WSDOT’s Partner in
Fish Passage Barrier Removal
Program Delivery

HDR Engineering, Inc.
Statement of Qualifications for
Fish Passage Delivery Plan
Scoping Team
Packet A
May 5, 2022
1A. Firms and Expertise

Firms on Team and Types of Expertise

With the fast-approaching 2030 deadline to open 90% of the blocked habitat in the injunction area, WSDOT needs an innovative team who is able to efficiently scope fish passage barrier removal projects to prevent delays and facilitate smooth handoffs to Regions and their GEC teams. Having worked with WSDOT for nearly 50 years, including extensive experience delivering fish passage projects at all stages of development, HDR brings the right expertise and mindset to support WSDOT in all your fish passage scoping needs, including:

- Evaluating each project’s complexity
- Supporting WSDOT in setting priorities
- Offering innovative solutions to accelerate program delivery and meet project goals
- Effectively bundling projects and selecting the right delivery method
- Managing your risk

SUMMARY OF KEY ADVANTAGES

- Deep bench of local resources to respond quickly to scoping tasks
- Dedicated fish passage delivery team, capable of setting future phases of work up for quick success
- Trusted WSDOT fish passage experts
- Understanding the requirements and expectations of WSDOT, WDFW, the Tribes, USACE, and other stakeholders to prevent surprises in future project development phases

HDR has been at the forefront of helping to shape policy for WSDOT for fish passage barrier removal. We have served as a direct extension of staff for WSDOT on your HQ Fish Passage & Hydraulics Staff Augmentation contract and delivered preliminary hydraulic designs for more than 60 crossings in Olympic and Northwest Regions. Our team has supported the training of UDBE, SBE, and MSVWBE firms to increase participation in the fish passage program, and we have completed the design of four bundles of crossings within the...
Olympic Region, which included both design-bid-build and design-build packages.

Our team includes our key partner, Parametrix, and strategically chosen MSVWBE firms to make sure you have the required expertise, experience, capacity, and flexibility to meet the scope and schedule demands of this program. Below, in Figure 1.1, we have summarized the expertise, years of experience, and numbers of employees in Washington and nationwide of each of the firms on our team. As a locally-based team, supported by national specialty expertise, we will provide WSDOT with complete access to our key individuals and additional subject matter experts. With office locations throughout the state of Washington, the HDR team is in close proximity to HQ, Regional PEO offices, and any crossings assigned, which makes us uniquely suited to respond quickly.

Our project manager, Paul Ferrier, is a former WSDOT employee who brings a deep knowledge of the fish passage program and the proven ability to assemble right-sized teams who are skilled at effectively serving as an extension of staff. Paul is a strong advocate for WSDOT’s values and vision, and is ready to strategize and quickly mobilize a team to implement your objectives.

This team has proven that we are adept at being flexible as standards evolve and are skilled at managing risk proactively. For example, we have developed a wide range of unique maintenance of traffic solutions for fish passages in areas where long, circuitous detours are not an option, such as Minter Creek, where construction needed to be completed on an aggressive schedule, in some cases occurring over one weekend, and understand the role of identifying such issues early. In addition, HDR’s team brings expertise on advancing large programs involving multiple contracting types, including the development of contract documents for design-build and design-bid-build, as demonstrated by our successful delivery of various contracts underneath WSDOT’s SR 520 Bridge Replacement and HOV Program GEC.

Figure 1.1: Summary of Firms, Expertise, and Employees

<table>
<thead>
<tr>
<th>FIRM</th>
<th>OFFICES/STAFF NUMBERS</th>
<th>FIRM EXPERTISE AREAS</th>
<th>YEARS PROVIDING EXPERTISE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spokane: 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pasco: 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bellevue: 228</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Everett: 35</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Olympia: 36</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gig Harbor: 28</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vancouver: 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Portland: 188</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WA/PDX: 719</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nationwide: 9,921</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mukilteo: 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Portland: 91</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Puyallup: 154</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seattle: 154</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spokane: 26</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tacoma: 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vancouver: 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WA/PDX: 480</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nationwide: 607</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HWA (MBE/WBE/DBE)</td>
<td>Bothell: 43</td>
<td>Geotechnical Engineering, Pavement Engineering, Hydrogeology, Geoenvironmental, Construction Inspection, Materials Testing</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>WA/PDX: 43</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nationwide: 43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTT-SAKAI (MBE/DBE)</td>
<td>Seattle: 12</td>
<td>Constructability Reviews, Cost Estimating, Construction Scheduling, Disputes Resolution</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>WA/PDX: 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nationwide: 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NATURAL SYSTEM DESIGNS</td>
<td>Port Angeles: 3</td>
<td>Geomorphology, Stream Hydraulics and Hydrology, Stream Design</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Bellingham: 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WA/PDX: 41</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nationwide: 41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NORTHWEST WATERSHEDS (WBE/DBE)</td>
<td>Portland: 5</td>
<td>Hydrologic and Hydraulic Modeling (1D and 2D), Geomorphology, Sediment Transport, Stream Restoration Design, Stormwater Management, Green Infrastructure</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>WA/PDX: 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nationwide: 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANCHOR QEA</td>
<td>Seattle: 91</td>
<td>Stormwater, Stream Hydraulics, Fish Passage, Fluvial Geomorphology, Stream Design, Construction Management</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Bellingham: 29</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tacoma: 16</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tri-Cities: 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wenatchee: 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Portland: 41</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WA/PDX: 180</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nationwide: 405</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
We offer WSDOT the depth of resources and technical expertise to meet your current and future goals.

**Team Organization**

As a long-time partner in WSDOT’s Fish Passage program, HDR has structured our team to deliver the scoping reports for these 80-100 fish passage barrier corrections quickly and efficiently.

We are proposing a robust team, as demonstrated in Figure 1.2 (right), to provide our project manager, deputy project manager, and key staff the right expertise and level of resources to complete high-quality work on schedule. We have long-standing relationships with many of our teaming partners—Parametrix, HWA (MBE/WBE/DBE), Ott-Sakai (MBE/DBE), Natural Systems Design, Anchor QEA—resulting in efficient collaboration and easy communication. In addition, we are excited to partner with Northwest Watersheds (WBE/DBE) for the first time on this contract to provide additional depth to our hydraulic services.

Should you need additional capacity to meet the schedule, our team can draw from our deep bench of local resources to supplement our staff. Project manager, Paul Ferrier, will work hand-in-hand with deputy project manager/hydraulics delivery team lead, Cade Roler, to communicate directly with WSDOT in review of the deliverables each delivery team produces for consistency and quality and, together, they will monitor schedule and budget for all crossings.
1B. Firms’ Relevant Projects

Shown below and on the following pages are recent examples of HDR projects that represent successful partnerships with our clients—reaching performance goals and delivering within the required schedule. Additionally, the following pages include several examples of our teaming partners’ recent, relevant experience that we will leverage to deliver your goals.

<table>
<thead>
<tr>
<th>FIRMS (TOTAL FEE)</th>
<th>VALUE DELIVERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDR ($4.9M)</td>
<td>Key staff with hands-on experience delivering fish passage projects across the state</td>
</tr>
<tr>
<td>Parametrix ($15.1M)</td>
<td>Experience working directly with WSDOT staff and critical project stakeholders and Tribes to lay the strongest foundation for advancing future phases on schedule</td>
</tr>
<tr>
<td>HWA ($458K)</td>
<td>Team setting new direction in incorporating the effects of flooding backwater into fish passage design along with providing guidance on large woody material (LWM) design and incision analysis</td>
</tr>
<tr>
<td>Ott-Sakai ($500K)</td>
<td></td>
</tr>
</tbody>
</table>

**OLYMPIC REGION (OR) DESIGN CONSULTANT ENGINEERING SERVICES, 24 FISH PASSAGES**

**WSDOT | 2019–PRESENT**

HDR, Parametrix, HWA, Ott-Sakai, and others have partnered with WSDOT to deliver the design of multiple bundles of fish passage barrier removal projects in the OR. HDR is working on four bundles, including a mix of design to the 30% level for design-build procurement and 100% for design-bid-build. We have provided alternatives analysis and design of the preferred alternatives at seven crossings, preparation of right-of-way acquisition documents, and environmental documentation. All locations for culvert replacements are within existing roadway prisms/embankments and require constructability assessments to phase work and limit impacts.

HDR has been providing overall roadway design and maintenance of traffic strategies and alternatives for conceptual plans for the design-build project and the contract documents for the design-bid-build crossings. We have developed the procurement documents for the RFQ, RFP, and ITP for the design-build package. We have made significant suggested revisions to the WSDOT RFQ templates for environmental compliance, roadside restoration, and new water crossing criteria, which was formerly in the hydraulic section and is now specific to fish crossings. HDR also assisted with value engineering and risk assessments, resulting in refined estimates and project goals that optimized the overall costs.

Our hydraulics team has produced scour analysis; is developing flood risk and no-rise analysis; and is finalizing preliminary hydraulic designs and developing final hydraulic designs. The team is coordinating with the regional PEO; regional and HQ support offices, including environmental and bridge; WDFW; and numerous Tribes. Two bundles will be delivered via a design-build method and two will be delivered via a design-bid-build method. For the design-build bundles, our staff have been heavily involved in providing feedback to WSDOT on the new RFP Section 2.30 Water Crossings Guidelines.

