developed an approach with these key features: streamlined STB approval, facilitating Design-Build or CM/GC delivery, selecting an all-Utah route, and structuring our team with expertise from firms working in the Seven Counties.

STB Approval
Design-Build or CM/GC Approach
We believe the solution to meeting the Coalition’s challenging schedule is use of Design-Build or CM/GC delivery to enable the Coalition to overlap the final design with construction. This chops nearly a year out of the schedule that would be needed for Design-Bid-Build, and meets the Coalition’s urgent time-to-market goal. We used CM/GC for UP’s accelerated $550 million Brazos Yard, enabling UP to start realizing immense operating cost savings 2 years early.

Consultants often caution clients against Design-Build or CM/GC because they think it has high cost risk. We don’t believe it will because we’re deeply experienced in railroad engineering and know how to assemble low-risk Design-Bid and CM/GC bid packages that will give the Coalition apple-to-apples, cost-competitive bids. We can accomplish the crucial engineering within the 30% design stage. (Should the Coalition ultimately choose Design-Bid-Build, we’ve provided a cost additive to take the engineering from 30% to 100%.)

All-Utah Route
Within 30 days from Notice-to-Proceed, we will present the Coalition with a comparison of the three routes identified in the RFP, along with the all-Utah route we’ve identified. Immediately after the Coalition selects their preferred route, we will facilitate a meeting with the STB and your third-party contractor where we will explain our environmental clearance approach, why our preferred route is best, and select alternatives within that route for the ultimate EA or EIS.

This consensus will immediately address the STB’s primary concerns that this project doesn’t yet have a rock-solid plan or process, and reduces costs for screening and engineering extra railroad lines. We used this single-route approach successfully on the contentious Northern Railway Extension of the Alaska Railroad and got it approved by the STB, whereas the confusion created by multiple routes led to environmental and landowner opposition and ultimately sunk the Tongue River Railroad in Montana performed by other firms.

The Community Impact Board (CIB) may not permit its funds to be used for a railway line extending outside the borders of Utah. We have therefore identified a potential alignment between Myton and a connection to UP and BNSF near Westwater, Utah, that compares favorably in length and cost to the Coalition’s proposed routes to Mack and Rifle. A secondary concern is that the CIB may be reluctant to provide grant funding for design and permitting of infrastructure outside of Utah. This resolves that potential problem too. This route, and comparison mileages, is shown in the map figure below.

We’ve looked closely at this route in the last 3 weeks, and believe it will be similar in length and cost to the Mack route, much shorter...
(and thus much less expensive!) than the two Rifle routes. It may even be possible to engineer this route without the lengthy tunneling that may be an unavoidable cost challenge to the Mack route.

**Seven County Area Locals**

Our approach is to marry the best national expertise with the best local expertise. Our teaming partners that work in the Seven Counties understand more than just the environmental, geotechnical, and regulatory characteristics of the Basin. They know the people: the landowners, the elected officials, the business leaders, the oil and gas industry, the local offices of the federal environmental and land regulatory agencies, and the Ute Indian Tribe of the Uinta and Ouray Reservation. They’ll use their personal relationships and decades of experience to identify and solve challenges that would stymie outsiders. Our organizational structure doesn’t place our local experts to the side, but integrates them into our team. That’s why our engineering and environmental leadership will be in Utah, not isolated and oblivious thousands of miles away.

**Project Risks and Our Plan of Mitigation**

We have identified the following as the key risks to the Coalition’s schedule:

- Funding constraints
- Environmental advocacy
- Landowner opposition
- STB process delays
- Unforeseen geotechnical discoveries

**Funding Constraints**

**Employing Design-Build or CM/GC Delivery.** The CIB may limit or disburse funding in tranches for engineering, environmental clearance, and other tasks. We propose to protect against this possibility by transferring into an RRIF loan as much of the engineering cost possible by using a Design-Build or CM/GC delivery method. This will reduce schedule risk because the Design-Build or CM/GC contractor can use standardized engineering for railroad components which can be performed concurrent with construction.

**Reducing Cost with the Right Design and Appropriate Construction Standards.** Most greenfield railroads are seriously over-engineered for the economic reality of the marketplace, which results in construction cost estimates killing the project on the drawing board. Many railroad engineers default to cost-no-object textbook or AREMA standards that try to build super-railroads for markets that can’t possibly afford them. For example, we recently re-engineered a 100-mile-long railroad proposed to serve a major copper mine, using operations simulation modeling, economic forecasting, and cost-of-money Present Value analysis to show that the “textbook approach” railroad with 1.0 percent grades and broad curves had a total lifetime cost four times greater than our approach with 2.4 percent grades and tight curves. We intend to work closely with your operating and engineering planner (we intend to submit a proposal for that when you advertise that work) to choose the operating and maintenance criteria that are a best economic solution for capital cost versus operating and maintenance cost. This will give you the best possible opportunity to overcome the capital cost financing hurdle that crushes many railroad projects.

**Leveraging FRA Financing.** We are in complete agreement with the Coalition’s eagerness to obtain low-cost, rural-discount, FRA financing of its railway through the RRIF program. Three of our team leaders – Mark Hemphill, Kevin Keller, and Pamela Juliano – have deep, personal relationships with FRA policymakers and gatekeepers whose blessing will be needed for RRIF funding and CRISI grants. These relationships give you credibility with the FRA and USDOT; they’ll know when you walk in the door that you have a robust, complete, and fiscally sound project and application. Time won’t be lost or wasted in deep due-diligence dives or rework to satisfy their concerns. We have proven success – we’ve written the applications for 19 percent of all TIGER, INFRA, FASTLANE, and CRISI funds awarded to date.

**Political or Environmental Opposition**

Colorado political trends are not favorable to oil and gas development. Your railroad may be perceived as promoting carbon-based fuel use by environmental advocates. Political opposition in Colorado, or associated land use restrictions, may stall or delay your railroad. This concern led us to identify an all-Utah route that takes Colorado out of the equation.

Other strategies to mitigate opposition to the project include:

- Take one route into the EA or EIS, to negate environmental groups’ use of a “divide-and-conquer” strategy wherein one environmental group intentionally opposes only Route A and another intentionally opposes only Route B, in order to present the STB with an insoluble political problem.
- Manage the messaging immediately to define the project before various environmental groups get in front of it. We intend to propose on your Strategic Communications RFP, and whether we win this or not, we intend to work closely with you and the Strategic Communications team to develop messaging, fact sheets, and media and public outreach strategies.
- Carefully and consistently define and describe the project. Projects that have floundered in the EA and EIS process have often failed to carefully define why it’s being built, what is being built, how it’s being built, and where it’s being built. We already understand all four characteristics, and can help you with the consistent, concise, and correct language you need to take to the public, elected officials, and the media.

**Landowner Opposition**

An unexpected and major challenge to recent greenfield railroad projects is local landowner opposition. This delayed the Canadian Pacific’s 500-mile-long Powder River Basin Extension and the Tongue River Railroad until their market opportunity window closed; killed Nevada Power’s plan to build a 100-mile-long-railroad and coal-fired power plant near Ely, Nevada; and delayed for several years BNSF’s Abo Canyon, New Mexico double-tracking project. Our real estate acquisition strategy is designed to define where landowner opposition is likely, and inform our engineering design to skirt or mitigate effects on potential problem parcels. We will propose on your forthcoming Real Estate Acquisition RFP, and
win or lose, we will integrate real estate into our engineering and environmental approach. We will emphasize early, detailed conversations with the Coalition among our teaming partners Johansen & Tuttle, Sunrise Engineering, and Juliano Consulting, to discuss key affected landowners including the Ute Tribe, and devise strategies to solve landowner concerns.

**STB Process Delays**

We’re deeply experienced on both sides of the STB NEPA process: owner’s proponent or third-party contractor. We already know what your third-party contractor needs, and we can coordinate with them immediately to avoid underlaps and overlaps in our baseline analysis and their environmental analysis. Our cost and schedule reflects our expectation of a collegial and closely coordinated relationship with the third-party contractor and the STB. We propose to meet with the STB and other environmental regulatory agencies early on, and leverage the trust they already have in HDR to develop a plan they support.

**Unforeseen Geotechnical Discoveries**

HDR’s approach includes an unusually robust geotechnical investigation up front. The Uinta Basin is characterized by rough terrain, expansive soils, and steep valley walls. A Design-Build or CM/GC approach requires reduction of geotechnical risk to avoid contractors loading their estimates with high contingencies. Accordingly, we have increased substantially our geotechnical investigation, and chose Gerhart-Cole, a geotechnical firm deeply experienced in the Uinta Basin. We will also seek to reduce or eliminate tunneling as much as possible, not only due to the high cost, but to reduce geotechnical risk and contractor contingency. Should tunnels be required, we lined up the premier railroad tunneling firm in North America, McMillen-Jacobs, who are the go-to tunnel engineers for all of the major North American freight railroads.

**Why we have the Best Approach to Deliver the Uinta Basin Railway for the Coalition**

HDR’s approach doesn’t require a complex, geographically dispersed team, or a cost proposal loaded with duplicate managers and representatives from multiple major firms. As shown on our organizational chart, all of the key positions are HDR staff, and key HDR staff will be located in Utah during the project. This reduces the Coalition’s cost, reduces schedule risk, and makes meetings and coordination simple and reliable.

HDR’s cost proposal and schedule in Section 5 and Section 6 have been carefully vetted by senior leadership in HDR who have deep experience with similar projects. We believe in this cost proposal and this schedule. They’re doable. We believe that our focused team, our creative approach, our STB knowledge and close collegial relationships with the STB, and the deep experience we already have with Uinta Basin railway engineering and environmental clearance, will provide the Coalition with a clear and compelling, least-risk and least-cost approach, and the best opportunity to meet the clear and compelling market need for its railway.

**Task 1. Engineering**

Our engineering approach will achieve the Coalition’s time-to-market schedule, while reducing construction cost, consultant cost, environmental permitting risk, and construction time. The principles of HDRs approach are:

- Choose the right engineering standards to meet the Coalition’s need for the railway to be financed, commercially successful, and rapidly constructed, while being safe and reliable.
- Design-Build or CM/GC approach to achieve schedule, and to transfer consultant costs into the RRIF loan.
- Emphasize geotechnical investigation to reduce construction cost-and-time risk.
- Minimize tunneling to reduce construction cost and associated risk. Because tunneling may not be required, and tunnel engineering and geotechnical investigation is expensive, we’ve presented this as a separate option to be exercised only if tunnels are unavoidable.
- Rapid development of the conceptual engineering to enable a fast start for the Owner’s Engineer survey and environmental baseline team.
- Integrated team led from Salt Lake City.

Our proposal includes conceptual, preliminary, and final engineering of the proposed railway for a Design-Build or CM/GC approach including embankment, track, bridges, drainage structures, roadway crossings and grade-separations, train control and communications systems, operations and maintenance facilities, utilities, fencing, lighting, signage, and shipper facility trackage and site civil work. For ease of analysis of our cost proposal, we’ve created engineering tasks as follows.

**Task 1.1 Conceptual Engineering**

As previously stated, we will present the Coalition with a comparison of the three routes identified in the RFP, along with our all-Utah route within 30 days of Notice-to-Proceed. Our Route Comparison Analysis will be performed in conjunction with our environmental and real estate teams, to enable the Coalition to choose the preferred route. We will then meet with the STB and its third-party contractor to reach agreement on the route, the alternatives, and the environmental clearance approach. Simultaneously, we will develop Project Engineering Standards and an initial profile and grade of the preferred route to enable the Owner’s Engineer to quickly commence survey, the environmental team to begin the baseline environmental analysis, and the real estate professionals to develop an acquisition strategy.
The Project Engineering Standards will include:

- Typical track and embankment sections, and vertical and horizontal alignment geometry requirements
- Yard and terminal track standards
- Train speeds, siding lengths and locations and operations requirements (based on the Operating Basis of Design)
- Drainage and Hydraulic Standards
- Drainage structure, railroad bridge and highway bridge design standards
- Nomenclature and naming standards
- Signal and Communication standards
- Utility crossing standards
- Roadway at-grade and grade separated standards for Utah (and Colorado if required)
- Building and facility standards

We will adapt AREMA and UP/BNSF common standards to the least capital cost for infrastructure that is compatible with safe and efficient operation and maintenance. We will use the Operating Basis of Design provided by others, unless we are separately awarded the Operations and Maintenance Plan task. We will use Utah (and potentially Colorado) DOT standards for public road design. We assume that the Coalition’s Engineer-of-Record’s proposed alignment is high-level only and that we will develop the actual center lines. The alignment will be placed in KMZ files to be used by the Owner’s Engineer. We will identify whether tunnels are required, and if so, their location and length.

**Deliverables**

- Project Engineering Standards
- Conceptual Alignment and Profile KMZ file
- Route Comparison Analysis (in conjunction with environmental)

**Task 1.2 Preliminary Engineering**

During this task, we will complete geotechnical studies, hydrology and hydraulics analysis, railroad bridge standard drawings, precast concrete culvert standard drawings, track-related standard details, roadway crossing details, utility crossing standards, train-control and communications standard drawings and details, and railroad building and facility standards. These standards will be applied to the alignment to create the preliminary plans and develop the bidding documents.

In conjunction with the environmental process, we will develop alternative alignments for environmentally sensitive sections of the preferred route, and seek refinements to alignments to avoid cultural or historically significant areas or to meet other environmental and landowner-driven needs.

For the project features, we will develop typical construction methods, note anticipated impacts and provide this information to the environmental team for the STB NEPA process.

**Tasks 1.2.1 Geotechnical and Geomorphology Studies**

We will provide geomorphological and geotechnical investigations to provide design information to compare alternative alignments, and provide geotechnical information for preliminary bridge and drainage structure design, alignment embankment design, construction materials design and project specifications to be used by the contractor. Geomorphological tasks will include desktop and corridor reconnaissance for major landform and underlying soils information to assist in corridor development and alignment refinement, including information to be used to develop the engineer’s opinion of probable construction costs. We will provide a report documenting the geomorphological results and GIS-based mapping for use with the environmental and engineering tasks. We will perform field geotechnical studies to provide soils information and foundation design information for use in preparing the bid package and reducing construction cost risk. These studies will include:

- Shallow borings or test pits at approximately ½-mile intervals suitable for use in embankment design and corrosion analysis.
- For railroad bridges over waterways 300 feet in length or less, at least one deep boring suitable for designing foundation types and anticipated foundation depths. For bridges over 300 feet but less than 600 feet in length, two deep borings will be made. The number of borings for bridges that are longer or over major river crossings shall be determined by the consultant, but no less than two shall be provided. Information on in-situ soils strength, bearing values and soils strata will be provided for each boring along with the boring log.
- Soils tests for settlement, determination of suitability of material for embankment, determination of compaction requirements will be completed and provided.
- Location of borings, test pits or other field site geotechnical work shall be shown on project mapping and included in the bid package.

**Gerhart-Cole Knows Local Soils**

**McMillen-Jacobs Provides Tunneling Expertise**

Richard Bühler, born in the Basin, knows its variety of soil conditions and what it takes to successfully construct embankment in the Basin. Carol Ravano provides the tunneling expertise, if needed, to make sure there is an economically constructible design that minimizes long-term maintenance.

