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Responded By User ID:
Sitka Tech

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Addendum No.02-Wildlife-Data Systems Assessment

Total of Header Attachments:
1

Total of All Attachments:
1

Sitka Technology Group

Proposal for:

Wildlife-Data Systems Assessment *(Solicitation No. ARFQ DNR21*42)*

Submitted to:

West Virginia Division of Natural Resources

20 April 2021

Sitka Technology Group

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20 April 2021

West Virginia Division of Natural Resources
Wildlife Resources Section Elkins Operations Center
Attn: James H. Adkins
324 4th Avenue
South Charleston, WV 25303

RE: Wildlife-Data Systems Assessment (Solicitation No. ARFQ DNR21*42)

Dear Mr. Adkins:

Sitka Technology Group, Inc., is pleased to respond to West Virginia Division of Natural Resources' (Agency) Request for Qualifications (RFQ) for a Wildlife-Data Systems Assessment. Sitka is a data management and technology firm focused on building knowledge infrastructures for natural resource organizations like yours. Our dedication and considerable experience with environment-focused agencies ensure the solutions we build deliver improved social, economic, and ecological outcomes.

Your RFQ is particularly of interest to us given our experience conducting needs assessments for similar natural resource organizations via our Data Diagnostic™ service. We are uniquely suited to provide the Wildlife Resources Section (WRS) with a detailed assessment of their data management systems, key audiences, and user needs associated with managing and reporting on WRS goals and activities. We are also confident in our ability to provide WRS with a better understanding and documentation of their current portfolio of applications, databases, and processes with a clearly defined action for each based on risk and strategic organization alignment.

By selecting Sitka, you will enjoy partnering with a data management and technology firm that already understands both the science and policy of natural resource management *and* the art of systems design.

Sincerely,

Brian Knowles
COO and Cofounder
Sitka Technology Group
(503) 808-1206 | brian@sitkatech.com

TABLE OF CONTENTS

Company Overview

Sitka Technology Group, Inc. (Sitka) is a privately held company, incorporated on April 28, 2008. Since our founding, we have focused entirely on the mission of providing enterprise-scale application development and management services for the natural resource management market.

As a company, Sitka has a long history of success in data systems assessment, design, development, and management. We consistently deliver projects on time and on budget. The trust we build with our clients is best illustrated by the long-term investments they continue to make in the services we provide and the systems we build.

Sitka has 38 full-time staff members working in the Portland Metro area. We are an Oregon incorporated business and FISMA/NIST 800-53 information security standards certified.

As a leading technology partner for natural resource agencies, we have over 10 years' experience providing a wide range of services. The ones listed first are those requested in your RFQ.

- Data system assessments *[3.1.2]*
- Project management *[3.1.3]*
- Technology expertise and architecture *[3.1.4]*
- Web and mobile application design and development *[3.1.5]*
- Database development and management *[3.1.6]*
- Natural Resource Management / Biological data management *[3.1.7]*
- System visioning and planning
- Requirements analysis
- User experience and workflow design
- GIS integrations, geospatial processing and analyses
- Data analysis, reporting, and visualization
- Web services and other system integrations
- Data migration and conversion
- Cloud-based systems deployment and management
- Online help and training documentation
- Technical support

If awarded this work, the contract manager would be:

- Brian Knowles
  Office: (503) 808-1206 | Fax: (503) 926-9131
  Email Address: brian@sitkatech.com

Approach

To assist the Wildlife Resources Section (WRS) identify the best path forward for meeting current and future information management and reporting needs for its staff and key partners, we believe thorough systems assessment and requirements analysis effort, termed a Data Diagnostic, is the best answer for your user needs and data systems assessment.

Our Data Diagnostic service will provide a detailed assessment of your data management systems, key audiences, and user needs associated with managing and reporting on WRS goals and activities. Based on our findings, we will create a set of recommendations that outlines key areas for improvement, an alternatives analysis, recommended next steps, and estimated costs. We are confident by choosing Sitka and our proven Data Diagnostic service, WRS will gain a better understanding of their current portfolio of applications, databases, and processes under their oversight with a defined action for each based on risk and strategic alignment to the organization.

Sitka's Data Diagnostic is a proven approach to objectively assess an organization's existing data assets and related workflows, understand common needs, and outline alternatives for improvements. Its primary output is a roadmap for lower-cost, higher-quality data management that includes concrete next steps.

We have successfully delivered this service to (italicized clients are featured in our references):

- *Oregon Metro*
- Clean Water Services
- *U.S. Bureau of Reclamation*
- Weyerhaeuser
- Tahoe Regional Planning Agency
- *State of Montana Department of Natural Resources and Conservation*
- Seafood Watch
- National Forest Foundation
- *Puget Sound Partnership*
- Gordon and Betty Moore Foundation
- David and Lucille Packard Foundation

Figure 1 provides a conceptual overview of our methodology that begins with **People** — the staff and partners who create, update, and interact with your organization's data. We understand this will involve staff across four units and five programs. Next, we look at the explicit and implicit **Workflows** that people engage in to manage various types of **Data**. Finally, we review the existing **Systems** — everything from paper and spreadsheets, or enterprise platforms — that your people use today. We understand there are approximately 130 "systems" – comprised of applications, databases, and/or spreadsheets – that WRS maintains today. The careful analysis of these elements enables us to collectively build a shared vision with clear next steps to improve how your data management practices and systems can better support the work of the WRS.