We are providing program support for NEPA and SEPA documentation, coordinating with USFWS, NMFS, the USACE, WDFW, Ecology, and the Tribes to confirm condition and extent of existing natural resources, ESA consultation requirements, Clean Water Act Section 404 permit conditions, and Hydraulic Project Approval requirements.

HDR’s structural staff is working directly with WSDOT Bridge and Structures support office staff and incorporating hydraulic designs. They oversee preliminary and conceptual design preparation and alternatives analysis for 11 structures.
SR 302 MINTER/LITTLE MINTER CREEKS  
WSDOT | 2018−PRESENT

Our team delivered final designs for the replacement of three crossings on SR 302, as well as a joint roadway and bridge preservation that included ADA upgrades and complex construction staging and maintenance of traffic. The proposed Minter Creek crossing was designed using unconfined bridge methodology, while the two Little Minter Creek crossings employed a stream simulation approach. We updated the hydraulic modeling; coordinated with WDFW on preliminary design comments; performed a detailed scour analysis; and prepared bid-ready documents. We minimized the proposed culverts and channel work to the extent practicable, decreasing impacts to existing habitat and limiting the need for additional right-of-way and temporary construction easements. When the Squaxim Island Tribe identified that the large wood in the stream was above the 100-year flood elevation, we quickly made modifications to the design during construction to incorporate LWM within the channel.

OR FISH PASSAGE (17 PHDS)  
WSDOT | 2021−PRESENT

HDR is leading a team with multiple subconsultants in the completion of 17 PHDs in the Olympic Region. HDR is authoring 11 PHDs—and managing three subconsultants on the remainder—in accordance with the WDFW 2013 Water Crossing Design Guidelines, 2022 WSDOT Hydraulics Manual, and utilizing SRH-2D modeling. Eight of HDR’s crossings have been submitted and are in the external review process and all of them incorporated a meander belt analysis to determine the minimum hydraulic opening. Our team is performing flood risk assessments for all crossings, including two within a FEMA Zone AE floodplain. Because several streams have been heavily modified, HDR is coordinating with WSDOT, WDFW, and any impacted Tribes to develop designs that will emulate natural conditions, while taking unique site constraints into account. Our team also utilized the new level of complexity analysis during our initial site visit to gain concurrence during our subsequent co-manager visit.

FIRMS (TOTAL FEE)  
HDR ($1.25M)

VALUE DELIVERED
» Coordination with WSDOT and resource co-managers to identify project constraints early and develop innovative ways to address constraints
» Design development of precast concrete box culverts, temporary walls, and permanent approach walls
» Support during construction, including oversight of streambed and LWM placement

FIRMS (TOTAL FEE)  
HDR ($1.17M)

VALUE DELIVERED
» Close oversight of a large group of teaming partners to provide WSDOT with consistently high-quality results
» Establishment of agreed-upon approach for designing meander bar channel complexity features
» Included a complex tidal crossing that is situated within a FEMA Zone AE and has limited roadway cover requiring close coordination with WDFW and WSDOT
HQ FISH PASSAGE & HYDRAULICS STAFF AUGMENTATION
WSDOT | 2021–PRESENT

HDR is working as an extension of WSDOT HQ Hydraulics staff to support WSDOT’s Fish Passage Barrier Removal Program, with HDR staff assisting Heather Pittman by serving as the OR Fish Passage Design Manager for 34 crossings. This contract is particularly unique in that our staff are not only developing preliminary and final hydraulic designs and providing design services during construction, but they are also helping the WSDOT fish passage and hydraulics program to develop their policy. Programmatic support has included helping WSDOT update their reference manuals, such as the 2022 Hydraulics Manual; develop training opportunities for WSDOT’s new preliminary hydraulic design/final hydraulic design templates, which our team helped to build; and inform WSDOT’s floodplain permitting data processes and comprehension of local floodplain development regulations through the creation of a floodplain development database.

FIRMS (TOTAL FEE)
HDR ($1.75M)
Natural Systems Design ($166K)

VALUE DELIVERED
» Policy development for the WSDOT fish passage and hydraulics program to optimize WSDOT’s schedule constraints and budget to satisfy the 2013 injunction
» Engagement with consultants delivering fish passage barrier removals as WSDOT representatives to make sure work meets WSDOT’s standards and procedures

US 101 – SR 109 GRAYS HARBOR, JEFFERSON AND CLALLAM COUNTIES – REMOVE FISH BARRIERS
WSDOT | 2020–PRESENT

This project includes 29 identified streams and culverts that need correction. Currently, these culverts limit or block fish from passing underneath the highways to access habitat. The culverts will be corrected by WSDOT’s design-build contractor as five separate bundles. One bundle containing four to seven barriers will be corrected annually for five years to meet the project’s deadline of fall 2026. This is WSDOT’s first project using the progressive design-build delivery method. Once complete, this project will restore nearly 37 miles of potential habitat across the Olympic Peninsula. Parametrix supported WSDOT staff through strategy workshop and meetings to advise on the development and content of delivery documents, with the intent to create efficiency and improve collaboration between WSDOT and the design contractor. Parametrix was key to the assessment and allocation of owner’s risk.

FIRMS (TOTAL FEE)
Parametrix ($400K)

VALUE DELIVERED
» Bundling of fish barrier removal crossings created benefits in construction budgeting and schedules through negotiated GMP
» WSDOT’s first project using the progressive design-build delivery method, as guided by Parametrix
This project extends back to 1998 when King County acquired the 11-mile rail-banked corridor from the Cascade Land Conservancy. The corridor extends from Redmond Town Center to the heart of Issaquah, providing the final link to a 44-mile urban regional trail from Seattle to the Cascade Foothills. Parametrix has assisted King County with all phases of corridor development and continues to assist with construction of the last segments still in progress. Services have included inventory of the dozens of streams intersecting the trail corridor; inventory of over 40 culverts/drainages intersecting the trail corridor; preparation of NEPA and SEPA documents; preparation of a biological assessment; prioritization and design of eight critical fish passable culverts; coordination and concurrence with local tribal representatives; design of bridge improvements over North Fork Issaquah Creek; and stream design methods following WDFW’s Water Crossing Design Guidelines.

**FIRMS (TOTAL FEE)**
Parametrix ($11.4M)

**VALUE DELIVERED**
- Preparation of federal, state, and local permit applications for trail (and culvert) construction
- Fish removal/exclusion services in support of construction
- Identification of project constraints and development of innovative designs that facilitated successful delivery

---

**SR 305 IMPROVEMENTS**
WSDOT | 2019−PRESENT

Parametrix is responsible for preparing multiple PS&E packages for capacity and safety improvements for 11.5 miles of SR 305. The project includes fish passage improvement at three fish-bearing streams. The first fish passage contract, Murden Creek, recently opened bids. Murden Creek is located near Sportsman Club Road on Bainbridge Island and will replace an existing box culvert with a new 114-foot single span concrete girder bridge. Parametrix prepared the PHDs for each of the crossings, as well as the final hydraulic design and final stream design plans and is supporting WSDOT as an extension of staff in environmental permitting, NEPA, hydraulics, constructability, staging, and traffic control. Parametrix has worked closely with WSDOT staff to prepare project updates, including schedule and risk analysis. The stability and management of staff resources has been critical to meeting schedule commitments, reducing WSDOT staff time for reviews, and meeting budget expectations.

**FIRMS (TOTAL FEE)**
Parametrix ($5M)

**VALUE DELIVERED**
- Hydraulic analysis and design for complex fish passage crossings under a major state route
- Solutions for delicate wetland and stream environments for three fish-bearing streams
- Outreach to key regional and local stakeholders and communities
### SUBCONSULTANTS’ ADDITIONAL EXPERIENCE

<table>
<thead>
<tr>
<th>FIRM</th>
<th>PROJECT</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HWA</strong></td>
<td>WSDOT</td>
<td>SR 305 Winslow Ferry To Hostmark Street</td>
</tr>
<tr>
<td></td>
<td>City of Kirkland</td>
<td>100th Avenue Corridor Improvements</td>
</tr>
<tr>
<td><strong>Ott-Sakai</strong></td>
<td>WSDOT</td>
<td>OR Design Consultant Engineering Services, 24 Fish Passages</td>
</tr>
<tr>
<td></td>
<td>WSDOT</td>
<td>SR 520 Bridge Replacement and HOV Program</td>
</tr>
<tr>
<td></td>
<td>WSDOT</td>
<td>HQ Fish Passage &amp; Hydraulics Staff Augmentation</td>
</tr>
<tr>
<td><strong>Northwest Watersheds</strong></td>
<td>WSDOT</td>
<td>OR GEC Services</td>
</tr>
<tr>
<td></td>
<td>WSDOT</td>
<td>Southwest Region (SWR) and OR Fish Passage – Various Projects</td>
</tr>
<tr>
<td><strong>Anchor QEA</strong></td>
<td>WSDOT</td>
<td>Northwest Region (NWR) GEC Services</td>
</tr>
<tr>
<td></td>
<td>WSDOT</td>
<td>Menzel Lake Culvert Replacement</td>
</tr>
</tbody>
</table>