**Task 1.2.2 Hydrology and Hydraulics**

Hydrologic and hydraulic (H&H) analyses shall be completed to determine adequate waterway openings so the railway remains passable during the specified design storms, avoids adverse impacts to adjacent properties, and does not alter the existing drainage pattern. The H&H design shall identify the stream crossing locations, quantify FEMA floodplain impacts, identify irrigation crossings, and conduct H&H analyses to determine the most economical bridge or culvert that meets the above criteria taking into account structure size, substructure, riprap, grading, and structure material costs. Separate permit applications for each bridge, culvert, or impacted stream shall be provided and permits obtained. Once final design in complete, a culvert summary table shall be provided for culverts that will not have an individual hydraulic report.
Federal FEMA requirements allow fill outside the floodway resulting in up to 1 foot of rise in the base flood elevation. The impacts to residential structures will need to be evaluated and mitigated if necessary. Fill within the floodplain and outside the floodway will require review and signoff from the floodplain administrator. Our initial evaluation of the routes and our structure design approach to meet anticipated hydraulic requirements indicates CLOMRs or LOMRs will not be required, and have not included the work for these in our cost estimate.

We will perform hydraulic analyses for locations that meet one or more of the following criteria:
- FEMA or irrigation impacts
- Drainage area more than 100 acres
- Structure size is 48-inch diameter or greater

Task 1.2.2.1 Hydrology
We will determine design discharges using one or more of the following methods:
- Rational Method (drainage areas less than 1 square mile)
- HEC-HMS
- USGS Regional Regression Equations
- USGS stream gage
- State DOT peak discharge techniques
- FEMA Flood Insurance Studies/regulatory hydraulic models
- Irrigation ditch companies

Task 1.2.2.2 Bridge and Large Culvert Hydraulics
We will use HEC-RAS 5.0.5 or newer to analyze bridges and box culverts with a flow area 100 square feet or greater (i.e., 10x10 box). We will provide a hydraulic report for each structure requiring a HEC-RAS hydraulic analysis. The report shall summarize the location, data used, hydrologic analysis, existing hydraulics, proposed hydraulics, recommended structure size, scour analysis, and erosion protection.

Task 1.2.2.3 Culvert Hydraulics
We will use HY-8, Culvertmaster, or similar modeling software to size culverts with hydraulic openings less than 100 sq. ft., and larger than 48 inches diameter (12.5 sq. ft. hydraulic opening). The minimum culvert size under the rail is 36 inches. Culverts between 36 inches and 48 inches may also be analyzed using HY-8 or Culvertmaster. The deliverable will be a culvert summary spreadsheet.

Task 1.2.2.4 Channel Realignment Hydraulics
We will analyze channel realignments for streams (identified as a blue line on the USGS topographic maps) using HEC-RAS. A hydraulic memo report for each bridge with a minimum of four to a maximum of ten pages long will be submitted to the necessary permitting agencies for review and approval. The report shall summarize the location, data used, hydrologic analysis, existing hydraulics, proposed hydraulics, recommended structure size, scour analysis, and erosion protection. Local permitting agencies may require additional information or additional criteria be met to obtain permits for channel realignments.

Task 1.3 Railroad Related Buildings and Facilities
We will provide conceptual and preliminary building designs that meet recommended practice contained in AREMA MRE Chapter 6 for railway facilities required to maintain and operate the railroad in accordance with the Operating and Maintenance Plan. Pre-engineered steel buildings are assumed as the basic building type. In preparing this proposal, we’ve assumed the following facilities:
- Administration building for railroad management and train crew on-duty facilities
- Maintenance-of-way shop/locker room and garage at Roosevelt/Myton
- Maintenance-of-Way/administration near BNSF/UP connection
- Combined locomotive and railroad car, two-track maintenance building
- Locomotive fueling and sanding facility using DTL fueling

Our design will be in accordance with local building, electrical, plumbing, life safety, fire, storm drainage and local code requirements. At a minimum, facilities shall meet the latest edition of the International Building Code requirements for the facility and type of use and occupancy.

Task 1.4 Railroad Engineering
We will determine alternative alignments within the preferred route that will support the STB environmental clearance, and prepare conceptual alignments and engineer’s opinion of probable construction costs on the most feasible to enable the Coalition to select the alignment that best fits the Coalition’s goals. The engineering team will integrate with the environmental team and the third-party contractor, and provide engineering documentation necessary for the evaluation of feasible alternative alignments required in the NEPA analysis.

We will coordinate with the connecting railroads, and will include obtaining approvals from connecting railroads of the railway’s interchange trackage and interoperability of trains and interchange of rail cars. UP-standard 10% design concept interchange track plans will be prepared to obtain initial approval from UP, as owner of the connecting line also served by BNSF.

In conjunction with the Coalition’s Strategic Communications and our environmental team, we will coordinate with tribal, local, county, state and federal agencies, utility and pipeline companies for review and acceptance of our planning, design and preliminary construction documents for road realignments, at-grade road crossings, grade-separated crossings, access permits, floodplain permits, utility and pipeline crossings and other items as required by the project. Agreements and permits obtained as part of this coordination, review and acceptance process will be included in the NEPA document and as part of the tender documents.

Based on the negotiation information provided by the Coalition with commercial interests, we will develop conceptual track and site civil layouts for freight loading and unloading terminals at locations determined through commercial negotiations that are not a part of our work. These conceptual drawings and cost estimates of freight terminal trackage and site civil work will be provided to assist the Coalition in commercial negotiations with shippers. Upon the Coalition reaching agreement with the commercial entity, these terminals will be progressed through preliminary engineering to be included in the tender documents. At the Coalition’s option,
HDR can prepare conceptual preliminary and final design and cost estimates for customer crude oil loading racks, tankage, pump, spill prevention, and mass flow calculations; frac sand unloading, silo, and truck loading; tubular product unloading and laydown, and site administrative and maintenance facilities including signage, security, lighting, and utilities. We’ve excluded these customer facility elements from our bid since the size and capacity of these facilities is not known.

We will leverage our deep experience with railroad construction project procurement to lead a planning session with the Coalition to select the best procurement approach, including Design-Build, Design-Bid-Build, and CM/GC approaches. HDR assumed that a Design-Build approach will be selected in preparing this proposal, although a CM/GC approach is similar.

We will prepare tender documents for the proposed railway and engineer’s opinion of probable construction costs for fixed infrastructure elements. Our opinion of probable construction cost and documentation validating quantities and other unit cost information for the tender documents will be based on AACE Class 3. We will assist the Coalition in reviewing contractor proposals and providing comments to be used in the selection of a contractor(s) meeting the selected procurement strategy.

Johansen & Tuttle and Sunrise Engineering will lead our local efforts working with state, county and local road authorities, utilities and irrigation ditch companies for crossing agreements and developing design criteria and leading the team in the design process for these features.

**Deliverables**

- Final Engineering Design Criteria
- Draft and Final Geotechnical Report including boring logs and soils testing results.
- Final H&H memo reports for structures and drainage design for 346 culvert crossings.
- Native file format for CAD items shall be MicroStation V-8. PDF electronic files will be provided to the Coalition and the STB.
- Strip maps for routes and alignments will be 1:400 scale, each 5 feet long when plotted, showing plan and profile with aerial orthophotography background.
- Plan sheets, included with the tender package will be 1:200 scale 11x17 sheets in PDF format, with MicroStation V8 native files provided to proposers, including:
  - Bridge plan and elevation sheets with typical sections/standardized bridge designs
  - Culvert/drainage structure standards
  - Limits of proposed work and designated excavation and embankment zones will be shown
  - 1-foot contours for existing terrain
- Plan sheets for operations and maintenance facilities:
  - Plan view, layouts, architectural programming requirements, and site location layouts will use appropriate industry standard architectural scales
- Highway crossings, both grade separated and at grade crossings, will include:
  - Plan, elevation and typical section for any bridges

- Roadway profile and typical section
- Requirements for final design
- Required typical sections for railroad.
- Bridge and major drainage facility conceptual and preliminary drawings.
- Precast and prestressed concrete standard plans for spans up to 45-feet.
- Shipper terminal conceptual track and site civil for trackage.
- Communications System, assuming UHF radio supported by a commercial backbone, including layout and design criteria.
- Track Control is assumed to be Track Warrant Control.
- Connection with UP.
  - Plan and profile, showing turnout locations and track configuration
- Design and Construction Specifications for project elements to be used in the tender.
- Opinions of probable construction costs.
- Procurement Methods Memo.

**Task 2 Environmental and Permitting**

The proposed Uinta Basin Railway will require federal approval, assumed to be from the STB, prior to the commencement of construction, in the form of a Certificate of Public Convenience and Necessity and an environmental Record of Decision (ROD). STB’s Office of Environmental Analysis (OEA) is responsible for directing STB’s environmental-review process, conducting independent analyses of all environmental data, and making project impact and mitigation recommendations. STB’s rules incorporate environmental statuses including NEPA, the Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA). We assume the Coalition will engage with an STB-approved third-party NEPA contractor with successful experience with the STB EIS process, and this contractor will prepare the appropriate NEPA document, whether EA or EIS.

Our approach is based on lessons learned from our extensive experience with the STB, our experience in the Uinta Basin, and our recent common-carrier STB environmental documents in Alaska, Indiana, Illinois, and across the US. We have completed a number of environmental studies and permitting actions in eastern Utah and Western Colorado. In addition, we have prepared numerous environmental baseline studies in support of the STB environmental process. We know what the STB expects, and how to effectively coordinate with the selected third-party contractor and efficiently produce deliverables to meet their requirements. As such, our deliverables will be easily incorporated into the third-party contractor’s documents. Given our previous work in the study area, we will have a running start on the environmental baseline work, as well as the required permits, to reduce the project time line. We can build on our detailed knowledge of the environmental setting and engineering constraints to streamline the permitting process.

Our approach focuses on partnering with the Coalition, the STB, and the Coalition’s third-party contractor in development of the NEPA environmental document, by providing baseline information...
and an identification of potential impacts that may be caused by construction and operation of the alternatives identified within the preferred route.

**Task 2.1 Route Screening Selection**

Our environmental and permitting team will identify for the Coalition the important environmental criteria to assist with their selection of the best route. Potential routes will be screened for environmental, land use and permitting concerns, fatal flaws, and possible environmental hot-buttons. We are aware of likely triggers for environmental and landowner opposition, and which environmental impacts can be readily mitigated to avoid opposition. The preferred route will be identified and progressed into the NEPA process.

**Deliverables**

Route Comparison Analysis (in conjunction with engineering)

**Task 2.2 Development of Purpose and Need and Alternatives Analysis**

We will focus the preparation of the project purpose and need and alternatives screening process to meet the STB’s NEPA objectives. Given our understanding of the STB’s preferences and time constraints, developed through our 20-plus years of close work with the STB, we can develop a robust purpose and need, and quickly evaluate and screen alignment alternatives that are suggested by the public or agencies during the STB’s NEPA scoping period. Our Alternatives Analysis will be closely coordinated with engineering and the Owner’s Engineer to minimize and accelerate survey and preliminary engineering.

**Deliverables**

- Purpose and Need
- Alternatives Analysis Technical Memorandum

**Task 2.3 Baseline Resource Studies and Field Surveys**

We will conduct an evaluation of the baseline conditions, including field environmental surveys as required, for environmental resources per STB requirements. We’ve assumed a No-Build and up to two Build Alternatives for the selected route. In addition to the broader STB NEPA requirements, we will conduct a review of existing literature, previous environmental documents, maps, and other materials relevant to the proposed alignments to identify potential environmental program requirements within and adjacent to the proposed alignments. The table below summarizes our approach to conduct the baseline studies and field surveys, and the deliverables for each resource.

### Environmental Baseline Studies Table

| Wetlands and Waters of the US jurisdictional delineation and CWA 404 Permit | We will review available data and perform visual field checks in support of the alternatives development and screening process. We will identify an appropriate aquatic resource survey area to encompass the NEPA alternatives. The survey area will be assessed to the degree necessary to determine the presence or absence of aquatic resources including wetlands, per the delineation manuals and guidelines established by USACE. We will also evaluate whether delineated aquatic resources would likely be under the USACE jurisdictional definition. The alignment alternatives will be designed to avoid and minimize impacts to waters of the US including wetlands, to the extent practicable. Some permanent impacts may be unavoidable, and would require permitting and compensatory mitigation. Currently, mitigation banks and fee in lieu programs are not available in the project alternative areas. We will locate suitable mitigation sites and we consider potential partners, such as local governments or the tribes, to develop successful mitigation programs. Early coordination with USACE to establish permitting strategy and potential mitigation will reduce the uncertainty. |
| Water resource evaluations and CWA Section 401 | Other water resources will be identified through literature and database review and from prior field surveys and environmental documents. These resources include surface waters, groundwater, and drinking water sources. Alternative alignments will be evaluated for the presence of impaired waters as listed by Section 303(d) reports, as well as impacts to surface water rights, waters with anti-degradation provisions, groundwater protection and drinking water source protection zones. |

**Deliverable**

- USACE 404 permit technical memorandum
- Water resources technical memorandum
<table>
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<tr>
<th>Environmental Baseline Studies Table (continued)</th>
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<tr>
<td><strong>Water quality certification</strong></td>
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<tr>
<td><strong>Special-status species documentation</strong></td>
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<td><strong>Deliverable</strong></td>
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<tr>
<td><strong>Cultural resources, NHPA Section 106 and USDOT Act Section 4(f) evaluations</strong></td>
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<td><strong>Deliverable</strong></td>
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<tr>
<td><strong>Paleontological evaluation</strong></td>
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<td><strong>Tribal coordination</strong></td>
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<td><strong>Deliverable</strong></td>
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<td><strong>Environmental justice evaluation, EO 12898</strong></td>
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<td><strong>Deliverable</strong></td>
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### Environmental Baseline Studies Table (continued)

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<th>Topic</th>
<th>Description</th>
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| **Socioeconomic evaluation** | Our approach to the socioeconomic evaluation will be to review existing economic studies and use as much existing data as possible. In addition, we will identify the impacts of the proposed alignment alternatives and seek opportunities to reduce or minimize these impacts on established destination and convenience businesses, local and regional economies, employers, employment and overall economic characteristics. The impacts to property owners from parcel acquisition will be identified, along with appropriate relocation assistance and acquisition policies. This task will be coordinated with our real estate acquisition strategy.  
**Deliverable**  
- Socioeconomic technical memorandum |
| **Clean Air Act (CAA) and air quality analysis** | The alternative project areas are in attainment for five of the six “criteria pollutants.” In the spring of 2018, EPA designated the Uinta Basin as a marginal nonattainment area for ozone. Our team has experience applying CAA in accordance with NEPA and will work with STB and EPA to develop the best modeling protocol for this project knowing that only one criteria pollutant is not in attainment.  
**Deliverable**  
- Air quality technical memorandum |
| **Land use** | The alternative project areas include several counties and cities in Utah (and potentially Colorado) in addition to the Uinta and Ouray reservation lands. Land use within these jurisdictions varies but should allow for a new railway alignment. The compatibility of existing and planned land uses with a rail proposal is often associated with noise impacts. Other potential land-use compatibility impacts include disruption of communities, relocations, and induced socioeconomic effects. Our team understands how to effectively use data from federal, state, local, or regional planning documents, including general plans, area plans, and master plans, to analyze and carefully cross-reference effects from the project, while avoiding duplication of efforts.  
**Deliverable**  
- Land use technical memorandum |
| **Noise and vibration analysis** | The Noise Control Act of 1973 established a national policy to promote an environment free from noise that jeopardizes health and welfare. Our team has experience identifying potential noise and vibration sensitive receivers and conducting noise analysis for rail projects. Our engineering and design elements will aim to reduce or avoid potential noise and vibration impacts per regional, local, and federal (FRA and STB) regulations and guidelines. Our team is also knowledgeable on FRA regulations to address noise impacts on wildlife and livestock. We will use a screening distance of approximately 1,200 feet for the noise analysis since existing noise conditions are relatively low.  
**Deliverable**  
- Noise and vibration analysis technical memorandum |
| **Multi-agency coordination** | Our successful delivery of environmental permits will bring value by focusing the public and regulating agencies on the critical issues of this project. The environmental planning process will be structured and implemented to consider issues and concerns raised by jurisdictional agencies in a timely, clear and concise manner. Early coordination and outreach to regulating agencies and key stakeholders, in coordination with the STB third-party contractor, will identify key issues, concerns, and mitigation measures at the outset and provide maximum time to work through issues.  
**Deliverable**  
- Agency coordination and involvement technical memorandum |
| **Stakeholder coordination and public comment** | Participation and response to stakeholder and public comments will be transparent. The NEPA process, as well as several permits, include a public notice and comment period. There is potential for significant comments from the public and stakeholders that may warrant addressing issues through additional analysis or coordination that could delay the planning and permitting process. To minimize this type of rework, we will coordinate with the strategic communications consultant, STB, the Coalition and the STB third-party contractor, to provide data for public and stakeholder events.  
**Deliverable**  
- Stakeholder and public coordination technical memorandum |
Task 2.4 STB and 3rd Party Contractor Coordination
The environmental and permitting team will work with the Coalition, the STB and the third-party contractor to coordinate, clarify and assist during the preparation of the NEPA document.