### 1C. Subconsultants’ Experience Working with HDR

HDR has developed strong working relationships with our teaming partners, as demonstrated by our recent experience working together shown in Figure 1.3 (on the following page). Paul will apply his in-depth knowledge and that of the technical leads on our team to make sure our teams complete our work efficiently and meet your expectations. In support of your inclusion goals, we have teamed with three qualified MBE/WBE/DBE firms who have long histories of working alongside HDR staff. Additionally, on this contract we are excited to partner with Northwest Watersheds (DBE/WBE) for the first time, further expanding our deep pool of partner resources to assist WSDOT in advancing delivery of its fish passage barrier removal program on schedule.
1D. Availability of Key Staff and Resources

The capacity to accomplish complex work in a strict timeframe requires strong and experienced leaders backed by skilled team members. With this in mind, our staff were selected not only for their expertise, but also for their availability to work on this contract for its duration. All of the key staff on HDR’s team have extensive experience working on WSDOT’s fish passage barrier removal program and know how to provide the correct resources to complete crossing assessments successfully. Our approach is to fully support WSDOT with delivery teams that provide scoping reports to allow work in future stages to hit the ground running. Figure 1.4 (below) lists key staff and their availability.

Figure 1.4: Key Staff Availability

<table>
<thead>
<tr>
<th>STAFF NAME</th>
<th>ROLE</th>
<th>AVAILABILITY (HOURS/MONTH)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2022</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Q2</td>
</tr>
<tr>
<td>Paul Ferrier</td>
<td>Project Manager</td>
<td>100</td>
</tr>
<tr>
<td>Cade Roler</td>
<td>Deputy Project Manager/Hydraulics Delivery Team Lead</td>
<td>100</td>
</tr>
<tr>
<td>Jennifer Harper</td>
<td>Delivery Team Manager/Roadway Lead</td>
<td>80</td>
</tr>
<tr>
<td>Ryan Haddeland</td>
<td>Delivery Team Manager</td>
<td>80</td>
</tr>
<tr>
<td>Kevin House</td>
<td>Delivery Team Manager</td>
<td>40</td>
</tr>
<tr>
<td>John-Viet Vo</td>
<td>Bridges/Structures Lead</td>
<td>80</td>
</tr>
<tr>
<td>Donald Huling</td>
<td>Geotechnical Lead</td>
<td>60</td>
</tr>
<tr>
<td>Robert Acevedo</td>
<td>Maintenance of Traffic Lead</td>
<td>60</td>
</tr>
<tr>
<td>Lisa Danielski</td>
<td>Environmental Lead</td>
<td>40</td>
</tr>
<tr>
<td>Scotty Ireland</td>
<td>Constructability Lead</td>
<td>60</td>
</tr>
<tr>
<td>Shaun Bevan</td>
<td>Hydraulics Lead</td>
<td>40</td>
</tr>
<tr>
<td>Dennis Sandstrom</td>
<td>Outreach Lead</td>
<td>40</td>
</tr>
</tbody>
</table>

* All other team members and resources are available for a minimum of 80 hours per month for the duration of the contract.
PROJECT MANAGER'S
Qualifications

PAUL FERRIER, PE

- Strong working relationships with WSDOT and a proven history of partnering with our subconsultants on fish passage projects
- Completion of more than 40 WSDOT highway and local agency road projects, including many fish passage barrier removal culvert replacements and bridge construction
- In-depth knowledge of alternative delivery development, including design-bid-build, design-build, and GC/CM

2A. Project Experience

Paul Ferrier will serve as HDR’s project manager. He has extensive experience leading project teams on WSDOT, FHWA, and local agency projects from preliminary design and project scoping all the way through construction documentation, including alternative development, preliminary engineering, state and federal environmental permitting, final design, and design services during construction.

Paul’s in-depth knowledge of state and federal environmental processes allows his projects to move smoothly through review and approval. Prior to joining HDR, Paul worked for WSDOT for 13 years managing the design and construction of complex multidiscipline transportation projects. He is thoroughly familiar with WSDOT standards, procedures, plans, specifications, and all WSDOT design and construction manuals, as well as the AASHTO design guide. The projects below demonstrate his qualifications to lead our fish passage delivery plan scoping team:

WSDOT, OR Design Consultant Engineering Services, 24 Fish Passages | 2019–Present, Bundle Manager. Paul managed the Mason/Thurston design-build package of six crossings and the Blyn Area design-bid-build package of two crossings. He oversaw three culvert replacements on US 101 and five on SR 108. Paul supported stakeholder and public outreach and led development of the design-build and design-bid-build procurement documents. He facilitated VERA workshop and developed maintenance of traffic value engineering cost savings of more than $3M. Paul coordinated with WDFW and the Tribes to minimize natural resource impacts while meeting goals of the fish passage program.

WSDOT, SR 18 Issaquah Hobart Road to I-90 Roadway Improvements | 2005–2012, 2019–Present, Deputy Project Manager. Paul was the deputy project manager for this roadway widening project, which replaces 17 existing fish passage barriers with new fish passable culverts and bridges. The crossings are challenging due to steep grades and other wildlife crossing needs. Paul worked directly with WDFW to determine which of the 17 fish passage improvements would need to be expanded for wildlife crossing, identifying affected species and size requirements.

City of Bellevue, 124th Avenue NE Roadway | 2013–2017, Project Manager. Paul managed this fish passage and flow control project that required complex solutions resulting from King County’s flow control structure. The culvert was designed to be a wildlife crossing as well. Project work involved five different major franchise utilities requiring temporary relocation. Challenging construction staging and maintenance of traffic also involved a major truck route for Safeway, Coca Cola, and King County Metro Bellevue and East bases.
2B. Management of Problems Associated with Schedule, Scope, Budget, and Changes

Shown below in Figure 2.1 are three project examples that demonstrate the methods that Paul has used to successfully address changes and issues that have arisen on projects that he has managed in the past. When problems arise, Paul’s level of expertise and depth of experience allows him to collaborate effectively with WSDOT to proactively address issues and protect project scope, schedule, and budget.

Figure 2.1: Project Manager’s Demonstrated Ability to Address Problems

**WSDOT, OR Design Consultant Engineering Services, 24 Fish Passages**
- **Change:** During the design-build procurement process, WSDOT released a new scour policy. Paul worked with WSDOT HQ Bridge and Hydraulics to identify impacts to the Mason/Thurston bundle’s design and adjusted the schedule to allow the design team to revise structural elements and the shortlisted design-build teams to revise their ATCs, saving WSDOT more than $1M.
- **Scope:** Midway through concept plan development, WSDOT removed one crossing due to Tribal relationships and added another, more complex crossing. Paul worked closely with WSDOT project manager, Bill Elliot, to revise the scope and fee and develop an expedited schedule, enabling the team to complete all six crossings concurrently with no schedule loss.

**WSDOT, SR 18 Issaquah Hobart Road to I-90 Roadway Improvements**
- **Scope:** During final alternative development, WSDOT determined that the Tiger Mountain Summit full interchange was going to be too expensive for the current budget. Paul worked with WSDOT to develop a scope amendment for the consultants to change the Summit into an at-grade access, saving WSDOT nearly $50M to meet the current program budget and reducing the design schedule by three months. Paul also used his close contacts at FHWA to resolve several interchange justification report issues at the I-90/SR 18 interchange, successfully minimizing the requested changes from FHWA and saving the project more than $60M.
- **Budget:** After the final alternative development and initial cost estimate, WSDOT informed Paul that the project cost was higher than available funding. Paul worked closely with WSDOT management to revise the project into three phases, which closely aligned with project funding gaps, allowing WSDOT to advance this critical safety mobility project to construction.

**City of Bellevue, 124th Avenue NE Roadway**
- **Schedule:** After Paul helped to develop the successful TIFIA grant funding package, he worked closely with City management and local stakeholders on proposed phasing and an appropriate schedule to keep this strategic arterial moving forward and meeting TIFIA requirements.
- **Budget:** After HDR submitted 60% design, the City determined that project costs needed to be reduced. Paul worked with City staff to conduct a value engineering study, which he managed. The study identified multiple innovative changes with the walls and bridge that would save the City nearly $25M without sacrificing functionality for both motorized and non-motorized users.

2C. Professional Licenses/Accreditations

Professional Engineer, WA #43172 (2006)

Positions Held Since Accreditation Received:
Roadway Engineer; Senior Engineer; Project Manager; Senior Project Manager; Market Sector Lead; Transportation Business Group Manager
3A. Key Team Member’s Qualifications

HDR offers a team capable of providing unique expertise in their disciplines as it pertains to fish passage projects. This, paired with leadership that understands how each discipline impacts future project delivery methodology, establish the essential foundation for WSDOT to advance its fish passage program efficiently. Each key staff member has a proven track record of successfully delivering fish passage projects. The qualifications of our key supporting team members are described below and on the following pages in Figure 3.1.

Figure 3.1. Key Team Member Relevant Experience

Cade Roler

DEPUTY PROJECT MANAGER/HYDRAULICS DELIVERY TEAM LEAD

Having assessed more than 100 fish passage barriers utilizing WDFW’s fish passage protocols, Cade has experience in local and state projects from fish passage delivery and prioritization, channel realignments, and large wood placements. While working at WSDOT, he worked collaboratively to develop the Project Complexity Review Process and co-wrote the WSDOT/WDFW Fish Passage Project Site Visit—Determining Project Complexity Field Form. Cade’s work at WSDOT as Olympic Region’s Tribal Liaison and scoping biologist at WDFW has provided him with knowledge of internal WSDOT processes, delivery methods, and specific fish passage project challenges.

RELEVANT EXPERIENCE

WDFW, Aquatic Species Restoration Plan | 2016–2020, Project Manager. Managed fish passage prioritization program, including budget and schedule. Led teams to complete a comprehensive fish barrier inventory throughout the Chehalis Basin. Oversaw development of a web-based prioritization model for more than 2,000 fish barriers.

WSDOT, Olympic Region Fish Passage—Various Projects | 2021–2022, Olympic Region Fish Passage Tribal Liaison. Provided fish passage technical expertise, working with design teams on stream design. Facilitated meetings and discussions with resource co-managers to reach project concurrence.

WSDOT, SR 531 Edgecomb Creek Fish Passage | 2016–2018, Fish Passage Scoping Biologist. Led design discussions, coordination with Tribes, verified designs met WDFW’s Water Crossing Design Guidelines and WSDOT’s Hydraulic Manual. Coordinated with local government and developers to make sure projects were forward compatible. Participated as fish passage technical expert on the design team and helped to identify innovative design ideas, working through permitting and providing construction oversight. Project work won a WSDOT environmental excellency award.
Jennifer Harper, PE
DELIVERY TEAM MANAGER/ROADWAY LEAD

Jennifer is a skilled civil engineer, specializing in roadway design, construction phasing, and PS&E. Her demonstrated experience designing roadways over fish-passable structures, paired with experience managing multidisciplinary teams, will lead to integrated practical and innovative design solutions.

RELEVANT EXPERIENCE

WSDOT, OR Design Consultant Engineering Services, 24 Fish Passages | 2020–Present, Design Lead. Assisted with developing the roadway proposed conditions and bypass alternatives using MicroStation modeling to comply with WSDOT guidelines. Helped with developing a rough order of magnitude estimate for comparing the different alternatives. Coordinated with the structures team on maintenance of traffic plans for construction phasing.

WSDOT, I-405 Widening/Express Lanes SR 522/SR 527 Canyon Park Business Park | 2019–2021, Project Engineer. Assisted in production of right-of-way exhibits and legal descriptions to keep work on schedule. Worked to assure that permanent and temporary easements were adequate.

Sound Transit, Federal Way Link Extension | 2015–2016, Project Engineer. Developed layout and grading for roadways impacted by the light rail alignment and assisted with maintenance of traffic lane closure layouts that met WSDOT regulations, as well as design specifications of different jurisdictions the alignment crosses.

Ryan Haddeland, PE
DELIVERY TEAM MANAGER

As a roadway engineer, Ryan’s valuable experience leading multidisciplinary teams and supporting WSDOT fish passage projects will assure high quality scoping packages. In particular, he brings a keen understanding of sites involving challenging access and topography and of complex drainage issues.

RELEVANT EXPERIENCE

WSDOT, OR Design Consultant Engineering Services, 24 Fish Passages | 2020–2022, Civil Designer. Designed roadway and stream channel typical sections. Responsibilities included designing plans and profiles, accommodating maintenance of traffic plans during construction, and preparing cost estimates. Assisted design revisions and answered contractor questions during the design-build procurement process.

WSDOT, Olympic Region Fish Passage—Various Projects | 2019–2022, Civil Designer. Coordinated with roadway, hydraulics, and structural teams, led CADD sheet designs, and modeled drainage design using INROADS. Served as technical point-of-contact to the team and subconsultants for all 30 PHDs.

City of Issaquah | SR 900/12th Avenue NW/ | 2020–Present, Roadway/Stormwater Lead. Developed preliminary design plans, performed cost estimates, and coordinated with City’s utility department. Provided alignment and profile design and coordination among structures, utilities, and traffic.
Kevin House, PE

DELIVERY TEAM MANAGER

Kevin brings more than two decades of experience serving as a design engineer and project manager. His experience includes significant WSDOT roadway and fish passage experience. Kevin’s knowledge of WSDOT’s expectations will help streamline development of quality scoping packages.

RELEVANT EXPERIENCE

WSDOT, SR 305 Improvements | 2019–Present, Project Manager/Design Manager.Managed the contract and budget for three fish passage barrier removal task orders. Involved the preliminary and final hydraulic design and reports, preparation of full PS&E packages for three bridges, coordination with environmental agencies and tribal interests, stormwater, staging, right-of-way, tribal and public involvement, and environmental permitting.

WSDOT, Eastern Region GEC Services | 2017–Present, Project Manager/Design Manager. Responsible for the co-located staff, as well as coordination with WSDOT consultant liaison to determine and fulfill current needs. Managing delivery of two preliminary hydraulic design reports to initiate the design process for the replacement of known fish barriers.

WSDOT, I-5 Mounts Road to Thorne Lane Corridor Improvements | 2016–Present, Civil Designer. Assisting with design, preparing contract PS&E, and providing engineering support during construction for this design-build project constructing improvements to I-5 through the JBLM area.

John-Viet Vo, PE

BRIDGES/STRUCTURES LEAD

John specializes in fish and wildlife passable culverts, retaining walls, reinforced concrete vaults, and prestressed concrete bridges. He has a talent for foreseeing constructability issues, enabling him to select structural options that fit within right-of-way limits and reduce impacts.

RELEVANT EXPERIENCE

WSDOT, SR 18/Issaquah-Hobart Road, King County, WA | 2020–Present Structures Lead. Leading a skilled team of bridge and roadway engineers to evaluate alternatives and conceptual design layout for 15 bridges and two culverts to correct 11 fish passage barriers within the project limits.

WSDOT, OR Design Consultant Engineering Services, 24 Fish Passages | 2020, Bridge Engineer. Reviewed and evaluated existing and proposed stream crossings along SR 108 and US 101. Helped team determine three conceptual bridge and culvert options to remove the existing fish barrier structures.

City of Marysville, State Avenue Corridor Widening, WA | 2017–Present Structures Lead/Bridge Designer. Evaluated several culvert and retaining wall concepts to correct the fish passage blockage at Quil Ceda Creek. Designed bridge replacement and coordinated the phased bridge to allow traffic to be maintained during construction.
Figure 3.1: Key Team Member Relevant Experience (Continued)

Donald Huling, PE

GEOTECHNICAL LEAD

Donald has delivered over 100 reconstruction projects covering a broad range of geotechnical services, including fish passages. He has extensive knowledge of the WSDOT and FHWA design procedures for road and bridge foundations and is considered an expert in complicated bridge foundation design.

RELEVANT EXPERIENCE

WSDOT, OR Design Consultant Engineering Services, 24 Fish Passages | 2020,
Geotechnical Lead. Performed geotechnical site investigation/evaluation and provided bridge foundation recommendations for the Blackjack Creek and Salmonberry Creek Fish Passage projects.

City of Kirkland, 100th Avenue Corridor Improvements, WA | 2015–2021
Geotechnical Lead. Provided geotechnical services for improvements including protecting fish habitat by replacing the Juanita Creek culvert near Simonds Road NE and pavement overlay and reconstruction.

City of Bellevue, 124th Avenue NE Improvements | 2019–Present,
Geotechnical Lead. Provided geotechnical investigation, evaluation, and recommendations for roadway improvement project. Proposed foundation recommendations for the structural design of a new fish passable box culvert carrying the West Tributary of Kelsey Creek, replacing an existing culvert.

Robert Acevedo, PE

MAINTENANCE OF TRAFFIC LEAD

Robert has a wide range of traffic engineering experience from maintenance of traffic for roadway projects to large state freeway design-build projects. He is skilled in the planning and design of transportation infrastructure to achieve a result that harmonizes all modes of transportation.

RELEVANT EXPERIENCE

WSDOT, SR 302 Minter Creek/Little Minter Creek | 2018, Traffic Lead. Developed the traffic management plan and detailed traffic control plans for replacement of three fish passages and worked with WSDOT project office and Olympic Region review team to maintain traffic safely and efficiently through the multi-phased construction plan. Also responded to RFIs and reviewed submittals during construction.

WSDOT, I-90/Barker Road Interchange | 2018–2020, Traffic Lead. Oversaw traffic signing, illumination, and control plans; attended coordination meetings; and worked with WSDOT to secure the required permits and to develop several traffic control strategies.