Deliverables
- Clarifications to the purpose and need, alternatives analysis and baseline resource studies as required (We commit to responding back to STB and the third-party contractor within 48 hours of the requested clarification, or in such a time line when the clarification can be provided.)

Task 2.5 Environmental Permitting
We will expedite the environmental permitting process with early agency coordination and communication, strong scientific analysis and evaluations, and coordination with STB and the third-party contractor during the impacts and mitigation analysis conducted for the NEPA process. Following the ROD, we will obtain the required environmental permits as listed below.
- CWA Section 404 (Wetlands and Waters of the US)
- Stream Alteration Permits (Utah) and RGP 37 Stream Stabilization Projects in Colorado if needed
- CWA Section 401
- CWA Section 402 Construction and Industrial Stormwater Permits
- NHPA Section 106 and Section 4(f) of the Transportation Act

Deliverables
- Environmental permit applications

Task 3 Right-of-Way Planning
Our extensive experience with railroad property acquisition shows that many landowners have these realistic and concrete objections:
- Loss of direct access to the road network
- An uneconomic remnant of land
- Noise pollution
- Access to irrigation water

Other landowners question the legality of appropriating private property for any reason; are opposed to economic changes in their area; or have environmental, social, and quality-of-life concerns. We expect to encounter all of these objections when the decision is made to start acquiring property. Our Real Estate Acquisition Strategy Plan will be a tremendous aid to the Coalition in devising strategies to address these objections, by delineating the proper timing for each stage of the real estate acquisition process, and having a consistent and effective public messaging strategy.

We can, at the Coalition’s option, place into action a full-service right-of-way team able to deliver high-quality services from comprehensive turnkey acquisition services to construction liaison support. We have provided such real estate services for such programs as BNSF’s immense nationwide rail expansions over the last 20 years, five Design-Build projects for UDOT, and UP’s Chicago to St. Louis high-speed rail project.

We specialize in challenging projects--tight schedules and budgets, sensitive alignments and large multi-disciplined teams.

Task 3.1 Real Estate Acquisition Plan
We will prepare a detailed Real Estate Acquisition Plan (REAP) to assist the Coalition in understanding the unique nature of acquiring property rights for the project. Significant components of the REAP are listed below:
- Executive Summary
  - Summary of the land rights required to construct
  - Minimum legal requirements for acquiring property rights (Uniform Act, state laws, etc.)
  - Number of total acquisitions, affected owners, relocations
  - Potential high risk owners
  - Estimated acquisition schedule
- Staff Structure and Responsibilities
  - Key Coalition and Owner’s Engineer roles and land acquisition responsibilities
  - Communication / acquisition status tracking process
  - Coalition party authorized to approve just compensation, settlements, and condemnation
  - General outline of the Utah (and Colorado, if required) condemnation processes
- Acquisition process flow chart
- Process to be used to identify ownership
- Identify high risk owners that could require long lead times to acquire property rights (i.e., federal and state agencies, land bank programs, conservation governing boards). Document these processes and their impact on schedule.
- Identify companies willing and able to provide the following acquisition support services
- Negotiations
  - Identify a team of qualified negotiators
  - Document negotiation process to confirm with Coalition requirements
  - Proposed form of contracts, deeds
  - Condemnation
- Relocation (if any)
- Document Control / Quality Control
  - How personal landowner information will be protected.
  - How documents are filed and achieved
  - List of quality control protocols to ensure accuracy of acquisition documentation.
- Schedule Estimate
  - General time frame for accomplishing acquisitions and relocations
  - Potential risks and delays
  - Identification of critical path
Section 4
Local Knowledge and Experience
Section 4 Local Knowledge and Experience

HDR team members have worked on a vast variety of projects in the Uinta Basin and have established relationships with intergovernmental and community leaders in the Uinta Basin and southeastern Utah, many of whom are the same stakeholders involved in this project including FRA; county governments; USDA and NRCS local, state, and national offices; the Utah SHPO offices and other Section 106 consulting parties; and local midstream and oil production companies. HDR has completed all of the recent engineering and environmental studies for railroads in the Uinta Basin, and many of the highway projects, including the Uinta Basin Transportation Study and the US-40 Corridor Study. Our teaming partners Sunrise Engineering, Juliano Consulting, and Johansen & Tuttle provide strong local connections to the Uinta Basin.

HDR Uinta Basin Experience

Uinta Basin Railway Feasibility Study
Newfield Exploration Company | Uinta Basin, Utah

Newfield hired HDR to prepare a feasibility study of a railroad serving Newfield and potentially other oil and gas producers in the Uinta Basin.

UNDERSTANDING OF LOCAL ISSUES
- Deep knowledge of Uinta Basin topography and its ability to complete feasibility study in 45 days.
- The environmental and STB process was discussed and vetted with the STB Office of Environmental Analysis.
- Developed conceptual design, environmental screening, and financial model for a crude oil and frac sand terminals.

Uinta Basin Rail Feasibility Study
UDOT | Uinta Basin, Utah

HDR prepared a feasibility study of a new 100-mile rail line into the Uinta Basin from the existing Class 1 railroad alignments. HDR evaluated 26 potential new railroad alternatives using a combination of GIS engineering and a Preliminary Environmental Linkage (PEL) tool. Using GIS and the PEL tool, HDR was able to determine preliminary impacts in a 2-month period.

LOCAL RELATIONSHIPS DEVELOPED
- County governments
- State agencies including UDOT, Utah Office of Energy Development, Utah Division of Indian Affairs, Department of Environmental Quality, and Utah Division of Oil, Gas, and Mining, and of Forestry, Fire, and State Lands
- State and Federal Legislators
- Federal agency directors, BLM, BIA (Trust), Under Secretaries of USDOT, and FRA, and Assistant Secretary USDA

UNDERSTANDING OF LOCAL ISSUES
- Worked with key stakeholder groups for timely, accurate messaging.
- Understanding of topography and used local state and federal data to determine the preliminary environmental impacts of each alignment.

Sunrise Engineering Uinta Basin Experience

Daggett County Trails Master Plan
Seven County Infrastructure Coalition | Daggett County, Utah

The Coalition sought a reassessment of the cost and feasibility to construct a railway in the Uinta Basin, building on prior work performed by HDR for UDOT. As part of the Jones & DeMille team, HDR reassessed the 26 routes and chose three routes that substantially reduced capital costs and demonstrated the railway’s commercial feasibility.

UNDERSTANDING OF LOCAL ISSUES
- The study demonstrated that without UDOT’s route constraints that construction cost could be reduced from $3.1B to $1B.
- Confirmed with Uinta Basin energy producers that the railway is essential for their production and financial goals.
UNDERSTANDING OF LOCAL ISSUES
• Economic development in Daggett County is needed and recommendations and solutions associated with the rail there will be welcomed. Sunrise Engineering’s local perspective makes them sensitive to the current conditions and possible solutions that could affect Daggett County. It’s likely that most benefits the rail could bring to Daggett County are or could already be met by the rail in southern Wyoming, but we will watch for and recommend any additional uses that could positively affect Daggett County.

Uintah County Trails Master Plan
Seven County Infrastructure Coalition | Uinta County, Utah

Sunrise Engineering completed a Uintah County Trails Master Plan for the Uintah Transportation Special Service District and UDOT. The purpose of this master plan was to inventory, evaluate and improve alternative transportation options in Uintah County by providing solutions for enhanced and accessible trails and routes in the small and non-urban areas and to improve public land connectivity from the same areas to provide for safe and diverse alternative transportation opportunities. Results of the plan were an inventory of existing trail conditions, identification of deficiencies, proposals to address these deficiencies, an evaluation and prioritization of projects, methods for coordination between the many entities involved, and a clearly defined implementation plan for the prioritized projects. Recommended projects ranged from sidewalk and shoulder improvements in Vernal and Naples Cities to new or improved trailheads on public lands in Uintah County.

RELEVANT LOCAL RELATIONSHIPS DEVELOPED
• This project was backed by, and required coordination with the Dino Trails Committee, the trails advisory committee in Uintah County and Vernal City. This committee included the cities of Vernal and Naples, Uintah County, Uintah Transportation Special Service District, Uintah Recreation District, BLM, Ashley National Forest, Dinosaur National Monument, Utah State Parks, Vernal Area Chamber of Commerce, TriCounty Health Department, Northeastern Utah Mountain Biking Club, Uintah Basin Backcountry Horsemens, Uintah Trails Working Group, Uintah 4H, Trout Unlimited and others. Project Partners on this project included UDOT, Uintah Transportation District, Uintah County, Vernal City, Naples City, and Ballard City. Contacts from each of these entities are still working with the DinoTrails Committee and Sunrise Engineering to complete many of the projects suggested in the Trails Master Plan.

UNDERSTANDING OF LOCAL ISSUES
• Working with each of the local entities allows Sunrise Engineering the opportunity to talk with many leaders in these communities. The Uinta Rail has been a topic of many conversations and these include concerns, hopes, suggestions and other relevant information that will help to lay a positive foundation for the Uinta Rail project.

Juliano Consulting Uinta Basin Experience

Navajo Trust Fund Community Field Relations
Navajo Nation Trust Recipients of the Utah Chapters | San Juan County, Utah

As a congressional staffer, Pamela Juliano was asked to develop an outreach strategy to bring stakeholders together for the purpose of developing language that would identify how Trust Funds would be managed for Utah Navajos.

LOCAL RELATIONSHIPS DEVELOPED
• Navajo President and Chapter Representatives
• County Commissioners
• Local Business and Community Leaders

UNDERSTANDING OF LOCAL ISSUES
• Responsible for collaborative language with Utah Navajo Nation Chapters, BIA, President Joe Shirley Jr’s Office, Lt. Governor Greg Bell, and State and Federal Legislators.
• Managed communications with Utah Navajo Chapters, BIA, and other for congressional hearing process.

Uintah Recreation Land Exchange
BLM | Uintah and Grand County, Utah

Pamela Juliano developed an outreach strategy to coordinate efforts for a favorable land exchange.

LOCAL RELATIONSHIPS DEVELOPED
• Ute Business Council and Energy — Chairwoman Irene Cuch, Uintah County
• BLM including State Directors Juan Palma and Selma Sierra
• Utah State Institution Trust Lands (SITLA)
• Community stakeholders
• Understanding of Local Issues
• Managed BLM and tribal communications process and developed stakeholder outreach strategy
• Established Ute Business Council relations with SITLA, BIA, and federal legislators.
• Established collaborative effort with Navajo Chapter Presidents, BIA, BLM, and Department of Education.

Johansen & Tuttle Uinta Basin Experience

J&T has served the rural communities of eastern Utah for more than 45 years. They provide the team established relationships and understanding of local issues through their work on numerous projects including:
• UDOT US-191 Slide Repair Project, Duchesne County
• UDOT US-40 Road Reconstruction, Uintah County
• Nutter Ranch Diversion Structure, Duchesne County
• Green River City Industrial Park Master Plan, Green River City, Emery County
• Cottonwood Irrigation Pressurized Irrigation System, CCCIC, Castle Dale, Carbon County
Section 5

Cost
Section 5 Cost

Our fee, which includes our labor, overhead and profit, subconsultant costs, and direct expenses for each of the three project elements is:

**Task 1**  Engineering  $5,958,000
**Task 2**  Environmental & Permitting  $2,895,000
**Task 3**  Right-of-Way Planning  $61,000

Total  $8,914,000

HDR’s detailed hours per task, key personnel categories, subconsultant labor, and direct expenses for the engineering work is shown in Table 5-1 below:

Table 5-1. Engineering Key Personnel Hours by Primary Scope Elements and Summary of Costs

<table>
<thead>
<tr>
<th>Task Description Resource:</th>
<th>Engineering Labor Hours Per Job Classification</th>
<th>Total Hours</th>
<th>Cost Per Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 1  Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task 2  Environmental &amp; Permitting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task 3  Right-of-Way Planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$8,914,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Task Description Resource:

- **Project Management**
  - Project Manager
  - Deputy Project Manager
  - Project Controls
  - Project Advisors
  - Task Leaders
  - CAD
  - Other Staff
  - Administration
  - Total Hours
  - Cost Per Task

- **Route Screening and Preferred Route Selection**
  - Route Screening
  - Preferred Route Selection
  - STB Meeting-Preferred Route Selection

- **Conceptual Engineering**
  - Conceptual Engineering

- **Preliminary Engineering**
  - Develop Track and Structures Standards
  - Track and Alignment Refinement
  - Bridge and Structures
  - Communication and Signals
  - Utilities and Pipelines
  - Connecting Railroad Coordination
  - Terminal Track and CMI Conceptual Engineering
  - Coalition Shipper Terminal Negotiations
  - Geotechnical Work
  - Hydrology and Hydraulics
  - Support NEPA Process
  - Final Permitting

- **Final Engineering For D-B Packages**
  - Track
  - Bridge and Structures
  - Communication and Signals
  - Utilities and Pipelines
  - Terminal Track and Civil Engineering
  - Roads and Grade Separations
  - Tender Package Plans and Specs
  - Tender/Bid and Contracting

| Subtotal:  | 1,195 | 2,890 | 1,100 | 96 | 4,191 | 6,258 | 14,021 | 1,800 | $3,556,000 |

**Expenses**

- Engineering Travel
- Geotechnical Drilling and Exploration

Total  $3,556,000
HDR’s detailed hours per task, key personnel categories, subconsultant labor, and direct expenses for the environmental work is shown in Table 5-2 below:

### Table 5-2. Environmental Key Personnel Hours by Primary Scope Elements and Summary of Costs

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Resources:</th>
<th>Environmental and Permitting Labor Hours Per Job Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project Manager</td>
<td>Deputy Project Manager</td>
</tr>
<tr>
<td>Project Management</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Route Screening and Preferred Route Selection</td>
<td></td>
<td>80 80 60</td>
</tr>
<tr>
<td>STB Meeting-Preferred Route Selection</td>
<td></td>
<td>20 20 40</td>
</tr>
<tr>
<td>STB NEPA Process (Early Action Items)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Description, Purpose and Need Statement</td>
<td>8 8 4 80 80 80 80 260</td>
<td>$55,000</td>
</tr>
<tr>
<td>STB Prefiling/Notice Of Intent</td>
<td>100</td>
<td>40 40</td>
</tr>
<tr>
<td>STB 3rd Party Engagement</td>
<td>100</td>
<td>200 200 80 80 160</td>
</tr>
<tr>
<td>STB NEPA Scoping</td>
<td>100</td>
<td>250 250</td>
</tr>
<tr>
<td>Environmental Field Surveys</td>
<td>100</td>
<td>160 160 2,460</td>
</tr>
<tr>
<td>Environmental Baseline Studies</td>
<td>100</td>
<td>500 500 1,200 1,200 3,100 100 6,700</td>
</tr>
<tr>
<td>Permitting / Programmatic Agreements</td>
<td></td>
<td>250 250 200 200 500</td>
</tr>
<tr>
<td>STB Draft EIS</td>
<td>80 80 16</td>
<td></td>
</tr>
<tr>
<td>STB Final EIS</td>
<td>80 80 16</td>
<td></td>
</tr>
<tr>
<td>Preliminary Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Permitting</td>
<td>40 40 40</td>
<td></td>
</tr>
<tr>
<td>Subtotal:</td>
<td>1,168</td>
<td>168 36 1,620 1,620 1,480 1,600 6,480 100 14,272</td>
</tr>
<tr>
<td>Expenses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental and Permitting Travel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

HDR’s detailed hours per task, key personnel categories, subconsultant labor, and direct expenses for the environmental work is shown in Table 5-3 below:

### Table 5-3. Right-of-Way Planning Key Personnel Hours by Primary Scope Elements and Summary of Costs

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Resources:</th>
<th>Right-of-Way Planning Labor Hours Per Job Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project Manager</td>
<td>Deputy Project Manager</td>
</tr>
<tr>
<td>Right-of-Way Planning</td>
<td>50 50 16</td>
<td>60 100</td>
</tr>
<tr>
<td>Total:</td>
<td>50 50 16</td>
<td>60</td>
</tr>
</tbody>
</table>
Our cash flow, shown in Figure 5-4 above, is based on the above level of effort being expended in accordance with the detailed critical path schedule shown in Section 6. This cash flow documents the expenditures as they occur, not when the work would be invoiced to the Coalition.