Pennsylvania DOT, Pennsylvania Rapid Bridge Replacement | 2015–2017, Traffic Control Lead. Led design and delivery of more than 120 traffic control plans ranging from closures and detours to large multi-phase traffic control plans and temporary signal plans, successfully meeting all stakeholder needs.
Lisa Danielski, PWS

ENVIRONMENTAL LEAD

Lisa is experienced in leading wetland and stream, botanical, and wildlife studies to support a variety of public infrastructure projects. She has served as the technical lead on dozens of wetland and stream assessment, delineation, and mitigation projects throughout Washington state.

RELEVANT EXPERIENCE

WSDOT, OR Design Consultant Engineering Services, 24 Fish Passages | 2019–Present, Critical Areas Lead. Leading wetland and stream assessments, ESA consultation, and permitting. Providing program support for NEPA and SEPA documentation, including coordination with USFWS, NMFS, USACE, WDFW, Ecology, and Tribes.

WDFW, Minter Creek Hatchery Intake and Replacement Wetland Delineation | 2019–2020, Project Manager/Environmental Lead. Led wetland and stream delineations in the proposed corridor and evaluated the features using the current Ecology wetland rating system and WAC stream typing criteria, as well as Pierce County Critical Areas Code development standards.

City of Bremerton, Kitsap Creek at Northlake Way | 2020–2021, Environmental Permitting Lead. Led the wetland, and stream field investigations and provided permitting support for a new fish-passable culvert for Kitsap Creek in Kitsap County according to WDFW standards and methods.

Scotty Ireland, PE

CONSTRUCTABILITY LEAD

Scotty brings a breadth of experience in WSDOT project delivery and design-build policy that can be leveraged early. He is skilled in identifying and assessing construction and project risks early in development of conceptual design alternatives of fish passage and environmental retrofit projects.

RELEVANT EXPERIENCE

WSDOT, OR Design Consultant Engineering Services, 24 Fish Passages | 2020–Present, Constructability/Project Delivery Strategy Lead. Leads a team responsible for formally assessing multiple crossing alternatives at 24 separate fish barrier corrections for constructability, cost, and schedule, with a focus on minimizing project footprint and sensitive area impacts.

WSDOT, SR 305 Winslow Ferry to Hostmark Street | 2020–Present, Constructability/Staging Reviewer. Supporting design staff to develop staging strategies for deep stream crossings within constrained areas to construct structures with spans over 180 feet with significant stream restoration.

WSDOT, OR Fish Passage Program Scoping Efforts | 2013, WSDOT Project Engineer. Co-led scoping efforts for 13 fish passage projects with the Tumwater Design PEO, including site reviews, conceptual structure alternative analysis, maintenance of traffic strategy and constructability assessments, developing stream diversion and restoration approaches, conceptual construction schedules, and parametric cost estimating.
Shaun Bevan, PE

**HYDRAULICS LEAD**

Shaun has worked extensively with WSDOT HQ Hydraulics for a variety of projects. He has shaped several WSDOT PHD processes that are now standard, including conducting independent initial site visits to collect field information and flag bank-full widths to expedite PHD/FHD reviews.

**RELEVANT EXPERIENCE**

**WSDOT, OR Design Consultant Engineering Services, 24 Fish Passages | 2019–Present, Hydrology & Hydraulics Lead.** Responsible for managing hydraulic design elements for six crossings within HDR’s bundle and one within another consultant bundle, including PEO coordination. Oversaw his team’s development of PHDs, scour analysis, flood risk assessments, and development of Section 2.30 Water Crossings for design-build procurement.

**WSDOT, OR Fish Passage – 16 PHDs | 2021–Present, Lead Hydraulic Engineer.** Leading development and delivery of PHDs for six crossings, reviewing subconsultant deliverables, and leading field work for 11 crossings, including identification of site constraints and facilitation of bankfull width concurrency meetings with WDFW and impacted Tribes.

**WSDOT, HQ Fish Passage & Hydraulics Staff Augmentation | 2021–Present, Lead Hydraulic Engineer.** Assisting Heather Pittman in the Olympic Region, providing staff augmentation as a Fish Passage Design Manager.

---

Dennis Sandstrom

**OUTREACH LEAD**

Dennis has managed communications and public outreach on projects at all scales, from state-wide transportation improvement projects to neighborhood master plan development. He brings experience in strategic communications, NEPA/SEPA public engagement, event coordination, and group facilitation.

**RELEVANT EXPERIENCE**

**WSDOT, HQ Fish Passage & Hydraulics Staff Augmentation | 2021–Present, Lead Facilitator.** Facilitates WSDOT and WDFW monthly advisory group to resolve project-specific technical issues related to WSDOT’s fish passage barrier removal program. Develops agenda, coordinates between members, and provides summaries for each meeting.

**WSDOT, SR 167 Master Plan | 2021, Lead Facilitator.** Developed workback plans, meeting summaries; compiled materials and talking points; facilitated executive meetings; participated in bi-weekly team check-ins; shared updates from executive team; and provided engagement strategy support, as needed.

**WSDOT, I-90 and Front Street Interchange Justification Report (IJR) | 2017–2019, Outreach Lead.** Provided outreach and communication support in the development of the IJR. Oversaw development of the communication plan, as well as in-person stakeholder interviews with local jurisdictions, community groups and businesses. Managed communications records, developed fact sheets, and updated the website using WSDOT’s web client.
Outreach Lead’s Experience with Public Involvement on WSDOT Projects

Our outreach lead, Dennis Sandstrom, brings demonstrated experience supporting WSDOT in communicating with the public and stakeholders on similar projects, such as the HQ Fish Passage & Hydraulics Staff Augmentation contract. From this and other experience, he has a strong understanding of the interconnectivity of WSDOT’s programs that helps him support projects with clear and consistent messaging. In managing public perception, he knows that communicating the purpose and value of projects and keeping a sharp focus on delivering results is of the utmost importance.

On the HQ Fish Passage & Hydraulics Staff Augmentation contract, Dennis has been responsible for facilitating the Water Crossing Design Council (Council), a formal collaboration between WSDOT and WDFW on technical issues related to the fish passage barrier removal program. Dennis led the group through a process to develop a new charter for the Council, including membership structure, commitments and expectations, and practice for decision documentation. He also developed a process for projects to bring forward unresolved design concerns to the Council for their review and decision. On a monthly basis, Dennis develops the agenda, coordinates presentations and conversations between members, and facilitates the Council meetings that cover technical issues, such as meander bars, step pool references, and research or modeling needs.

Large public investments like the fish passage barrier removal program should have a wide breadth of beneficiaries. It’s important to make sure all stakeholders are engaged in the beginning of the planning process so that their diverse interests can inform the project’s development. This means seeking out traditionally underrepresented voices, such as low-income and minority communities. Dennis understands that for equity and environmental justice efforts to be effective, they should start from the beginning—long before decisions are made. On the I-90 and Front Street IJR project, Dennis worked with WSDOT to identify and engage local community-based organizations and interested stakeholders to add their perspectives to the conversation about potential alternatives. Engaging the community early in order to get their input and begin developing relationships led to improved trust in the process.

HDR’s outreach lead, Dennis Sandstrom, has provided outreach services on several large WSDOT projects, including:

- HQ Fish Passage & Hydraulics Staff Augmentation: Water Crossing Design Council
- METC, SR 167 Master Plan
- I-90/Front Street Interchange Justification Report
- I-5 Columbia River Crossing Program
4A. Project Delivery

Work Plan Elements
Establishing clear scoping reports, we will enable the Region GECs to accelerate their delivery by setting clear goals and priorities, identifying issues and schedule risks ahead of time, and preventing surprises and rework impacting on-time delivery per the injunction requirements. As the Region GECs encounter schedule challenges, the pre-scoping work underneath this contract, that is conducted prior to beginning preliminary hydraulic designs, becomes even more critical. Shown below in Figure 4.1, is our work plan structure for the delivery of this contract. This diagram gives an overarching roadmap for how our team will deliver the fish passage barriers under this contract.

IDENTIFY
Immediately after project kickoff, our project manager, Paul Ferrier, will work with our key staff to assign each fish passage barrier to the delivery team that is best-suited to perform that work successfully, depending on each crossing’s site constraints, characteristics, and key risks. This will also help our team leverage efficiencies across projects that have attributes in common and work quickly. Concurrently, Mike Pawlak and Paul Ferrier will develop a quality management plan to establish an efficient process that enables consistent and high-quality deliverables. This is imperative in order to make these scoping reports as effective as possible in expediting future delivery of fish passage projects.