**Explanation of Pricing**

We understand the following work will be provided by the Coalition to HDR, or separately contracted with HDR:

- Operating and Maintenance Planning
- Landowner Access Agreements
- Aerial Topographic Mapping and imagery
- Utility Mapping
- Refinement of Conceptual Alignments for Mapping Purposes
- Owner Program Management Services
- Locations and Requirements of Freight Terminals
- Shipper Facilities at Freight Terminals other than trackage
- Strategic and Public Communications
- Real Estate Acquisition Services
- Third-Party Contractor Preparation of the EA or EIS

HDR has prepared a detailed scope of work that supports this cost estimate that lists inclusions and assumptions.

**Proposal Alternatives**

**Tunnels**

One or more of the proposed routes may not require tunnels. Accordingly, our base proposal does not include cost for the engineering, geotechnical, and environmental effort required for tunnels. If during the Route Screening and Preferred Route Selection a route with one or more tunnels is selected, HDR can provide the engineering, environmental, deep borings and additional geotechnical work need to supply geologic information for the tunnel design and the tunnel design work including portals, venting, handling of groundwater, lining systems, lighting, refuge areas, and floor design, for Design-Build tender document. The work would occur concurrently with the already ongoing work; no impact to the project schedule is anticipated. Because tunnel length and quantity is not known, the additional cost below is representative and based on a single 5.5-mile-long tunnel for Design-Build tender:

- Additional geotechnical effort $622,000
- Additional tunnel design effort $1,590,000

**Design-Bid-Build or CM/GC Procurement Process**

HDR’s proposal basis is a Design-Build procurement process that incorporates the stipulations from the STB NEPA environmental process and an approximate 30% level of complete for engineering but also includes key elements including completing the field geotechnical analysis for the track and bridge construction to reduce Coalition’s risk of change orders during the contractor-led final design and construction effort. It also includes review of a Design-Build contractor’s final 100% design documents. HDR’s costs for CM/GC would be similar to Design-Build, but may include additional time to work with the selected General Contractor for value engineering, revision to standards, etc.

We have also estimated the effort to provide a 100% design package for Design-Bid-Build. The additional effort represents plans being developed to 100%. We feel from a schedule standpoint, there is a 3- to 4-month trade off on completion of final design and startup of construction, but the goal of running trains on December 1, 2023 is still fully achievable. HDR and its teaming partners have the personnel on hand to perform this work to meet the schedule, if requested by the Coalition. The additional effort is estimated as:

- Engineering $3,992,000
- One 5.5-mile long tunnel (if required) $1,670,000
Section 6
Schedule Control
Section 6  **Schedule Control**

**Examples of Similar Projects Completed within Tight Time Constraints**

1. **Uinta Basin Railway Feasibility Study**  
   Newfield Exploration

   **SCHEDULE COMPLIANCE ACCOMPLISHMENTS**  
   Completed feasibility study, route analysis, environmental, engineering, real estate review, and financial analysis in 45 days.

   **RELEVANT TEAM**  
   Mark Hemphill, Don McCammon, Kevin Keller

   **REFERENCE**  
   Randy Hairr  
   Marketing Director  
   Newfield Exploration Co.  
   4 Waterway Square Place, Suite 100  
   The Woodlands, Texas 77380  
   rhairr@newfield.com  
   281.210.5090

2. **CN-EJ&E Merger EIS**  
   Canadian National Railway

   **SCHEDULE COMPLIANCE ACCOMPLISHMENTS**  
   Completed EIS in 11 months including baseline work and engineering.

   **RELEVANT TEAM**  
   Mark Hemphill, Kevin Keller

   **REFERENCE**  
   Victoria Rutson  
   Director, Office of Environmental Analysis  
   Surface Transportation Board  
   395 E Street SW  
   Washington, DC  20423  
   202.245.0295

3. **Port Bienville Environmental Study**  
   FRA and Mississippi DOT

   **SCHEDULE COMPLIANCE ACCOMPLISHMENTS**  
   Completed two-phase FRA EIS and achieved ROD in 3 years.

   **RELEVANT TEAM**  
   Kevin Keller

   **REFERENCE**  
   Marc Dixon  
   South Central Regional Manager  
   Federal Railroad Administration  
   Office of Railroad Policy and Development  
   Work: 202.493.0614  
   Cell: 202.380.6981

4. **Chicago to Omaha Passenger Rail EIS**  
   Iowa DOT

   **SCHEDULE COMPLIANCE ACCOMPLISHMENTS**  
   Completed EIS and achieved ROD in 14 months.

   **RELEVANT TEAM**  
   Mark Hemphill, Kevin Keller

   **REFERENCE**  
   Tamara Nicholson, PE  
   Director, Office of Location & Environment  
   Iowa DOT  
   800 Lincoln Way  
   Ames, IA  50010  
   Tamara.Nicholson@dot.iowa.gov  
   515.239.1798

5. **Brazos Yard**  
   Union Pacific Railroad

   **SCHEDULE COMPLIANCE ACCOMPLISHMENTS**  
   Achieved Section 404 environmental clearances in 72 days start to finish.

   Reorganized project from CM/GC to Design-Bid-Build in under 30 days when requested by owner.

   Developed final design, environmental clearances, and permits in under 2 years.

   Completed EIS and achieved ROD in 14 months.

   **RELEVANT TEAM**  
   Mark Hemphill, Kevin Keller

   **REFERENCE**  
   Michael J. Zucker  
   Director Civil / Track Construction  
   Union Pacific Railroad  
   1400 Douglas Street STOP 0910  
   Omaha, NE  68179  
   402.544.3281  
   Mjzucker@up.com
Mark W. Hemphill
Project Manager

Mark Hemphill leads HDR’s Railway Consulting Group, which develops greenfield railroads and new freight and passenger services on existing railroads for public and private clients. He applies his broad expertise in railway operations, engineering, environmental clearance, and commercial development to provide a complete development process from initial concept through detailed design and permitting to commercial strategy and agreements with railroads, shippers, and government funding agencies.

Mark’s industry experience includes service to the U.S. Government in 2005-2006 as the senior railway advisor to rebuild the railways in Iraq; as a senior manager in the operating and mechanical departments of Class I and short line railroads, and as a consultant to BNSF Railway, Union Pacific Railroad, CSX Transportation, Ferromex, and numerous ports and natural resource development companies for strategic railway projects and new railway lines.

Relevant Experience to the Seven County Infrastructure Coalition

Newfield Exploration, Uinta Basin Railway. Mark led the team that developed the lowest-practical cost, 170-mile long new railway from Craig, CO, to Roosevelt, UT. Mark’s team developed for Newfield a pro forma, business plan, financial performance forecast, rail traffic forecast, conceptual engineering, operations plan, environmental fatal flaws analysis, and STB authorization plan. Total estimated construction cost of the railway, including engineering, environmental clearance and permitting, real-estate acquisition, and development costs, was $700 million. The principal reduction in cost from prior studies was due to a more detailed alignment study, and matching operating and engineering standards to the rail freight volumes likely to be generated by the Uinta Basin rather than the standards used for high-volume, higher-speed rail lines. Mark’s team also developed a crude oil and frac sand transload facility for Newfield that could serve either Newfield alone or all the producers in the Uinta Basin. The facility was adaptable to sites including Roosevelt, Myton, Jensen, Craig, or other locations.

Six County infrastructure Coalition, Railway Reassessment. Mark led the team that reassessed a prior feasibility study conducted for Utah Department of Transportation, which had resulted in excessively high construction cost for the Uinta Basin Railway due to Utah DOT’s request that the line be completely contained within the borders of Utah. This high-level study, using the same engineering standards as the UDOT study but with the freedom to route the line into a lower-cost alignment into Colorado, reduced construction cost from approximately $3 billion for the UDOT alignment, to approximately $1 billion by choosing an alignment to Craig.

Utah Department of Transportation, Uinta Basin Railway. Mark led the engineering, operating, and economic team for this study, the goal of which was to develop and complete an Environmental Impact Statement for the railway. HDR developed 26 conceptual routes and construction cost estimates for the railway including origins in Craig, Rifle, and Mack, CO, near Green River, WY, and numerous locations in Utah ranging from Westwater to Wellington, Soldier Summit, and Ogden. At the direction of Utah DOT, only all-Utah alignments could be considered, thus only the Soldier Summit alignment was more fully developed.

Confidential Western Class I Railroad, Crude-By-Rail Corridor Development. Mark lead the team that developed engineering, environmental clearance and
permitting, cost estimates, operations plans, and real-estate acquisition for a proposed $2 billion crude oil corridor reaching from the Canadian border to the U.S. Gulf Coast. From the initial telephone call to completion, HDR completed the project in 90 days with more than 100 staff in more than 20 offices.

**Alberta to Alaska (A2A) Railway.** A2A Railway is constructing a 1,500 mile long railway between northern Alberta and Alaska to carry crude oil, containerized goods, mineral concentrates and ores, and construction and industrial materials. Mark’s team is defining the engineering and operating criteria for the railway, writing the operations and maintenance plan, writing the project definitions for the U.S. Surface Transportation Board and U.S. State Department, and updating the financial and business plan and the financial and economic analysis. The railway will load 28 240-car crude oil trains per day.

**New Orleans Gulf Coast Railroad and Port Plaquemines, Coal and Container Port and Railway Development.** Mark was the planning lead for a new 40-mile railway serving a proposed world-class coal export and container port on the Lower Mississippi River, during the STB and FRA environmental clearance process. The EIS Record of Decision has been obtained, on schedule. Mark’s team defined the railway’s operating and engineering characteristics, supported the environmental team in its STB and FRA application and process, and developed the business plan.

**Iowa Department of Transportation, Chicago-Omaha High-Speed Passenger Rail Environmental Impact Statement.** Mark led the engineering, planning, and operations design team for the EIS for the proposed $2 billion passenger-rail line between Chicago and Omaha, which achieved its EIS Record of Decision on schedule. The project is now in final design and environmental permitting for its first phase between Chicago and Iowa City.

**Virginia Department of Rail and Public Transportation, D.C. to Richmond Passenger Rail Environmental Impact Statement and Preliminary Engineering.** Mark led the planning and operations design team for the EIS and PE for the proposed $4 billion passenger and freight railroad improvement project, which achieved approval of its Draft EIS on schedule and the Record of Decision is pending.

**Pebble Mine, New-Build Railway.** This world-class copper mine in Alaska required a 100 to 150 mile long rail line to connect it to tidewater. Mark led the engineering, environmental, and operating design and financial performance team that chose the preferred alignment and developed conceptual engineering, environmental clearance and permitting analysis and plans, and operating and financial performance plans. Two complete designs were developed, one a low-volume, low-cost line to haul only copper concentrate and inbound LNG and supplies, and the other a high-volume line to haul up to 40 copper ore trains per day.

**Canadian National/EJ&E Merger, Environmental Impact Statement, Before the U.S. Surface Transportation Board.** HDR developed the Environmental Impact Statement for the merger of the CN and EJ&E railways, and audited its outcomes from 2008 through 2010. This merger created a rail traffic reroute of up to 40 trains per day from existing CN routes through Chicago’s urban core to the 190-mile long EJ&E route through Chicago’s suburbs. Included in the analysis was development of a complete commuter-rail system overlaid on the EJ&E to satisfy STB concerns that the EJ&E could accommodate METRA commuter expansion. Mark led the rail operations analysis and effects on other railroads, and continued as the rail operations expert during the post-merger auditing of the merger’s effects by the STB.
Donald McCammon  
Engineering Lead

Don’s 43 years in railroad engineering provides his clients with unparalleled experience and value. His railroad engineering includes lead engineer on new-build railroads throughout North and South America, Africa, and the Middle East. His expertise includes tunnels, major bridges, locomotive repair shops, and he has extensive experience in railroad construction and maintenance as well as design.

Don applies his construction background from Burlington Northern into his planning and design projects, and utilizes a Value Engineering approach to provide Best Value solutions to clients. As a graduate of the Phil Crosby Quality College, he has extensive training in QA/QC programs. Don has utilized all types of alternative delivery method, including Design/Build and Construction Manager/General Contractor, to help his clients achieve their value, cost, and schedule goals.

Don worked for Burlington Northern for 11 years, including five years maintaining and reconstructing bridges in the Powder River Coal Basin. He has served as Chairman of an AREMA Design Committee and a former Director of the American Railway Bridge and Building Association. He teaches railroad safety and helped develop and continues to teach AREMA’s Railroad Bridge Inspection Class.

**Relevant Experience to the Seven County Infrastructure Coalition**

**Newfield Exploration, Uinta Basin Railway.** Don led the engineering task that developed the lowest-practical cost, 170-mile long new railway from Craig, CO, to Roosevelt, UT. The engineering work included a more detailed alignment study including initial drainage structure and bridge sizing, highway and roadway crossings and grade separations, utility impacts, determining right-of-way needs and matched operating and engineering standards to the rail freight volumes likely to be generated by the Uinta Basin rather than the standards used for high-volume, higher-speed Class I rail lines. Don also provided QC of the crude oil and frac sand transload facility to verify the work matched the overall project deliverable standards and the design requirements. Project Cost - $700 Million

**Six County infrastructure Coalition, Railway Reassessment.** Don led the engineering task reassessing a prior feasibility study conducted for Utah Department of Transportation, which had resulted in excessively high construction cost for the Uinta Basin Railway due to Utah DOT’s request that the line be completely contained within the borders of Utah. This high-level study, using the same engineering standards as the UDOT study but with the freedom to route the line into a lower-cost alignment into Colorado, reduced construction cost from approximately $3 billion for the UDOT alignment, to approximately $1 billion by choosing an alignment to Craig.