Figure 4.1. Scalable Project Delivery Approach to Deliver Quality Results on Schedule and Budget

<table>
<thead>
<tr>
<th>IDENTIFY</th>
<th>SCREEN</th>
<th>ANALYZE</th>
<th>DOCUMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Assignments of crossings to delivery teams</td>
<td>• Establishment of framework for determining level of complexity</td>
<td>• Stream complexity</td>
<td>• Clear requirements</td>
</tr>
<tr>
<td>• Budget and schedule expectations</td>
<td>• Data collection</td>
<td>• Alignment</td>
<td>• Constraints definition</td>
</tr>
<tr>
<td>• Risk planning</td>
<td>• Fieldwork</td>
<td>• Structural types</td>
<td>• Risk definition</td>
</tr>
<tr>
<td>• Delivery schedule</td>
<td></td>
<td>• Geotechnical risks</td>
<td>• Cost estimate</td>
</tr>
<tr>
<td>• Communication plan</td>
<td></td>
<td>• Environmental considerations</td>
<td>• Constructability factors</td>
</tr>
<tr>
<td>• Quality management plan</td>
<td></td>
<td>• Maintenance of traffic</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Utility impacts</td>
<td></td>
</tr>
</tbody>
</table>

CONTINUOUS COMMUNICATION

SUMMARY OF KEY ADVANTAGES

- Trusted experts with years of WSDOT fish passage experience, driving process improvements and proven successful delivery
- A scaled approach that effectively manages risk, schedule, budget, scope, quality, and change
- An integrated management process that allows WSDOT to access the right resources based on each fish passage crossing’s unique needs
While at WSDOT, Cade Roler—HDR’s proposed deputy project manager/hydraulics delivery team lead—worked collaboratively to develop the project complexity review process and co-wrote the WSDOT/WDFW Fish Passage Project Site Visit—Determining Project Complexity Field Form.

Once a project is assigned to the appropriate delivery team, that team manager will work with Paul and WSDOT’s project manager, Kim Mueller, to confirm that we have a clear understanding of the project milestones, goals, and key success factors. Paul will provide oversight of the project’s progress, schedule, budget, and make sure work meets WSDOT’s objectives. He will work with the delivery team managers to develop a communication plan that will establish check-ins and communication protocols, including weekly check-in meetings with HQ Fish Passage on progress and monthly progress reporting. This will provide an ongoing, open forum for teams to identify process improvements, risks and mitigation strategies, and any challenges.

SCREEN

Next, we will establish a clear and detailed framework for developing a consistent scoping report for each crossing. This report will integrate input from a wide variety of disciplines with each discipline lead developing a clear process to establish a standardized approach and complexity evaluation, so that each crossing is evaluated similarly. This standardized approach will follow a similar model to that of the Fish Passage Project Site Visit—Determining Project Complexity Field Form. Our deputy project manager/hydraulics delivery team lead, Cade Roler, helped to guide the development of the project complexity review process in partnership with WDFW and other WSDOT staff. Cade took a lead role in implementing the process in WSDOT’s Olympic Region and trained WSDOT, WDFW staff, and consultants on how to use the field form and process.

Having recently been through this process, Cade can hit the ground running with lessons-learned to assist other disciplines in developing additional level of complexity processes. He will work with discipline leads to identify elements of fish passage design that create issues and schedule delays later in design. All of HDR’s discipline leads are knowledgeable of WSDOT’s standards and procedures and will identify project complexities around them.

As the complexity evaluation processes are being established for other disciplines, hydraulics staff will initiate field work concurrently, using the existing complexity process to collect bankfull widths, reference reach, and channel characteristics that drive design methodology and complexity. Our hydraulics leads will use field observations in combination with WDFW’s Culverts and Climate Change Tool to determine conceptual structure free zones. This will be critical in expediting delivery, as the complexity evaluation of the other disciplines will hinge
on the hydraulic parameters and structure free zones identified by the hydraulics staff.

The RFQ identified fish barrier assessments as an additional program support need. Cade will work with hydraulics discipline lead, Shaun Bevan, to brief hydraulic support staff on barrier assessment protocols outlined in WDFW’s Fish Passage Inventory, Assessment, and Prioritization Manual. Our team recognizes that not all barrier assessments fall within WDFW’s standardized assessment procedure. Having assessed more than 100 fish passage barriers, Cade can provide oversight and guidance to the team when encountering barriers requiring a non-standard evaluation approach.

Paul and our three delivery team managers—Jennifer Harper, Ryan Haddeland, and Kevin House—will work collaboratively with WSDOT to secure existing site data to be used within the various disciplines, including right-of-way plans, as-builts, previous survey, traffic volumes, and other relevant information. This background data will be collected concurrently with hydraulics fieldwork, each of which will be foundational in analyzing complexity.

**ANALYZE**

Once a structure free zone is established and existing site data has been collected, our delivery teams will begin compiling conceptual stream and road alignments, structure types, geotechnical risks and identifying needed environmental permits, existing utility conflicts, conceptual maintenance of traffic plans, and utility impacts. Delivery team managers will initiate scoping designs that are cross coordinated. Our geotechnical experts, led by Donald Huling, will develop conceptual scoping documents that outline relevant site complexities, such as liquefiable soils, natural hazards, and anticipated subsurface conditions, and provide a first cut at foundation type, such as deep or shallow. Led by John-Viet Vo, our bridge and structures staff will then take the structure free zone and geotechnical information to develop an initial structure concept. We recognize that maintenance of traffic is a driver in both cost and construction duration. Our bridge and structures team will collaborate closely with maintenance of traffic staff in selecting a preferred structure type that meets the structure free zone requirement and provides least impactful maintenance of traffic strategies to both the natural environment and the traveling public.

The environmental team will identify the initial level of required permitting and complexity. Our environmental lead, Lisa Danielski, has years of experience permitting fish passage projects and can identify critical environmental permitting risks that can significantly impact the schedule later in design. Some of the risks include presumed presence of ESA listed or other sensitive species, significant wetland impacts, mapped FEMA floodplain, and fish in-water work windows. In particular, in-water work windows can significantly reduce the construction flexibility and lead to multiple-year construction phasing and/or a reduced number
of feasible alternatives. Our environmental staff will leverage their hands-on experience along with WDFW’s and Northwest Indian Fisheries Commissions statewide integrated fish distribution GIS tool to identify species and life history stages present. This information will be used to identify opportunities for increasing in-water work window durations beyond the standard WDFW duration. This process isn’t typically done until permitting later in the design process. By tackling this earlier, we can better provide better opportunities for innovative design and delivery implementation.

**DOCUMENT & DELIVER**

The scoping reports generated through this contract will put projects in a position for quick progress as discipline specific risks and innovative opportunities are clearly identified. **HDR is currently working with both the Northwest Region and Olympic Region pre-design teams and understands firsthand the essential nature of scoping work.** While these teams are working hard to deliver projects through the early phases of design, the process could be significantly expedited if these teams were provided scoping documents as projects are assigned.

Once each of the disciplines outlines project complexities using the standardized process, our delivery team managers will work with their teams to identify the crossings’ most significant constraints and risks for design and implementation. Scoping reports will include all background data, a project summary, analysis, communication to date, and a summary of the high complexity elements that will drive the crossings’ delivery, such as site-specific constraints, schedule, costs, risks, and constructability considerations. Scoping reports will also include design concepts from various disciplines, a cost estimate, next steps, and recommendations on bundling opportunities and delivery methods. When making these recommendations, delivery team managers will weigh several factors, including geographic location, overall level of complexity, and ability to innovate.

To meet the federally-mandated injunction by 2030, WSDOT will need to utilize multiple delivery methods, including design-bid-build, design-build, and progressive design-build. The HDR team is experience with these types of delivery methods and using WSDOT’s Project Delivery Method Selection Guidance (PDMSG) and Project Delivery Method (PDM) tools to complete the probable PDM during the scoping phase. HDR has been part of the probable PDM and final PDM evaluation on the SR 520 Bridge Replacement and HOV GEC, I-405 GEC, and OR Design and Consulting Engineering Service, 24 Fish Passages programs.

The decision of the PDM revolves around four major categories: schedule, cost/funding, design standards, and function/innovation. **The benefits of early identification of PDM include:**

- Effective early design decisions that impact final costs
- Selection of project office staff and early determination of design effort/resource loading, scheduling, and budgeting
- Incorporation of PDM risk allocation into the cost estimate
- Scoping estimates that are more accurate, allowing the team to estimate using factors appropriate to the PDM
Our team is dedicated to working with WSDOT on identifying process improvements on transition and closure plans as scoping documents are handed off. Once delivery methodology and bundling of crossings has been determined, HDR will work directly with Kim Mueller and the state’s Fish Passage Database Steward, Katrina Keleher, for uploading documents to WSDOT’s Fish Passage Database. We will work directly with you to identify the best process for establishing a standardized project filing system within the state’s Fish Passage Database and/or within the confines of WSDOT’s existing folder structure in ProjectWise that is used by each of the design offices to make sure that scoping reports are used as effectively as possible and found in consistent locations.

We anticipate employing a similar model to WSDOT’s transition and advancement of the Olympic Region Coastal 29 preliminary hydraulic designs. **HDR worked closely with WSDOT’s progressive design-build team to effectively pass along previous work and identified specific file structure and locations within ProjectWise to save completed reports, analysis, and collected background information, in addition to developing a checklist to make sure that reports contained all information required to be considered completed.**

Our team also recognizes that WSDOT’s pre-design teams are now beginning to transition their deliverables to other WSDOT design teams within both regions and the HDR scoping team is dedicated to following up with these teams to identify lessons-learned and apply those lessons to the transition plan of these scoping documents.