**Utah Department of Transportation, Uinta Basin Railway.** Don led the engineering task and coordination effort between the engineering and environmental teams for this study, the goal of which was to develop and complete an Environmental Impact Statement (EIS) for the proposed railway. HDR developed 26 conceptual routes and construction cost estimates for the railway including origins in Craig, Rifle, and Mack, Colo., near Green River, Wyo., and numerous locations in Utah ranging from Westwater to Wellington, Soldier Summit, and Ogden. Don led the railroad alignment design, alignment alternatives development and selection, roadway realignment and grade separation development, bridge, track, tunnel and terminal layouts to develop the basis of quantities for development of the estimated construction cost. Don coordinated the construction planning and impacts with the environmental team to develop an initial environmental assessment of the project and coordinated the engineering and quantities with an independent peer review process conducted by UDOT. Project Cost $3.1 Billion
DONALD MCCAMMON

Professional Engineer, Montana, United States, No. 7479, Expires 6/30/2020

Professional Engineer - Civil, Nebraska, United States, No. E-9943, Expires 12/31/2018

Professional Engineer, New Mexico, United States, No. 11249, Expires 12/31/2018

Professional Engineer, North Dakota, United States, No. PE-9786, Expires 12/31/2019

Professional Engineer - Civil, Oregon, United States, No. 78236PE, Expires 12/31/2018

Professional Engineer, South Dakota, United States, No. 5295, Expires 12/31/2018

Professional Engineer - Civil, Texas, United States, No. 112542, Expires 9/30/2019

Professional Engineer - Civil, Washington, United States, No. 30049, Expires 4/15/2020

Professional Engineer, Wyoming, United States, No. 5931, Expires 12/31/2019

Professional Engineer, New York, United States, No. 098265, Expires 7/31/2020

PROFESSIONAL MEMBERSHIPS
AREMA -1982 to present
ASLRRRA - 2007 to present
ACEC – MT Board Past-President 2017-2018

INDUSTRY TENURE
43 years

HDR TENURE
21 years

OFFICE LOCATION
Missoula, MT

Confidential Class I Railroad, Crude-By-Rail Corridor Development. Don lead the engineering work for this 2,000-mile long corridor, coordinating the design with environmental clearance and permitting, cost estimates, operations plans, and real-estate acquisition for a proposed $2 billion crude oil corridor reaching from the Canadian border to the U.S. Gulf Coast. From the initial telephone call to completion, HDR completed the project in 90 days with more than 100 staff in more than 20 offices. Project Cost - $2.6 billion

Alberta to Alaska (A2A) Railway. A2A Railway is constructing a 1,500-mile long railway between northern Alberta and Alaska to carry crude oil, containerized goods, mineral concentrates and ores, and construction and industrial materials. Don’s team led the conceptual engineering phase and developed the initial construction and procurement plan. The railway will load 28 240-car crude oil trains per day. Project Cost $12.9 Billion

US Army Corps of Engineers, Hill AFB UTTR Missile Transfer Facility, Ogden and Lakeside, UT. Don provided a Customer Concept Document and is providing final design engineering for a 14-mile rail spur connecting the UTTR facility at Oasis, UT with the UP at Lakeside, Utah, and missile transfer and storage facilities. This includes developing design standards that combined UP and USACE/Dept. of Defense railroad standards, revising an alignment developed during the environmental phase and improving the connection with the UP and updating the project cost estimate including value engineering to reduce track length. Project Rail Cost $44 Million

Long Island Railroad Best Value and Constructability Analysis, Final Design
Don conducted a Best Value and Constructability Analysis for the replacement of the Buckram Road Grade Separation Bridge, and repairs to Post Avenue, Springfield Boulevard and Union Turnpike underpass structures. The review included bridge and associated track work, constructability, work schedule, and impacts to LIRR train operations. The combination of Best Value suggestions and constructability review identified significant savings to LIRR and the process used was adopted by LIRR for future project use. Don later provided QC reviews of the construction documents.

DM&E/CP Railway Powder River Basin Project. Don led the engineering effort for the design of 600 miles of existing railroad rehabilitation and 280-miles of greenfield railroad connecting the Powder River Basin mines with the upper mid-West rail network. This included leading the design and construction of emergency repairs for a 31-mile segment of the railroad washed out during a major 800-year event rain storm. Don led the track, bridge, building design, cost estimating efforts, safety plan and training for field crews, coordinating with the environmental process, providing information and attending public meetings on 4(f) and USACE 401 and 404 permits, and worked closely on alternative delivery and standard design-build-build delivery packages for portions of the work. The project included over 3,000 drainage structures including 312 major bridges in addition to the track 5 major yards, major fueling and rolling stock repair facilities. Project Cost - $3.6 Billion

City of Idaho Falls, "D" Street Underpass Replacement, Idaho Falls, ID
HDR designed and provided construction assistance for a replacement structure that will allow for three lanes of traffic and a pedestrian path on one side of D Street. The D Street Underpass is a heavily used grade-separated crossing of the Union Pacific Railroad in the vicinity of downtown Idaho Falls. The HDR Team is coordinating extensively with UP to minimize impacts to the active rail line, including the design of a temporary shoo-fly track and assisting the City with the Construction-Maintenance Agreement with UP.
Kevin Keller
Environmental Lead/Federal Grants and RRIF Loans

Kevin leads HDR’s freight rail STB and FRA NEPA practice with 14 successfully completed Records of Decisions (RODs) on Environmental Impact Statement (EIS) documents for freight rail projects in the last 10 years. Kevin has 34 years of management, planning, environmental and engineering experience in freight rail, including 11 years with HDR. Kevin has managed the planning, permitting, engineering design, and evaluations of new rail alignments, transportation corridors, new maintenance facilities, new structures, logistics planning, and fleet management. He has also managed public benefits analyses, economic development studies, industrial development studies, feasibility studies, and environmental assessments for numerous federal, state, and private transportation clients, including development and preparation of more than 50 State Rail and Freight Plans and more than 20 successful federal grant applications.

RELEVANT EXPERIENCE

NOGC Railroad Relocation Study, FRA and New Orleans Regional Planning Commission. Project Manager for a FRA-lead NEPA environmental document for the relocation of 12-miles of the New Orleans & Gulf Coast Railroad (a short line railroad operating on the west bank side of New Orleans). The project involved management of a multi-disciplined team working in a very sensitive environmental justice area. The project also involved coordination with multiple stakeholder agencies and groups, including LADOTD, FRA, STB, FHWA, Jefferson Parish, Plaquemines Parish, New Orleans Regional Planning Commission, the City of Gretna, The City of Westwego, USACE, and the Belle Chaisse NAS/JRB.

Newfield Exploration, Uinta Basin Railway. Environmental Lead for the team that developed the permitting and STB EIS analysis for this feasibility study for a 170-mile long new railway from Craig, CO, to Roosevelt, UT. The environmental analyses described the authorizations and permits required to construct a railway in the U.S., and the environmental clearances and permits that appear specific to the location of the railway in Colorado and Utah. HDR conducted a preliminary desktop review to provide an evaluation of potential environmental constraints and permits that may be necessary to implement the proposed project. The proposed project entailed two independent actions: a railway between Craig, CO, and Roosevelt, UT, and a rail transload facility located either at Craig or Roosevelt.

Port Bienville Railroad Environmental Study, FRA and Mississippi Department of Transportation. Project Manager for a project-level EIS for 24-miles of new railroad line to connect the Port Bienville Short Line Railroad with the Norfolk Southern mainline in Nicholson, MS. Dual Class I rail access is proposed to enable Hancock and Pearl River counties and Stennis Space Center to attract new industries to this region that require this level of rail service, and encourage job creation and investment opportunities to help this area recover from natural disasters that have significantly affected local economies. Project tasks have included market

EDUCATION
Master of Science, Hydrology/Environmental Management, University of South Florida, 1986

Bachelor of Science, Geology/Civil Engineering, University of South Florida, 1982

REGISTRATIONS
Certified Professional Geologist, Indiana, United States, No. 1030

Certified Groundwater Professional, Iowa, United States, No. 1009

Registered Professional Geologist, Kansas, United States, No. 471

Registered Professional Geologist, Kentucky, United States, No. 1590

Registered Professional Geologist, Tennessee, United States, No. TN1334

Registered Professional Geologist, Wyoming, United States, No. PG-2222
PROFESSIONAL MEMBERSHIPS
American Railway Development Association, Past President, 1998-Present

American Railway Engineering and Maintenance of Way Association (AREMA), AREMA Foundation Board of Directors, 1998-Present

Inland Rivers Ports and Terminals Association (IRPT) Board of Directors, 2018

American Society of Civil Engineers (ASCE), Member, 2001-Present

US/Panama Business Council, Binational Board of Directors

US/ Mexico Chamber of Commerce (USMCO), Co-Chair, Transpor te Internacionale Committee, 2004-Present

Transportation Research Board (TRB) Committee AR040 – Freight Rail, Secretary, 2006-Present

AASHTO Standing Committee on Rail Transportation, Member, 2005-Present

analysis/feasibility study, alternatives analysis, scoping, public outreach, cultural resource assessments, wetlands delineation, and other activities related to the preparation of the EIS. Cooperating agencies included STB, USACE, USEPA, and NASA.

CSX Transportation, Inc.—Easement Acquisition—Louisville Indiana Railroad Company (LIRC), U.S. Surface Transportation Board
Project Manager for a NEPA document for CSX Transportation Inc. (CSXT) proposing to acquire an easement over and jointly use the Louisville & Indiana Railroad Company’s (LIRC) 106.5-mile line from its connection with CSXT in Indianapolis, IN, to its connection with CSXT in Louisville, KY (the Line). In order to jointly use the Line with LIRC, CSXT sought STB authority to acquire and jointly use a perpetual, non-exclusive railroad operating easement. The project included a review of the potential environmental and historic impacts of the Proposed Transaction, working with the STB’s Office of Environmental Analysis to prepare an Environmental Assessment (EA) assessing the potential environmental impacts of the Proposed Transaction and proposing environmental mitigation to minimize potential impacts.

Tupelo Rail Relocation Planning and Environmental Study - Mississippi Department of Transportation/FRA. Project Manager for a study to advance the relocation planning, identify a preferred rail alignment, and to obtain an approved environmental document for alternatives to alleviate roadway congestion caused by the existing rail lines through the City of Tupelo and to gauge the actual cost of congestion in the future. HDR prepared all NEPA documentation including: project management; public outreach; rail and roadway alternatives analyses; impacts assessment; and development of mitigation plans.

Port of Savannah International Multi-Modal Connector, Georgia Ports Authority. Project Manager for the development of a successful FASTLANE Grant application The Georgia Ports Authority will be awarded $44,000,000 of a $126,700,000 project to reconfigure the Port of Savannah’s on-dock intermodal container transfer facilities to bring rail switching activities inside the Port. The project included: 1) building two arrival/departure tracks and extending the track east from Chatham Yard to new arrival/departure tracks; 2) rebuilding a bridge over new yard tracks, Pipemakers Canal; 3) extending Chatham Yard arrival/departure tracks into Mason Yard as working tracks as well as two additional arrival/departure tracks; 4) building two new work tracks at Mason Yard, adding high-capacity cranes, and building new storage tracks; and 5) relocating the Norfolk Southern Foundation Lead track parallel to arrival/departure tracks between Mason Yard and Chatham Yard.

Atlantic Gateway, Virginia Department of Transportation. Project Manager for a successful $165,000,000 FASTLANE grant application to support the Atlantic Gateway project, a corridor approach to improving mobility across the Eastern seaboard. The total Atlantic Gateway project is $905,000,000. The FASTLANE award will be combined with other public and private funding from multiple partners to invest in rail and highway capacity, including constructing approximately six miles of a fourth mainline from the South bank of the Potomac River to Alexandria, extending the express lanes on I-395 north to the Pentagon and on I-95 south to Fredericksburg, and improving general purpose lanes on segments of I-395 to add capacity and improve safety. Other elements include constructing a third main rail line between Franconia and Occoquan, expanding I-95 southbound capacity across the Rappahannock River, rest area reconstruction, and truck parking.
Jonathan W. Johansen  
Roadway Engineer

EDUCATION:

BS, Civil Engineering, Utah State University, Logan, Utah, 2003

LICENSES:

Professional Engineer, 5148749-2202, 2007

SUMMARY:

Mr. Johansen has 15 years of experience managing projects in both the private and public sectors. These projects include right of way acquisition, road design, residential, commercial and industrial site development, state park improvements, wastewater collections systems, potable water systems, irrigation systems, and drainage systems. He has had engineering and management responsibility for master plans, engineering reports, initial site development, design, layout, construction plan sets, contract documentation, and specifications. Mr. Johansen has provided design services for water and wastewater projects ranging from subdivision distribution and collection systems to culinary water systems for the State Parks. His involvement has included coordination and design of the relocation of irrigation lines, culinary lines, and sewer collection lines. Mr. Johansen has provided design services for drainage projects that included large and small collection systems. His involvement has included drainage modeling and design, contract document preparation, and permitting.

EXPERIENCE:

Johansen & Tuttle Engineering:
- 2018, Hill Top Road, Carbon County, Utah
- 2018, Westwood EWP – NRCS Erosion Control Project, Carbon County, Utah
- 2018, Carbon County 7th District Courthouse, Price, Utah
- 2017, Wingate Campground – Dead Horse Point State Park, Utah
- 2017, Green River City Emergency sewer Project, Utah
- 2016, Green River City Street & Utility Improvements, Utah
- 2016, Shady Acres Campground Drainage Project, Green River, Utah
- 2016, Green River City West Industrial Park Master Plan, Utah
- 2015, Project Engineer, USU-Eastern Secondary Water Feasibility Study
- 2014, Project Engineer, Emery County Debris Basins, Utah
- 2014, CCCIC Irrigation Master Plan, Design, and Construction Projects, Castle Dale, Utah
- 2013, Wellington City Sewer Pland Culinary Water Analysis
- 2013, Emery County Huntington Creek EWP-NRCS Erosion Control Project, Huntington, Utah
- 2011, Moore Cutoff Road, Moore, Utah
PRESIDENT OF JULIANO CONSULTING (2015 – Current)
Specializing in positioning key governmental and community relations for benefit of project development and funding procurement support.

• Legislative and Policy development, including lobbying and public process
  o Collaboratively drafting services, successfully lobbied on both sides of the isle.
  o Public-private partnership development for project development.
  o Government relations associated with energy Tariff negotiations

• Establish and maintain key governmental relationships
  o State, regional, and federal offices of USDOT, USDA, BIA, EPA, BLM, and EDA.

• Funding procurement including appropriations, federal grants, and public – private agreements for project development.

CONGRESSIONAL GOVERNMENT RELATIONS STAFFER (2005-2015)
Developed key federal, community, tribal and state government relationships for the benefit of successful legislative and project outcomes.

• Navajo Uranium Water Contamination EPA clean up
  ▪ Established relationships with Utah Navajo Chapter leadership, BIA, EPA, and DOE to benefit communications during the clean-up.

• Navajo Nation - Trust Land Agreement
  ▪ Responsible for US House communications and collaborative language with Utah Navajo Nation Chapters, BIA, President Joe Shirley Jr’s Office, Lt. Governor Greg Bell, and State and Federal Legislators.
  ▪ Managed communications with Utah Navajo Chapters, BIA, and other for congressional hearing process

• Navajo Mountain Water Distribution
  ▪ Established working relationships to address lack of culinary water access following a 2007 fire at Navajo Mountain that left community members without culinary water accesses. BIA, Navajo Nation President Joe Shirley Jr., and Lt. Governors of Utah and Arizona collectively resolved the issues.

• DOE UMTRA Clean Up (2006-2012)
  ▪ Established stakeholder relations in association with multi-year $1billion dollar tailings cleanup adjacent to Arches and Canyonlands National Parks including federal agencies Army Corps, NPS, BIA, DOE, US Fish and Wildlife as well as the Water Districts from CA, NV, and AZ.

• Utah Recreational Land Exchange – from 2007 – 2011
  ▪ Established Ute Business Council relations with then Chairman Curtis Cesspooch and later Irene Cuch, Utah State Institution Trust Lands (SITLA), BIA, and federal legislators to collaboratively develop legislative language which later was signed into Law in 2014.
  ▪ Established collaborative effort with Navajo Chapter Presidents, BIA, BLM, and Department of Education to secure project funding.

• Emergency Funding for Water Systems in Uintah County
  ▪ Established communication with Ute Tribal Business Council, County governments, USDA and NRCS State Directors and federal legislators to ensure funding procurement would be assigned to the project.

In addition to the above, Pamela Juliano has nearly two decades of experience in government and public relations. After serving for nearly a decade as a Congressional advisor she launched her private consulting practice Juliano Consulting, which successfully supported favorable outcomes in government relations, funding procurement, and legislative services.

In 2016 she co-located office space for her consulting services in Salt Lake City, Utah and in Helper, Utah, her home of 35 years with her husband Joe Juliano and maintains regular DC travel schedule to maintain high level federal agency and legislative relationships.

Pam has been recognized by Chambers of Commerce, community councils and government agencies for her involvement in projects associated with AmeriCorps and has served on a number of planning and outreach councils including Millcreek Planning Commission, AmeriCorps VISTA Service Learning Council, Economic Development Councils, and USU Women’s Business Leadership.
Aaron Averett, P.E.

Mr. Averett is experienced in the planning, design and construction management of a wide variety of projects throughout Utah and Nevada including culinary and irrigation water projects, transportation, site planning and parks and recreation projects. Many of the projects Mr. Averett has participated in include planning, funding coordination and acquisition, environmental clearance, technical design and coordination with regulatory agencies, construction management and GIS. Working closely with clients allows Mr. Averett to adapt services provided to match the need of each project individually. Communication has been a vital part of each project Mr. Averett has been involved with.

South Hills Utility Corridor and EA
Santa Clara, Utah
Mr. Averett coordinated with the BLM (Bureau of Land Management) to fulfill NEPA (National Environmental Policy Act) requirements for Santa Clara City in obtaining 2 mile power easements through an area spotted with critical habitats and threatened species.

Culinary Supply Line, Tank and Distribution System
Kane County, Utah
Under the direction of the Kane County Water Conservancy District Mr. Averett worked with the Dixie National Forest to obtain the environmental clearance and permits necessary to install a supply line and tank on Forest Service lands to provide culinary water to a subdivision with a defunct water system. Mr. Averett also worked closely with funding agencies to obtain funds and meet funding requirements for the overall project which included over 20 miles of culinary supply and distribution waterlines and a new culinary water tank. Mr. Averett also oversaw the construction management of the water improvements project and the roads improvements associated with the project. Coordination with local utilities, county agencies, state and federal agencies created challenges that were worked through as part of this project.

Long Valley Estates Water System Design
Kane County, Utah
Mr. Averett coordinated the meeting of funding requirements including environmental, archaeological and design criteria requirements. He also oversaw the design of 35,000 feet of culinary water pipe and a 350,000 gallon water tank to serve 220 connections in a subdivision with a previously inadequate system. Mr. Averett also coordinated with surrounding property owners and collected right-of-way documents.

Additional Experience:

- Duchesne County Water Conservancy District Conservation Update - Duchesne, Utah
- Uintah County Ashley Valley Nature Park - Uintah County, Utah Daggatt County Trails Master Plan - Daggatt County, Utah
- Uintah County Trails Master Plan - Uintah County, Utah
- Ashley Valley Flood Control Projects - Ashley Valley, Utah
- Tabby Valley Park GIS Collection and Site Planning - Tabiona, Utah
- Tabby Valley Park Funding Application - Tabiona, Utah
- Water Master Plan Update and Consulting Services - Santa Clara City, Utah

AARON AVERETT, P.E.
CIVIL ENGINEER

EDUCATION
M.S., B.S. - Civil Engineering, Brigham Young University, 2004 - 2005

YEARS IN PROFESSION
13; 13 with Sunrise

REGISTRATIONS
Registered Professional Engineer
Utah No. 5561922, Colorado No. 47029, Wyoming No. 13845

MEMBERSHIPS
American Public Works Association (APWA)
American Society of Civil Engineers (ASCE)
Vernal Chamber of Commerce Conservation Committee since 2012 Planning Commissioner - Washington City, 2011-2013
Mark Holder
Right-of-Way Lead

Mark is HDR’s Freight Rail Real Estate Lead with over 38 years of experience in rail real estate projects including sales and marketing, acquisitions, joint ventures, eminent domain, private road crossing management, valuation, and public and private partnerships. His work history includes 30 years of real estate experience at CSX Transportation. His experience includes environmental mitigation of real property assets, Geographic Information Systems (GIS), timber and land management and sales to public agencies. He has extensive knowledge of leading a team and motivating a diverse, engaged and sustainable workforce. Mark has participated in and led negotiations for multiple public agency and private real estate projects.

PROJECT EXPERIENCE

- Negotiated the sale of a former rail yard converted to an industrial park in Washington, DC. Proposed new use for high-rise residential and retail. Challenges included zoning change, neighborhood acceptance, governmental compliance and the tremendous downturn in residential condominium and apartment market nationwide. Scope of project $40M. Awarded CSX Chairman’s Award of Excellence in recognition of closing this sale despite deteriorating real estate and capital market conditions
- Positioned a former rail yard parcel in Washington DC for transition and sale for high rise residential and mixed uses development. This high demand parcel had significant hurdles to development including environmental, access, security issues (proximity to US Capitol), adjoining uses, and existing encroachments. Negotiated a contract for the purchase of this asset. Scope: $100M
- Negotiated the sale of former Union Station site in downtown Chicago. Intended use is for a high rise residential and mixed uses development promoting the asset’s riverfront location. Owner was a Class 1 railroad and was actively marketing this site on an “as-is” basis for the past 20 years. Worked with city land planners, land-use attorneys and several potential buyers, to close this sale for $32.5M.
- Managed the strategic direction and disposition of a Class I railroad’s interest in Western Pocahontas Properties LP, a real estate, timber and mineral company. Created value through innovative analysis and positioning of the assets to effect a sale for $46.4M. Originally valued independently at $12M.

Portfolio Management/Valuation

- Acquisition - Lordstown, OH. Negotiated option to purchase a 200 acre industrial complex. Negotiations included natural gas and oil rights.
- Acquisition - Leominster, MA. Located and negotiated option to purchase a 75 acre industrial property.
- Acquisition - Palm Beach, FL. Negotiated third party option contract to purchase 100 acre industrial parcel adjacent to an existing rail facility.
- Specialist in the valuation of corridors and rights-of-way, including alternative uses for in-place systems such as fiber-optic, gas and power transmission.
- Washington, DC. Prepared valuation analysis of corridor from Fredericksburg, VA to Washington, DC for expansion of the Virginia Rail Express Line. Scope of project: $500M.
- Orlando, FL. Valued the real estate for the proposed elevated rail system through downtown Orlando. Scope of project: $55M.
Bill Hjelholt
Project Advisor

Bill is HDR’s Director of Freight Rail. He leads a team of over 200 freight railway specialists performing a full range of services and disciplines for railway clientele. The service lines under his leadership include planning, track and civil design, bridges and structures, yards and terminals, and construction supervision.

Bill’s 32 years of progressive experience include the management of major infrastructure projects and programs across North America and around the world. Bill is experienced with a wide variety of project delivery modes, working for clients such as Class I Railways, passenger and commuter rail agencies, governments, and the resource-industrial sector.

RELEVANT EXPERIENCE

Alberta to Alaska Railway
Bill is the Project Director for the planning, engineering, STB and CEAA environmental clearance for the design, permitting, and construction of a new 1,500-mile railway that will connect Northern Alberta’s oil sands producers to tidewater in Alaska. This $18 Billion project is currently in early STB and Canadian Environmental Assessment Agency (CEAA) review.
Role: Project Director

Saskatoon Railway Bypass, Saskatchewan, Canada
Bill is Project Principal for a study to evaluate a program of multiple grade separations including a downtown rail trench underpass in Saskatoon; and the alternative of relocating the CP Railway to bypass the city.
Role: Project Principal

With Other Companies

Rio Tinto, Simandou Railway, Guinea, West Africa
Bill was Project Director of the Simandou Rail project from May 2011 to January 2012, where he oversaw the mobilization of more than 400 staff to deliver preliminary engineering for a 600-km heavy-haul railway in Guinea. The scope included track, civil, structures, tunnels, communications, train control, rolling stock and maintenance facilities. The $4.5B capex was delivered using dispersed engineering, with offices across North America, Australia, and Spain. Extensive cost estimating and value engineering were carried out. 14 design-build and/or supply contract packages were completed.
Role: Project Director

Canadian National Railway (CN), Cote-Nord Mining Railway, Canada
Bill was the Project Director to assist CN in determining financial feasibility. He led route selection and conceptual design and delivered preliminary engineering for a ±500-km heavy-haul iron ore railway in Quebec and Labrador. The scope included cost estimating, procurement strategy, permitting strategy; planning and simulation of operations to confirm capacity; track, civil structures, tunnels, and facilities. $3.5B capex.
Role: Project Director

CN (For VIA), Toronto to Montreal Expansion, Ontario, Quebec
41-miles of new triple-tracking built on CN’s Kingston Subdivision, (70-miles planned) in seven segments from Oshawa to Turcot (Montreal). $330M capital budget, responsible for costing and scheduling of entire program, and design of track, civil, and structure components. Collaborated to support Environmental
Assessments for each segment. Major structures include 12 rail-carrying structures and three overpasses; along with nearly 50 culvert extensions. More than 40 level crossings requiring upgrades; and extensive real estate acquisition.

Aggressive schedule was advanced the great success; aerial and ground surveys and geotechnical investigations commenced in the spring of 2010, and detailed design of track, civil, and structural was completed in 2010.

**Role:** Project Director

**Union Pacific, Colton Crossing, California**

Bill was Project Director for the construction phase of the Colton Crossing Grade Separation. This innovative flyover eliminated four diamonds on the BNSF and UP mainlines. Lightweight concrete, ground improvement, composite straddle bents were utilized to expedite schedule, and reduce costs. This project was completed early and about $100M below budget.

**Role:** Project Director

**Project Principal – BNSF Projects, partial listing**

- **Wilmar Wye, Minnesota**
- **Bridge and Double Track, Glasgow and Milk River, Montana**
- **KC Automotive Facility Expansion**
- **Capacity Projects:**
  - Lakeside Subdivision 2, Montana to Babb, Washington
  - Multiple Sidings, Texas
  - Devil’s Lake and Mandan, North Dakota
  - Galesburg, Illinois

**Project Manager, Freight Rail Facilities**

**CN, Jet Fuel Transload Facility**

New, two-track facility for unloading fuel from railcars to truck trailers. Capacity of 4,000,000-gallons per week.
Terry Warner, PE, CPESC, ENV SP
Environmental Deputy Lead

Terry has 19 years of engineering experience in a wide variety of technical disciples, project types, and delivery methods. He has extensive experience in environmental analysis (NEPA) and permitting, civil engineering design, contractor procurement, and construction management involving large multidisciplinary teams. He has an ability to develop strong public, private, and regulatory agency relationships, has effective project management skills, and is accustomed to working in a collaborative environment.

RELEVANT EXPERIENCE

Six County Association of Governments, Central Utah Rail Project, Juab and Sevier Counties, UT, Project Manager
HDR contracted with SCAOG as a third-party contractor, acting under the direction of the Surface Transportation Board to prepare an Environmental Impact Statement (EIS). This analysis was to comply with the Board’s environmental rules and other state and federal environmental regulations (49 CFR 1105). The proposed project consisted of constructing and operating a new rail line between the UPRR mainline near Juab and Salina, which would provide a more direct connection to rail service for shippers, primarily the coal industry, in the Sevier Valley and central Utah.

UDOT, Little Cottonwood Canyon EIS, Salt Lake, UT
HDR is preparing an EIS of Little Cottonwood Canyon for UDOT. This EIS will evaluate various options to solve recreation based congestion including transit, avalanche mitigation, parking, adding roadway capacity, gondolas, and rail. HDR will also conduct field surveys for biological resources and wetlands and conduct evaluation of 4(f) resources. The project will require extensive coordination with the U.S. Forest Service including the potential acquisition of federal lands for transportation purposes. Other cooperating agencies include the Utah Transit Authority, U.S. Army Corps of Engineers, and U.S. EPA. Little Cottonwood Canyon is also a water source protection area requiring evaluation of innovated approaches to minimizes water quality impacts.

Union Pacific Railroad, Great Salt Lake Causeway Permitting and Bridge Construction, Box Elder, UT, Quality Control
HDR assisted UPRR with its Clean Water Act Section 404 permitting. The services were related to replacement of two unstable culverts that cross the Great Salt Lake. HDR developed a water and salt balance model to define a bridge to meet ecological, mineral industry, and lake management objectives. The project required extensive resource impact reports and an environmental assessment.

UDOT, I-15 CORE (Corridor Expansion), Utah County, UT, Environmental Manager/Design Oversight
HDR was the lead designer on the design-build team for this $1.7 billion project that extended over a 23.5-mile stretch of the major north-south commuter route between Salt Lake City and the Provo/Orem region. Terry led a Clean Water Act Section 404 permit modification for wetlands and associated Section 401 water quality certification, stream alteration permits, dust control, and NPDES. The project had extensive agency coordination efforts and an extremely aggressive schedule. All permits were received for NTP 2 and in time for contractor to meet its overall schedule. He also helped prepare the design-build proposal and provided design reviews for over 2,000 separate submittals focusing on drainage infrastructure plans and reviews for overall environmental compliance.
Jody J. Patterson, Ph.D.

I have over 25 years of archaeological experience. I am the senior principal investigator and co-owner of MOAC. My responsibilities include organizing, implementing, and overseeing all MOAC projects. Specific duties include project administration, proposal and cost estimate preparation, fieldwork (survey and testing), analysis, report preparation, and QA/QC. I have considerable NEPA and Section 106 experience. I have experience in the Great Basin, Colorado Plateau, the Southern High Plains, the American Southwest, the Western Arctic and Subarctic, and Egypt. My research interests include historical ecology, aerial and spatial archaeology, cultural resource management, and public archaeology.

Professional Accomplishments

Vernal Field Office Class I and Site Location Models
- Principal Investigator
- Site location model development of the entire Vernal Field Office area
- Review and synthesis of over 14,000 site records in the Vernal Field Office area

Nine Mile Canyon Youth Public Archaeology Project
- Manage excavation and logistics for the youth excavation of a prominent Fremont site in Nine Mile Canyon
- Collaborate with a team from the BLM, ASU, USU, and CPAA to introduce archaeology and STEM to high school students

West Tavaputs Plateau Programmatic Agreement
- Assist the proponent in the Programmatic Agreement (PA) process and working with Consulting Parties
- Ensure that the proponent fulfills their ongoing cultural resources requirements under the PA
- Work as a collaborative team member with BLM and consulting parties on issues pertaining to the PA

Employment History

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<thead>
<tr>
<th>Year</th>
<th>Position</th>
<th>Institution</th>
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<tr>
<td>2007-2018</td>
<td>Principal Investigator</td>
<td>Montgomery Archaeological Consultants, Inc., Moab, UT</td>
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<tr>
<td>1999-2001</td>
<td>Adjunct Faculty</td>
<td>University of Alaska, Fairbanks, Fairbanks, AK</td>
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<tr>
<td>1997-1999</td>
<td>Research/Teaching Assistant</td>
<td>University of Alaska, Fairbanks, Fairbanks, AK</td>
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<td>1996</td>
<td>Project Archaeologist</td>
<td>NPS-Wrangell-St. Elias, Copper Center, AK</td>
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<td>1994-1995</td>
<td>Archaeologist</td>
<td>NPS-Pecos National Historical Park, Pecos, NM</td>
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Education

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<tr>
<td>2010</td>
<td>PhD; Anthropology</td>
<td>University of Alaska, Fairbanks, Fairbanks, AK</td>
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<tr>
<td>1996</td>
<td>MA.; SW Studies/Anthropology</td>
<td>New Mexico Highlands University, Las Vegas, NM</td>
</tr>
<tr>
<td>1994</td>
<td>BA; Anthropology/Sociology</td>
<td>New Mexico Highlands University, Las Vegas, NM</td>
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Community Service & Awards

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<tr>
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<th>Activity</th>
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<td>2014-Present</td>
<td>Grand County Historic Preservation Commission</td>
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<td>2016-Present</td>
<td>Grand County Airport Board</td>
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<tr>
<td>2015</td>
<td>BLM-Utah Distinguished Archaeological Contractor Award</td>
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<tr>
<td>2018-2020</td>
<td>President, Utah Professional Archaeological Council</td>
</tr>
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</table>
Dave Nazare, PE
Principal-In-Charge

Dave joined HDR after a distinguished 28-year career with the Utah Department of Transportation (UDOT). He has a broad range of experience beginning on a UDOT construction crew, moving to Bridge Designer, Chief Hydraulic Engineer, I-15 Design Oversight Manager, State Bridge Engineer, and Region Three Director, to currently leading HDR's Utah Transportation Group. Dave has built relationships with many municipal governments and transportation stakeholder groups throughout Utah. At HDR, he uses his broad-based experience to assist with evaluating options and risks to provide cost effective solutions for large and small transportation projects.