As the project manager on WDFW’s Aquatic Species Restoration Plan, **Cade Roler** oversaw the development of a web-based prioritization model for **more than 2,000 fish passage barriers.**

**Practical Design/Least Cost Solutions**

HDR and the consultant team’s extensive experience working with WSDOT on fish passage projects will help to **incorporate practical designs and least cost solutions in reports that will save WSDOT time and money in the design and construction phases.** HDR and our partners bring a wealth of experience in the various disciplines required to generate scoping reports, including roadway, bridges/structures, geotechnical, maintenance of traffic, environmental permitting, constructability, stormwater, and hydraulics. Each of the members of these disciplines are familiar with WSDOT fish passage projects and how to apply practical designs and least cost solutions to make sure that scoping documents will provide future design teams with a feasible path forward to advancing designs.

For example, our hydraulic staff are highly experienced with measuring bankfull widths, the level of complexity field document, and gaining concurrence from resource co-managers on proposed hydraulic designs, allowing them to provide an accurate initial estimate of the minimum hydraulic opening and structure free zone. This is a critical step that will then be used
by other disciplines in evaluating potential risks and opportunities in the scoping report.

Similarly, our structures team understands that, where possible, pre-cast solutions are desirable to achieving short-term roadway closures and minimizing risks to the traveling public and the natural environment. They have become skilled at working closely with our hydraulics staff to quickly identify structures that would fit the minimum hydraulic opening and reduce unwanted impacts.

Our team will identify design solutions that are compatible with resource co-manager expectations, setting up the future design teams for success and accelerated delivery. Cade previously worked for WDFW as a fish passage scoping biologist and more recently worked as a Fish Passage Tribal Liaison for WSDOT, making him an excellent resource for making sure that designs meet expectations. Shaun has led the stream design on approximately 40 WSDOT crossings and provided input on many state hydraulic policies, and will provide valuable insight when estimating structure free zones at complex fish passage sites.

When applying practical design/least cost solutions, some of the biggest savings revolve around constructability and maintenance of traffic. Our team has extensive experience working with contractors on WSDOT projects as part of the design-build procurement phase from the OR Design and Consulting Engineering Service, 24 Fish Passages program.

To ease constructability and reduce costs, many contractors desire to realign the stream to construct the new fish passage structure and most of the new stream offline of the old stream. We will work closely with our stream and hydraulic subject matter experts to see where stream realignments are feasible and desirable. HDR has developed this strategy on many crossings in Washington, saving projects millions of dollars in construction along the way.

It is crucial to employ a least cost mindset throughout scoping and design, considering the total lifecycle costs of each decision. A current example is the Dean Creek barrier removal on US 101 in Clallam County, for which HDR is leading the scoping process. There is very little vertical distance between the highway surface and the thalweg. As we develop design alternatives, we are considering the practical implications of providing the desired six-foot maintenance clearance versus the minimum clearance needed for hydraulic freeboard. The full maintenance clearance will trigger a highway rise of about three feet, which in turn will trigger several hundred feet of roadway reconstruction. This, in turn, will trigger stormwater detention, requiring property acquisition. We are documenting the total cost implications of the vertical clearance decision so that WSDOT can make an informed decision on the best way to proceed. This type of decision will be formally documented in the preliminary hydraulic design report in a future phase of work and our work plan will incorporate least cost strategies starting with the very first site visit.

Another area of practical design/least cost solutions with fish passage projects is developing innovative maintenance of traffic strategies that help the contractor to reconstruct each crossing quickly, while minimizing impacts to the traveling public.

“When I get a PHD from HDR, I can review it and then send it for internal review either after a minor change or no change at all.

On the Salmonberry PHD, I forgot HDR did the drafting for the project until I saw the logo on the bottom of the sheet, because the WSDOT standards were so well met!”

Heather Pittman, PE
WSDOT Fish Passage Design Manager
public. Through years of experience working on fish passage replacement projects, the HDR team has developed a bevy of fish passage-specific strategies, including short duration full roadway closures, short duration bypasses, and long duration bypasses. Each fish passage culvert replacement needs to be evaluated to determine the best fit for construction, traveling public and other impacted stakeholders.

HDR recently implemented a full closure strategy on five fish passage culvert replacements on SR 108 in Mason County. This strategy included public outreach to nearby residences, businesses, schools, and first responders. We received overwhelming support for short seven-to-fourteen-day closures over long-term 145 day alternating one lane bypasses. The HDR team will recommend the most appropriate maintenance of traffic strategies for each specific site in the scoping document for fish passage culvert replacement.

Delivery team managers will work closely with each of the disciplines within their teams to facilitate cross coordination. Regular communication between the disciplines will lead to enhanced innovation, identification of complexities, and lead to better recommendations in scoping reports.

Key Activities and Critical Milestones
To be successful, our work must be completed on schedule, within budget, within scope, and without errors. HDR uses a combination of company-developed tools and procedures for monitoring scope, managing internal tasks, maintaining communication, staying ahead of schedule and within budget. These tools and procedures are time-tested and have been successful on hundreds of task assignments on the SR 520 Bridge Replacement and HOV GEC and I-405 GEC programs. HDR has had great success using our secure web-based project tracking program, WorkPlan, to monitor and control cost and schedule on WSDOT projects to track key activities and critical milestones.

We are committed to developing and holding to an aggressive schedule that prioritizes fast delivery of quality products. Within the first 30 days of being under contract, our project team will distribute bundles of assigned crossings to the various delivery teams. Immediately upon assignment, hydraulic staff will be trained on the complexity process and mobilized for field data collection to establish structure free zone determinations. While this is occurring, the consultant team will work with WSDOT to provide relevant site data information and develop standardized protocols for analyzing level of complexity for each discipline. Paul Ferrier will also establish a risk matrix and mitigation measures, as well as work with Mike Pawlak to establish a process for reviewing scoping documents prior to submittal.

The first key milestone will be summarizing hydraulic field observations and determining conceptual structure free zones. Once this is completed, our team will initiate roadway, geotechnical, structures/bridges, constructability, maintenance of traffic, environmental, and stormwater analyses. Paul and Cade, as well as our delivery team managers, will be responsible
for making sure that there is adequate cross-discipline coordination occurring throughout the delivery teams.

Another key milestone will be the completion of a draft scoping report, which will go through an established QA/QC process overseen by Mike Pawlak. Delivery teams will then incorporate changes and edits identified in the QA/QC process. When this is completed, scoping reports will be sent to WSDOT to solicit feedback, which our teams will incorporate before following the submittal process for the final reports.

With this framework in place, our team will efficiently advance the individual crossing reports. We anticipate completing and submitting a minimum of three to four completed and quality-reviewed reports to WSDOT each month to meet the goal of 80-100 scoping reports over three years. Should WSDOT desire a faster schedule than this, our delivery team model also allows us to ramp this schedule up and deliver more reports on an even faster schedule.

As scoping reports are finalized and submitted, the delivery team managers will work with Kim Mueller to adjust recommended project bundling and delivery method recommendations based on refined strategies and updated information. Once the final reports are submitted, the consultant team will initiate the transition plan as previously detailed on pages 22 and 23.

Project-Specific Risks and Mitigation/Management Approach

The intent of this contract is to identify fish passage project delivery risks early and assist design teams in mitigating those risks. In the first 30 days Paul Ferrier will develop a detailed risk matrix and mitigation measures. Key risks for the successful delivery of this contract can be broken down into three primary categories: schedule, quality, and public and resource co-manager perception.

SCHEDULE

Our team is sensitive to the time constraints WSDOT is under in delivering this program and we want to support program delivery in any way possible. Meeting the schedule for this project will require efficiently setting up the prime and subconsultant contracts for this effort to get services underway. Paul and Cade will prioritize expediting this progress with the HDR team and our teaming partners as quickly as possible. We have contracted with WSDOT on multiple different occasions and have managed subconsultants on various WSDOT contracts.

Another key schedule risk will be completion of hydraulics work in a timely fashion. Hydraulics work is on the critical path for initiating other disciplines efforts, so missing deadlines can have major, rippling schedule impacts. Our team includes hydraulic leads that have proven experience working on WSDOT projects and managing workloads. We also have a deep bench of experienced hydraulics support staff that will provide the necessary depth to stay on schedule. Additionally, Paul, Cade, and our delivery team managers will hold hydraulics staff accountable and will make necessary staffing adjustments to stay on schedule. HDR has demonstrated that we can effectively manage and deliver a high volume of concurrent projects through our successful delivery of preliminary hydraulic designs in large bundles, such as WSDOT’s Coastal 29 and OR 16 contracts.
Prior to conducting fieldwork, WSDOT’s process is to send out letters for right-of-entry. The hydraulic field observations will require work outside of WSDOT right-of-way to collect bankfull widths and document site conditions. Immediately after contract award, HDR will work with Kim Mueller to identify a point of contact to work with in identifying fieldwork extents, prioritizing sites, and sending right-of-entry letters out.

WSDOT and the consultant team will need to collect site data, including geotechnical information, traffic data, as-builts, WSDOT survey data, and other relevant site information to be able to effectively develop scoping reports. Requesting data early in the process and having frequent coordination with Kim and other WSDOT staff as assigned will mitigate this schedule risk.