RELEVANT EXPERIENCE

**UDOT, Uinta Basin Transportation Study**, Uinta Basin, UT
This study examined and documented existing and future conditions for the feasibility of advancing projects to construction, incorporating a 2040 planning horizon. The project team developed a vision for the Uinta Basin Transportation System and a phasing of construction projects to support that vision. A main focus was an analysis of the feasibility of a roadway connection between I-70 in Grand County and Seep Ridge Road in Uintah County.
**Role:** Project Manager

**Jones & DeMille, Uinta Basin Infrastructure Evaluation and Prioritization**, Uinta Basin, UT
HDR supported the Seven County Infrastructure Coalition with broad support for program management and infrastructure investment analysis. Main responsibilities included engineering, project recommendations and screening criteria, economic analysis, GIS and data management support.
**Role:** Project Manager

**UDOT, US-191 Culvert Repair**, Uinta County, UT
HDR has provided complete preliminary engineering design for culvert rehabilitation and stream bank protection along Big Brush Creek culvert crossing on US-191 at milepost 363.5. The scope includes complete structural design for wingwall, apron, and cutoff walls on both ends of the existing culvert, and developing appropriate stream bank protection upstream of the culvert to prevent future embankment erosion, along with an erosion control plan for restoration of embankment slopes.
**Role:** Principal-in-Charge

**Uinta County, White River Bridge Load Test**, Uinta County, UT
HDR performed a physical load test on the Seep Ridge Road Bridge over the White River and revised the load posting by incorporating strain data from the field into the load rating analysis in BrR.
**Role:** Principal-in-Charge
Asia has 13 years of project controls experience, including over 17 years with HDR. She has extensive knowledge of various project controls applications and experienced with graphic and interface design using various computer programming languages. Her project and technical management experience include: schedule baseline and updates review and analysis; development and evaluation of linear schedules using linear schedule methodology; cost management; implementation and management of electronic data management systems; contract compliance; claims avoidance and analysis; business process review and analysis; and IS project management. She has experience developing procurement documents and reviewing proposals for design-build projects as well as a broad knowledge of the public-private partnership market.

RELEVANT EXPERIENCE

**UDOT, Uinta Basin Rail Feasibility Study**, Uinta Basin, UT
HDR assisted UDOT and local officials in a collaborative effort to determine the economic viability of a freight line in the Uintah Basin and to analyze the potential environmental consequences from construction and operation of the rail line.
**Role**: Project Controls

**UDOT, Uinta Basin Transportation Study**, Uinta Basin, UT
This study examined and documented existing and future conditions for the feasibility of advancing projects to construction, incorporating a 2040 planning horizon. The project team developed a vision for the Uinta Basin Transportation System and a phasing of construction projects to support that vision. A main focus was an analysis of the feasibility of a roadway connection between I-70 in Grand County and Seep Ridge Road in Uintah County.
**Role**: Project Controls

**HNTB, Trans Texas Corridor – 35, Tier One**, Texas
The purpose of Tier One EIS was to determine the recommended reasonable corridor alternative from which the TTC-35 route will be located. The study area includes over 70 counties in Texas and extends from the Red River to the Rio Grande. This project required extensive public involvement including scoping meetings informal public meetings and formal public hearings held statewide.
**Role**: Project Controls

**Dakota Minnesota & Eastern Railroad, Powder River Basin Coal Expansion**, South Dakota
HDR was responsible for preliminary engineering and route selection for approximately 260 miles of new heavy-haul rail line into the Powder River Basin (PRB) coal fields. The project also included the rebuild of approximately 600 miles of the existing DM&E mainline to meet heavy-haul standards.
**Role**: Project Controls

**UDOT, Access Utah County Program Management**, Utah County, UT
AUC is actually five distinct design-build projects designed to improve traffic mobility in this area. HDR is providing program management, project controls, design and construction oversight, and audit oversight services for all five design-build projects at a total construction value of $600 million.
**Role**: Project Controls
Kyle Robe, PE  
Deputy Engineering Lead  

Over ten years of civil engineering experience in project and construction management, rail track alignment design and modeling, water modeling, land development, highway and municipal street design, documentation, utility design, and civil design. Additional experience includes client management and serving as a survey crew chief on projects that varied from construction to land surveys under the supervision of a professional land surveyor.

RELEVANT EXPERIENCE

**Industrial Client**  
**Edmonton, Alberta**  
Acting as the construction manager for a large oil and gas client, supervising the construction of 6 loop tracks for an expanding facility.

**BNSF Railway, Pleasant Dale to Milford Double Main Project**  
**Milford, Nebraska**  
Provided full construction oversight, inspections, schedule management, change order tracking, providing answers to RFI and submittals, safety, field design changes and full environmental SWPPP compliance services.

**Rio Tinto, Simandou**  
**Simandou, Guinea, Faranah Region**  
Responsibilities included coordination of the rail design criteria needed for each aspect of the project as it pushes the limits of capacity. Segment engineer responsible for project management, design reviews, quality control, for a segment of the 670-kilometer project.

**Canadian National Railway, Cote Nord**  
**Montreal, Quebec**  
Worked on coordinating the development for a design criteria for a new heavy haul rail line in northern Canada.

**Utah Transit Authority, Frontrunner South**  
**Salt Lake City, Utah**  
Responsible for updating and adding horizontal and vertical alignments, exhibits, redesigns, cross sections, InRoads modeling, and right-of-way coordination.

**Utah Department of Transportation, Browns Park Road**  
**Daggett County, Utah**  
Responsible for project documentation and inspection over the life of the project. Other duties included static GPS surveying set-up and topographic survey.

**City of Lehi and City of Sandy Public Works, Municipal Works**  
**Lehi and Sandy, Utah**  
Responsible for CADD design work, inspecting, surveying, and various other related municipal engineering tasks.
Frank Pisani
GIS Manager

Frank has extensive GIS experience using spatial analysis and mapping tools in both the private and public sectors. His specialties lie in enterprise data management, spatial data visualization, and web-based mapping. He supports engineering design, right-of-way, public involvement, and project management staff with mapping data analysis and asset management. Frank is skilled in creating focused web content to support project teams, stakeholder experiences, and public-facing web items. He is an advocate of GIS technology and strives to show clients and colleagues how taking a GIS approach to solving problems make projects more successful. Frank is part of HDR’s Geospatial Technology Leadership Team, which focuses on using advanced technology solutions to solve complex project challenges.

RELEVANT EXPERIENCE

UDOT, Uinta Basin Rail Feasibility Study, Uinta Basin, UT
HDR assisted UDOT and local officials in a collaborative effort to determine the economic viability of a freight rail line in the Uintah Basin and to analyze the potential environmental consequences from construction and operation of the rail line.
Role: GIS Manager

UDOT, Uinta Basin Transportation Study, Uinta Basin, UT
This study examined and documented existing and future conditions for the feasibility of advancing projects to construction, incorporating a 2040 planning horizon. The project team developed a vision for the Uinta Basin Transportation System and a phasing of construction projects to support that vision. A main focus was an analysis of the feasibility of a roadway connection between I-70 in Grand County and Seep Ridge Road in Uintah County.
Role: GIS Manager

Jones & DeMille, Uinta Basin Infrastructure Evaluation and Prioritization, Uinta Basin, UT
HDR Supported the Seven County Infrastructure Coalition with broad support for program management and infrastructure investment analysis. Main responsibilities included engineering, project recommendations and screening criteria, economic analysis, GIS, and data management support.
Role: GIS Manager

UDOT, West Davis Corridor Environmental Impact Study, Davis County, Utah
HDR prepared an EIS for a new 20-mile four-lane highway with UDOT and FHWA as the lead agencies. The studies included identification and analysis of 46 corridors over a large study area which were screened down to four reasonable alternatives in a 2-month period. Main issues evaluated for each corridor included wetlands and Clean Water Act requirements, wildlife, economics, air quality, noise, and social impacts.
Role: GIS Manager

UDOT, Mountain View Corridor, Salt Lake County, UT
The Mountain View Corridor is 35 miles of planned freeway, transit, and trail system that will be implemented in phases. HDR's services thus far have included providing utility transmission expertise corridor wide, developing the design framework for phased implementation, and providing program management services for three segments of construction.
Role: GIS Manager
Ryan Cole, PhD, PE, DGE  
President / Principal

Years of Professional Experience
19

Education
PhD, Civil Engineering, Brigham Young University  
BS, Civil Engineering, University of Utah

Licensure
Professional Engineer – Utah No. 368476, Nevada No. 21915,  
Wyoming No. 14031, Louisiana No. 38532, Mississippi No. 25568,  
Texas No. 122513, Colorado No. 0050918, Idaho No. 17376

Biographical Sketch
Ryan will use his soil/rock mechanics background to support the design team in addressing geotechnical / geologic conditions and risks as various rail alignments are considered and ultimately selected. Ryan has provided geotechnical design and assessment services for many high profile corridor projects including: feasibility studies, alignment alternative evaluations, geotechnical design, and construction related support for: rail lines, pipelines, canals, and highways, bridges, and utility corridors through mountainous terrain. Applicable examples include:

- **UTTR Rail Spur** – Ryan serves as project manager for geotechnical services, drilling, logging, laboratory testing, and analyses associated with a 14-mile long rail spur. Project includes drilling and coring over 45 test holes and CPT soundings (over 2,400 lineal feet) laboratory testing, geotechnical analyses and data report.

- **Provo River Canal Enclosure** – Ryan provided geotechnical / geologic analysis and design support for this 22 mile canal enclosure with a 126-in diameter steel pipe through technically challenging terrain addressing geologic hazards (fault zones, and active landslides) and geotechnical risks. This project included soil and rock sampling of over 44 test holes.

- **Geotechnical design lead responsible for geotechnical/geologic evaluations and risk assessments for the I-80 Mouth of Parley’s Canyon to Lamb’s Canyon roadway widening which included addressing landslides, rock cut slopes, and rockfall related risks.** Ryan’s experience will help the team identify and address geotechnical and geologic risks along the UBPR Project.

- **Geotechnical design lead for the I-80 Trunk line Replacement CM/GC project that included geotechnical design and geologic risk assessments for the installation of 10,500 lineal feet of a 66-inch RCP and 6,660 laterals with excavations up to 100-foot deep through highly variable bedrock, soil, and intermediate geomaterials.**

- **Pipeline Distress assessments for a confidential client that included remediation, and risk assessments for 26,000 lineal feet of 36-inch high-pressure steel pipeline through mountainous topography distressed by historic mine subsidence.**

- **Geotechnical Design Lead for 7 design-build and 4 CM/GC project in the past 10 years on projects with construction costs ranging from $5.0MM to over $1.7B.**
SUMMARY
Carol Ravano has 26 years of geotechnical and civil engineering experience and is the company wide manager of the Railroad Engineering and Construction Management Groups at McMillen Jacobs. Ms. Ravano specializes in management of construction projects and geotechnical site investigations and analyses for Class 1 and regional railroads; state, county, and city agencies; and private owners. Ms. Ravano has designed numerous railroad geotechnical and tunnel rehabilitation projects, many of which have been constructed under live track conditions. She has performed construction monitoring, ensuring that procedures, materials, and structures meet contract specifications, safety requirements, and environmental regulations.

EDUCATION
M.S. Civil Engineering, University of California, Berkeley, 1984
B.S. Civil Engineering, University of California, Berkeley, 1983

PROFESSIONAL REGISTRATIONS
Professional Engineer: California, No. 41061, 1986
Professional Engineer: Washington, No. 28880, 1992

EXPERIENCE
Wind River Tunnels 4 and 5 Rehabilitation, BNSF Railway Company, Casper, WY (2011–2012)
Ms. Ravano managed the McMillen Jacobs team that performed design and construction management services for repairs for Tunnels 4 and 5 approximately 22 miles south of Thermopolis, Wyoming. A site visit of Tunnel 4 was performed in response to a collapse of several timber sets that form the extended portal structure on the south end of the tunnel. Repair recommendations were made and BNSF decided to have all tunnels inspected to evaluate the need and possible locations for rock bolts. Construction included the removal of timber sets, installation of resin grouted rock bolts (RGRB) or cement grouted double corrosion protected (DCP) anchors, and installation of welded wire mesh. During construction, McMillen Jacobs provided inspection services.

UPRR-Tunnel 7-Ayers Tunnel, Union Pacific Railroad, Pasco, WA, USA (2010–2013)
As project manager, Ms. Ravano performed the site reconnaissance, facilitated the design and bid document production, managed staffing, budget, and scheduling. Built in 1899, the 623-foot-long Ayers Tunnel had original wooden portal structures and was lined with timber sets. McMillen Jacobs prepared a remedial design to remove the portal structures and timber sets to improve clearance for double stack container trains, eliminate the risk of fire and decrease maintenance. Also provided on-site construction observation.

Coos Bay Rail Tunnels Rehabilitation, Oregon International Port of Coos Bay, OR (2009–2016)
Ms. Ravano served as the project manager overseeing all McMillen Jacobs work, with particular focus on rehabilitation of four tunnels. When the Port of Coos Bay purchased a 120-mile-long railroad line, from RailAmerica, the line was in disuse and disrepair. McMillen Jacobs evaluated seven tunnels built between 1911 and 1916, designed repairs, and provided resident engineering during construction. McMillen Jacobs also provided geotechnical input on slope stability and bridge support. Repairs included removal and disposal of timber linings (support sets, lagging, and cribbing); removal and disposal of rock, mud, and debris; installation of steel support sets, channel lagging, concrete, rock bolts, backfill concrete, and shotcrete; and localized re-establishment of tunnel track drainage within and adjacent to the tunnels. To repair sections of four railway tunnels, design calculations, drawings, and specifications were prepared, and the bid process was facilitated.

Great Salt Lake Causeway Stability Assessment and Repair, UPRR, Ogden, UT (2007–2015)
Ms. Ravano was the project manager for the ongoing monitoring of the causeway. McMillen Jacobs’ field-based design approach to repair the causeway used soft ground soil mechanics techniques to bridge a hole in the dense salt layer. McMillen Jacobs continues to monitor the embankment settlement.
Chris has over 15 years of extensive experience in engineering design and construction management for Class 1 and short line railroads. He has supervised the design and construction of numerous projects including track yard bridge grade crossings studies fueling facilities yard offices mechanical facilities car shops and diesel shops.

### RELEVANT EXPERIENCE

**Confidential Client, Classification Yard**, Robertson County, TX, Facilities Lead
This project included over a dozen new buildings, car repair, locomotive repair, locomotive fueling, and industrial waste treatment facilities.