We recognize that the fish passage program is ever-changing and adapting based on lessons learned and new policies. HDR has been a partner in delivering WSDOT fish passage projects and proven our ability to adapt to changing processes, best practices, and policies as the program has evolved. We have demonstrated this ability to make timely changes to concept designs on the OR Design and Consulting Engineering Service, 24 Fish Passages project with updates to the BDM Scour Policy Memo, Hydraulics Manual, and Design-Build RFP Section 2.30.

QUALITY

Assuring quality of all deliverables on a project of this scale is another key risk that HDR is dedicated to proactively mitigating. Our team will produce accurate, high-quality scoping reports that will facilitate expedited project delivery upon completion. Mike Pawlak’s review process will verify that scoping reports follow a consistent format, content, and file structure. While this process will provide consistent quality of deliverables, there are a few additional risks to mitigate that could impact quality of the scoping reports.

Lack of integration of disciplines or inconsistent site evaluations can lead to schedule delays, as well as scoping reports that do not identify cross-discipline complex project constraints. We will work with WSDOT to develop standardized processes for collecting and reporting project complexities that will include cross-coordination requirements. Delivery team managers, as well as Paul and Cade, will oversee that cross-coordination is occurring with every crossing.

For hydraulics and development of conceptual structure free zones, unconfined streams will require the use of unconfined bridge design methodology, which uses hydraulic model results to inform sizing of the minimum hydraulic width. Our hydraulic leads have worked on many complex WSDOT projects and have the necessary experience to develop creative and innovative ways to estimate a conceptual structure free zone that can be refined in later stages of design. One option is to review meander amplitude and utilize results for estimating structure free zone in unconfined streams. This is a conservative approach that will prevent rework in later design phases.

PUBLIC AND RESOURCE CO-MANAGER PERCEPTION

HDR is committed to working with WSDOT to maintain good working relationships with the public, resource co-managers, and stakeholders. One of the risks the team has identified is resource co-manager perception. Resource co-managers
are typically heavily engaged throughout many processes within WSDOT’s fish passage delivery. Learning about this new process might make them uncomfortable and will likely lead them to wonder why they are not engaged. It is possible that they will be concerned that these hydraulic numbers and scoping level designs are final and that they will not have the opportunity to provide input. **We will work with WSDOT on messaging of the contract goals and to make sure that resource co-managers understand that this is a scoping level exercise and numbers are preliminary.**

Coordination with private landowners and businesses during site evaluations also poses a risk to public perception. Prior to site visits, we will coordinate with WSDOT to confirm if any special requests were made by landowners and businesses during the right-of-entry process. During site visits, hydraulic staff will need to collect site data on private property, which often leads to discussions in the field or over the phone with the property owners. Our staff will work with WSDOT to develop messaging for field staff if confronted by the public and assign a point of contact if more coordination is necessary.

### 4B. Approach to Resolving Conflicts

Effective communication is one of the most critical factors for a successful project. It is important for both avoiding issues before they become a conflict and for addressing them efficiently and effectively should they arise. We are committed to continuous communication and taking the necessary steps to maximize communication and cooperation. **Should conflicts arise, our approach is to address them with transparency and a solutions-oriented approach that allows you to make well-informed decisions.** We will expeditiously identify and resolve issues using the following tools and meetings:

**Within the Project Team:** At the beginning of each assignment, the assigned delivery team manager will prepare a supplement to the project guide and distribute it to all team members to assure expectations and key milestones are clear and that accountability is clearly assigned. A kickoff meeting will be held at the start of each crossing project to familiarize assigned staff with the project guide, project-specific QA/QC plan, field safety plan, as well as scope, schedule, and budget expectations. If conflicts arise within the delivery teams, delivery team managers will work towards resolution. If resolution cannot be achieved within the delivery team, then the delivery team managers will elevate conflicts to Paul and Cade for conflict resolution. Paul will make sure that conflicts are managed rapidly so as to not impact schedule or budget.

**With WSDOT:** Our team includes leadership and key staff members who are well-versed in WSDOT’s standards and expectations to help avoid conflicts before they begin. Paul’s experience on WSDOT contracts and as a former WSDOT employee, means that he is highly knowledgeable of your processes and procedures. Additionally, our principal-in-charge, Beth Rood, has worked with WSDOT fish passage staff since 2014, helping to shape the program and its processes. **Beth will apply more than a decade of relationships built with WSDOT staff and experience managing operations, staff utilization, workload forecasting, and overall project delivery to make sure your expectations are met on each and every assignment.** If need be, she will be available to work with Kim Mueller on swift corrective actions.
Paul will make every effort to avoid conflicts, but should they arise, WSDOT can be assured that they will be resolved quickly via a formal process. Paul and our delivery team managers will attend weekly check-in meetings with the WSDOT HQ Fish Passage Delivery staff to discuss budget, schedule, timelines, and satisfaction. Any issues identified will be managed by Paul and Cade and discussed with delivery team managers and discipline leads. Paul and Cade will track conversations and discussions surrounding the conflicts and provide WSDOT with an update at coordination meetings. If conflicts are not resolved after two meetings, HDR will facilitate a conflict resolution meeting between the consultant team and key WSDOT staff to identify the best path forward.

**With Stakeholders:** Paul and our outreach lead, Dennis Sandstrom, are capable of and comfortable with interacting with project stakeholders and the general public. When working with external agency staff or the public, our project managers work to uphold WSDOT’s long-term interests. To provide timely and appropriate interaction with stakeholders, we will develop a facilitated engagement approach jointly with WSDOT, specific to the assignment or task at hand. Many project assignments may have limited stakeholder involvement, and we will be sensitive to WSDOT’s needs.

If a stakeholder engagement plan is necessary because of a project’s scope of work, we will develop a task specific communication plan and include it in the project guide.

We will meet with stakeholders as necessary to allow them to share their goals and concerns, build a common understanding of the collective issues, and work through a collaborative effort to reach effective solutions that integrate WSDOT and stakeholder objectives.

We are prepared to lead, facilitate, or participate in all meetings, from project endorsement to open houses and formal hearings, at WSDOT’s request and have experience of doing so on previous projects.

Our team can provide support for meeting logistics, display and presentation materials development, crisis communications, and stakeholder engagement plans to assist any WSDOT project need.

### 4C. Responsibility for Deliverables and Integration of Work

HDR and the consultant team are committed to working collaboratively with WSDOT on the delivery of this contract. **We will work with assigned WSDOT staff to acquire existing background data for sites, including collecting:**

- Geotechnical information
- Previously completed survey
- As-builts of existing structures
- Traffic counts
- Utility records
- Other relevant site information, including rights-of-entry points of contact for areas outside of WSDOT right-of-way

Additionally, our team will work with WSDOT to establish standardized processes for evaluating site
complexities for each discipline upon contract award. Collaborating with WSDOT on this process will assure you that data collected and compiled in the scoping reports targets information that best suits your needs. Early action items proposed include a review of the current data collection, preliminary hydraulic design, and barrier removal design process and policies. The program, design criteria, and resource co-manager review process is still evolving. Our experience and lessons-learned on the OR Design and Consulting Engineering Service, 24 Fish Passages program will inform future projects. Most notably, we are interested in reviewing how scoping can anticipate challenges related to natural regrade, hydraulic influences from larger rivers near confluences, scour analysis, and probable constructability of structure foundations. While these types of topics are squarely on the shoulders of the future design teams, the scoping team can improve efficiency of the overall delivery with strategic advice on bundling and project delivery methods.

Paul and Cade will work collaboratively with WSDOT to provide feedback on draft scoping documents and adaptively manage the deliverables and the process. Working collaboratively with pre-design teams and Region GECs will demonstrate where our team can fill in gaps in the early scoping process. Building flexibility in the process will enable us and WSDOT to apply lessons-learned throughout the duration of the contract. Paul and Cade will also facilitate weekly meetings with WSDOT and the delivery team leads to collaborate on tasks and identify necessary changes. In addition to weekly check-ins with the HQ Fish Passage team, Paul will also submit monthly progress reports showing major updates and invoicing. If emerging needs arise as the contract is being delivered, the consultant team will work with WSDOT to schedule additional meetings, as needed.

We will continually work with WSDOT to identify if there are policy changes to which we need to adapt. Our team is best situated to adapt quickly to changing policies to make sure that information provided in these reports is as useful as possible for future design teams, given HDR’s role on the HQ Fish Passage & Hydraulics Staff Augmentation contract.

Efficiently working within WSDOT’s processes and maintaining clear communication with WSDOT staff will be essential to project success. Our delivery team managers will collaborate closely with Kim Mueller to complete reports, flexibly adjust strategies where needed, and strategize on bundling and delivery.

Many of our team members have been working side-by-side with the WSDOT fish passage staff since the inception of this program. HDR’s staff members are committed to helping you fully leverage this contract to drive process improvements and innovations in how WSDOT delivers fish passage barrier removal projects. As local Washington residents, our key team members understand the importance of the fish passage program to our community and environment. We take pride in collaborating with agency staff and your partners to facilitate delivery of this program, and we are fully committed to supporting WSDOT in being a good steward of the public’s investment.
We practice increased use of sustainable materials and reduction of material use.

© 2022 HDR, Inc., all rights reserved.