**Confidential Client, Locomotive Facilities**, Robertson County, TX, Facilities Lead
This project consists of the development of several options for new locomotive facilities to support a classification yard in Robertson County, Texas. Plans and estimates were developed for the site, track, and building layouts. Some the infrastructure included a service track, locomotive shop, ready tracks, welfare buildings, warehouse space, fueling, miscellaneous fluids, and a roadway network.

**UPRR, Dolores Mechanical Facilities**, Carson, CA, Project Manager
HDR worked with UP’s Facilities and Mechanical groups to develop conceptual plans for facilities to house a new locomotive wheel truing facility at the Dolores yard.

**UPRR, Locomotive Shop Conceptual Design**, Denver, CO, Project Manager
HDR worked with UP’s Facilities and Mechanical groups to develop conceptual plans for a new locomotive repair shop at the North Yard in Denver, CO. The facility included 3 running repair tracks with full-length pits and work platforms at the locomotive running board elevation. Space was also included for offices, lockers, lunch room, warehouse, pumping facilities, treatment plant, and other support functions. Locomotive flow was considered and put into the design of the track & building layout.

**BSNF, Pasco Diesel Shop**, Pasco, WA, Project Manager
Review of a previous design effort that was shelved due to economic concerns. As part of this effort, HDR provided documentation to support the relocation of these services from the Seattle area, investigation of Public Private Partnership funding and development of a design-build package to expedite construction of the project.

**Wisconsin DOT, Train Maintenance Facility Design**, Milwaukee, WI, Facilities Lead
As a subconsultant, HDR provided design services for the 30% and 60%-level design for a new state-of-the-art train set maintenance facility for two new Talgo train sets purchased by the State of Wisconsin. The new train sets were intended to provide service on Amtrak’s Hiawatha Service operating between Chicago and Milwaukee.

**BNSF, Galesburg Diesel Shop Expansion**, Galesburg, IL, Program Manager
Provided Program Management Services associated with the design and construction of a new locomotive repair shop in Galesburg, Illinois. The design process was managed in compliance with goals set forth through the programming phase.

**BNSF, Wheel Truing Pit**, Minneapolis, MN, Project Manager
Design and construction management of a new pit to house a new Hegenscheidt underfloor wheel truing machine installed at BNSF’s Northtown diesel shop in Minneapolis, Minnesota. The pit was constructed within the heavy repair area of the existing, fully operational diesel shop. All of these operations were required to stay in service for the duration of the construction period. Plans and specifications were developed to minimize the impact on day-to-day diesel shop activities.
Karen Nichols  
Water Resources

Karen is an expert in working with public and private clients that focus on environmental planning, compliance, permitting, and mitigation. She specializes in CWA compliance for surface water quality, wetlands, stormwater quality permitting and monitoring, and watershed analyses projects. Karen has led multiple modeling and watershed analysis projects, including urban watershed model development and rural resource management watershed planning, which included stakeholder involvement and information. Ms. Nichols has managed projects to design and construction long-term management (post-construction) stormwater treatment facilities for the removal of pollutants from municipal urban land uses and industrial facilities. She has experience with alternative delivery methods, design-build and public private partnerships specifically for stormwater infrastructure and water quality treatment.

RELEVANT EXPERIENCE

Union Pacific Railroad, Great Salt Lake Culvert Closure and Bridge Construction Permitting Assistance and Compliance Monitoring, Box Elder, Utah  
HDR provided alternative analysis and Great Salt Lake water quality modeling, to support permitting of infrastructure improvements to the causeway. Stakeholder and regulating agencies required resource evaluations, interim chemical and biological monitoring of the Great Salt Lake, and Level I and Level II anti-degradation review. Due to the phasing of the infrastructure improvements, the project elements were authorized under 3 U.S. Army Corps of Engineers 404 permits and supported by 2 State Water Quality Certifications. Final authorization allowed the construction, preparation of the sampling and analysis plan along with a quality assurance project plan for compliance monitoring. HDR is currently providing water quality monitoring and reporting to meet project performance standards.  
Role: Project Manager

Union Pacific Railroad, Communal Track, Salt Lake City, Utah  
HDR provided environmental permitting services to authorize construction of a Union Pacific Railroad siding on Promontory Point, Box Elder County, Utah. Due to proximity of the project to the Great Salt Lake, the U.S. Army Corps 404 permit required an individual Utah State 401 Water Quality Certification. Services included wetland delineation, water quality evaluation, cultural survey and regulating agency coordination.  
Role: Water Resources

UDOT, West Davis Corridor Environmental Impact Study, Davis County, Utah  
HDR prepared an EIS for a new 20-mile four-lane highway with UDOT and FHWA as the lead agencies. The studies included identification and analysis of 46 corridors over a large study area which were screened down to four reasonable alternatives in a 2-month period. Main issues evaluated for each corridor included wetlands and Clean Water Act requirements, wildlife, economics, air quality, noise, and social impacts.  
Role: Water Resources

UDOT, SR-30 Environmental Impact Study, Cache County, Utah  
HDR prepared a corridor study, EIS and preliminary engineering for roadway transportation improvements on SR 30 in Cache County. The study was a comprehensive evaluation of environmental, cultural, social, and economic impacts of various alternatives. The project required extensive coordination with local, state, and federal resource agencies during the alternatives-development process, and with the U.S. Army Corps of Engineers on an approach to the wetland impacts analysis and permitting.  
Role: Water Resources
MATT EDWARDS, PH.D., RPA, CULTURAL RESOURCES LEAD

Dr. Edwards is a professional archaeologist and regional scientist in SWCA’s Science Leadership Program. He has authored or co-authored over 140 technical reports to government agencies and private entities and been involved at various levels—from field assistant to project manager—on hundreds of projects to comply with the National Historic Preservation Act (NHPA) and National Environmental Policy Act (NEPA). His work in academia has resulted in several published articles or book chapters, some of which are published in peer-reviewed scientific journals. He is also experienced in other aspects of cultural resources management including historic preservation, architectural history, public history, and tribal consultation. He has experience overseeing all aspects of project management including planning and proposals, supervising field and laboratory work, writing final reports, and working with agencies and clients to meet their needs. He is also the director of SWCA’s Salt Lake City-based Cultural Resources Program.

YEARS OF EXPERIENCE
22

EXPERTISE
Project and program management
Cultural resource management law and regulation
Prehistoric and historic archaeology
Historic preservation
Public archaeology and history
Tribal and community consultation

EDUCATION
Ph.D., Anthropological Archaeology; University of California, Santa Barbara; 2010
M.H.P., Master of Historic Preservation; Georgia State University; 2001
B.S., Anthropology; University of Utah; 1996

REGISTRATIONS / CERTIFICATIONS
Registered Prof. Archaeologist, Multiple States; Register of Professional Archaeologists; 2003

PERMITS
U.S. Bureau of Land Management statewide Cultural Resource Use Permits in Utah (17UT55126)
Principal Investigator for State Lands in Utah (PLPCO 278)

SELECTED PROJECT EXPERIENCE (*Denotes experience while at HDR)

Gateway West Implementation Support; PacifiCorp; Multiple Counties in Multiple States. PacifiCorp is proposing to construct and operate the Gateway West Transmission Line, consisting of approximately 990 miles of a new 230-kilovolt (kV), 345-kV, and 500-kV alternating current electric transmission line system. The Project crosses public lands managed by the Bureau of Land Management and states as well as some private land. Intensive cultural resources investigations were completed for the approved route. Role: Program Director.

Sigurd Red Butte Cultural Resources Report; PacifiCorp; Utah. The Sigurd to Red Butte 345-kV #2 Project consists of approximately 170 miles of single-circuit 345-kV construction from the existing Sigurd Substation near Richfield, Utah, to the existing Red Butte Substation near Central, Utah. The route exits the Sigurd Substation and crosses Interstate 70, Fremont Indian State Park, and inventoried roadless areas in the Dixie National Forest. SWCA completed analysis and reporting for archaeological data recovery efforts. Role: Program Director.

Class II Archaeological Inventory for the Proposed Uinta Basin Rail Project; Carbon, Duchesne, Uintah, and Utah Counties, UT; Utah Department of Transportation (UDOT).* Conducted a pedestrian archaeological survey of two proposed rail routes for the Uinta Basin Rail Project. The archaeological analysis consisted of a Class I background records search and a Class II survey of selected portions of the two proposed routes based upon a predictive model created specifically for the project. Also supervised survey of architectural resources and a preliminary study for the identification of potentially affected traditional cultural properties (TCPs). Role: Project Manager & Principal Investigator.

Tribal Consultation and Section 106 Services for Central Utah Rail Project EIS. Project Director for Cultural Resources and Tribal Consultation.* Primary cultural resources professional responsible for coordinating government to government cultural resources consultation between the Surface Transportation Board and interested tribes, including: the Cedar City and Konosh Bands of the Paiute Indian Tribe of Utah; the Kaibab Band of Paiute Indians; the Ute Indian Tribe, and the Hopi Tribe. Project also involved consultation with the Utah State Historic Preservation Office (SHPO) toward development and finalization of a Programmatic Agreement (PA). Role: Project manager
REGISTRATIONS
Real Estate Sales Agent
License Utah No. 8543916-SA00
Notary Public, Utah, United States, No. 666385

PROFESSIONAL MEMBERSHIPS
International Right of Way Association, Member
National Association of Realtors (NAR)
Salt Lake Board of Realtors (SLBR)
Wasatch Front Regional Multiple Listing Service (WFRMLS)

Michael Richardson
Property Acquisition

Mike has 11 years of ROW acquisition experience in Utah, Idaho, and North Dakota. He has worked as a ROW agent, relocation agent, site acquisition specialist, and leasing and zoning manager. He has experience in residential, commercial, and agricultural acquisition, and in residential and business relocation, leasing, zoning and permitting.

RELEVANT EXPERIENCE

**UDOT, Uinta Basin Rail Feasibility Study**, Uinta Basin, UT
HDR assisted UDOT and local officials in a collaborative effort to determine the economic viability of a freight rail line in the Uintah Basin and to analyze the potential environmental consequences from construction and operation of the rail line.

*Role:* Acquisition Agent

**UDOT, Mountain View Corridor**, Salt Lake County, UT
Mike provided negotiation and acquisition, and conducted relocation assistance under the Uniform Relocation Act. Overall, the HDR team provided ROW acquisition and relocation services for more than 400 parcels, including full and partial takes with numerous complex relocations. This effort involves acquiring hundreds of parcels of all types, including farmlands, residential, commercial and industrial.

*Role:* Acquisition Agent

**Questar Pipeline Company, Regulator Station Right-of-Way Acquisition**, UT
HDR is providing management and oversight for the property acquisition for regulator stations site(s) and pipeline easements. Services include identification of acceptable properties, identification of landowners, landowner contact and negotiation for purchase of the property, and performing necessary due diligence for the site.

*Role:* Acquisition Agent

**Bonneville Power Administration, Palisades-Swan Valley Transmission Line Rebuild**, Bonneville County, ID
HDR provided realty services to BPA’s Palisades-Swan Valley No. 1 (existing 115kV) Transmission Line rebuild project. We acquired land rights for varying right-of-way depending on location as well as required access roads for approximately 65 separate parcels and approximately 28 different landowners. Realty services also included providing recommendations to BPA in the support of settlement damages for any construction related activities.

*Role:* Acquisition Agent

**Bonneville Power Administration, Hooper Springs Transmission Line and Substation**, Bonneville County, ID
The project includes construction of a new 32-mile, single-circuit 115 kV transmission line. In an effort to select the transmission line route with the least amount of impact to landowners in the area, Mike is acquiring permission-to-enter permits from landowners which allow engineers, environmental specialists, and survey crews access to properties to perform site inspections and surveys.

*Role:* Acquisition Agent

**Central Utah Water Conservancy District, Vineyard Connector, CWP North Shore Aqueduct Right-of-Way Services**, Utah County, UT
The Segment consists of approximately 40,000 feet of 60-inch pipe. As part of the team providing design and construction management, HDR provided right of way services. The pipeline route will crosses existing railroads, streams, utilities, and city/county/state roads as well as private lands. Effective contact and coordination with all of the affected entities was an integral part of the project.

*Role:* Acquisition Agent
SEVEN COUNTY INFRASTRUCTURE COALITION
Closed Session Vote
November 9, 2018

Motion to enter closed/executive session for purposes of personnel and real estate acquisition by Commissioner _______________________. Seconded by Commissioner _______________________.

ROLL CALL VOTE

SEVEN COUNTY INFRASTRUCTURE COALITION VOTING:
Carbon  Board Member Yea ___ No ___
Daggett  Board Member Yea ___ No ___
Duchesne Board Member Yea ___ No ___
Emery   Board Member Yea ___ No ___
San Juan Board Member Yea ___ No ___
Sevier  Board Member Yea ___ No ___
Uintah  Board Member Yea ___ No ___

Motion to re-enter open session by Commissioner _______________________. Seconded by Commissioner _______________________.

SEVEN COUNTY INFRASTRUCTURE COALITION VOTING:
Carbon  Board Member Yea ___ No ___
Daggett  Board Member Yea ___ No ___
Duchesne Board Member Yea ___ No ___
Emery   Board Member Yea ___ No ___
San Juan Board Member Yea ___ No ___
Sevier  Board Member Yea ___ No ___
Uintah  Board Member Yea ___ No ___

______________________________
Co-Chair Phil Lyman

______________________________
Co-Chair Jae Potter

ATTEST:

______________________________
Eric Johnson
RESOLUTION SELECTING RAIL ENGINEERS AND RELATED MATTERS.

WHEREAS, the Coalition distributed and published a request for qualifications for rail engineers; and

WHEREAS, the Coalition received two responses, which responses were provided to the Board; and

WHEREAS, the Coalition Board conducted interviews with both respondents; and

WHEREAS, based on the responses of the respondents and their interviews, the Coalition Board is prepared to select a team of consultants to perform engineering and baseline environmental to obtain regulatory approval for a rail line extending from the Myton/Leland Bench areas in the Uinta Basin to connect to the national rail network;

NOW, THEREFORE, be it resolved by the Governing Board of the Seven County Infrastructure Coalition, Utah as follows:

1. The Governing Board hereby selects the ___________________________ team as the rail engineer for the Coalition to perform engineering, environmental baseline, permitting, right-of-way planning and related services to obtain all necessary permits to commence construction by December 1, 2020. and directs legal counsel to prepare a contract consistent with the terms of this candidate’s proposal, as directed by the Executive Director.

2. The Governing Board authorizes the Executive Director to include such additional terms and provisions into the agreement (which may not be included in the selected candidate’s proposal) to better advance the purpose of connecting the Uinta Basin to the national rail network in a cost feasible manner, and authorizes the Executive Director to execute and sign such contract with the selected candidate, as long as the maximum contract amount does not exceed $______________, and the Board further authorizes the attestation and application of the Coalition seal to such agreement.

3. The Governing Board further directs the Executive Director to issue requests for proposals or qualifications for all other professionals necessary or helpful to expedite and obtain regulatory approval to construct the Uinta Basin rail, including, but not limited to, legal, third-party Surface Transportation Board environmental contractor, economic evaluation and contract negotiations, short line operator, and other related matters.

4. All parts of this Resolution are severable, and if any section, clause or provision
of this Resolution shall, for any reason, be held to be invalid or unenforceable, the invalidity or unenforceability of any such section, clause or provision shall not affect the remaining sections, clauses or provisions of this Resolution.

5. All resolutions or parts thereof in conflict herewith are, to the extent of such conflict, hereby repealed and this Resolution shall be in full force and effect immediately upon its approval and adoption.

Motion by _______________________ and Seconded by ___________________.

SEVEN COUNTY INFRASTRUCTURE COALITION VOTING:

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______________________________
Co-Chair Phil Lyman

______________________________
Co-Chair Jae Potter

ATTEST:

______________________________
Eric Johnson

(COALITION SEAL)