People

- Define all stakeholders and data users
- Capture motivations and needs
- Develop basic personas

Workflow

- Map existing business processes
- Identify ideas for process improvements

Data

- Understand current data sources and structure
- Document data inputs and outputs

Systems

- Determine existing systems of record
- Understand current usage patterns, strategic alignment, and risks
- Analyze interaction and interfaces between systems

Recommendations

- Estimate level of effort, budget, and timeline for alternatives
- Make recommendations to drive decision-making

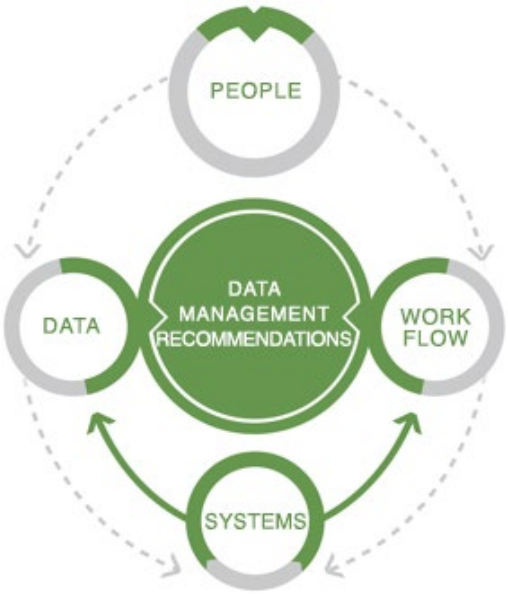


Figure 1. Our process for developing recommendations

Task 1 – Initial Interviews and Project Kick-off

To prepare for the kick-off workshop we will conduct a preliminary review of your list of databases, spreadsheets, and applications (for this response, we'll refer to these collectively as "systems"). If at all possible, we'd like the opportunity to directly review a few actual systems; for example, an Excel spreadsheet containing the results of hunter/angler success surveys, and perhaps an Access database containing population surveys of White-tailed Deer, Elk, Black Bear, Wild Turkey, and Wild Boar. We will also work with the WRS Project Manager to deepen our understanding of organizational goals and/or strategies.

While we typically facilitate in-person project kick-offs, due to COVID we plan to run this project's kick-off workshop remotely. *[4.1.1.2 Project Kick-off]*

In the kick-off meeting we'll start by understanding the people who need to view or directly manage information held within these systems. Instead of being lured into focusing only on tool/technology discussions right away, we like to first focus on the real motivations, needs, and goals of the people within the organization; specifically, representatives from:

- Game Management Unit
  - Game Research Program
- Fish Management Unit
  - Fish Hatchery Program
- Wildlife Diversity Unit
  - Natural Heritage Program
- Operations Unit
  - Environmental Coordination Program
  - GIS and Technical Support Program

During the workshop we'll facilitate conversations and exercises that collect information about the benefits people get from existing systems, as well as challenges or frustrations they experience today. We will also ask participants to review the initial list of systems, confirming completeness and point of contact (resident expert) for each. These exercises will provide a set of dogears for us to come back to during subsequent interviews with individual staff. We have found that centering assessment projects like this on the people who need the data and use the systems yields better insights and results in the most useful recommendations.

After the kick-off workshop, we'll conduct initial interviews with staff. We like to interview in groups of 1-3 people, making ourselves available to meet with as many representatives as possible. These initial interviews will give us the opportunity to dig further into the benefits and further characterize the pain points we captured during the kick-off. We will set up interviews based on Units and/or Programs and will focus on the subset of data and systems relevant to each. Given the large number of systems, we will move quickly through them, ensuring we don't excessively focus on any one system. *[4.1.1.3 Initial Interviews]*

These interviews will result in the first real expansion of the list of systems, transforming it into a matrix with a handful of dimensions. For example, we expect to capture things like purpose/intent, who manages/owns, who needs to access, frequency of access, and perceived quality. We will also capture preliminary information on system risks and the degree to which each system supports organization strategies or objectives. *[4.1.1.4 Risk and Strategic Alignment]*

Ideally, by the end of Task 1, we will have copies of and/or artifacts from all of these systems that we can study in detail, giving us a jumpstart on Task 3.

Task 2 – Program Interview Sessions

To delve deeper into data management challenges and opportunities, we will next facilitate a series of follow-up interviews. While most of these interviews will be with the same people, we expect some might require program staff that have specialized knowledge of certain systems or processes.

Along with regular check-ins with the WRS Project Manager, these sessions will allow us to refine and sharpen our understanding of the people's needs and the range of biological and programmatic data they need to access or manage. Throughout this task we will add detail and depth to the systems matrix, confirming with individual staff as we go. We expect to capture additional details about associated workflows, data types, known issues, opportunities for improvements, and wish-list items. *[4.1.2.1 Review of Database and Application Portfolio, 4.1.2.2 Define Data Sources]*

After completing these interviews, we will create a list of personas that include brief descriptions and clear articulation of their goals. **Figure 2** provides an example of a couple personas we developed for a Data Diagnostic we conducted for the National Forest Foundation. Personas are helpful abstractions of real people that are essential for creating a holistic data management strategy for a couple of reasons: 1) people come and go, but the functions they serve typically do not, and 2) consolidating goals/tasks under the fewest number

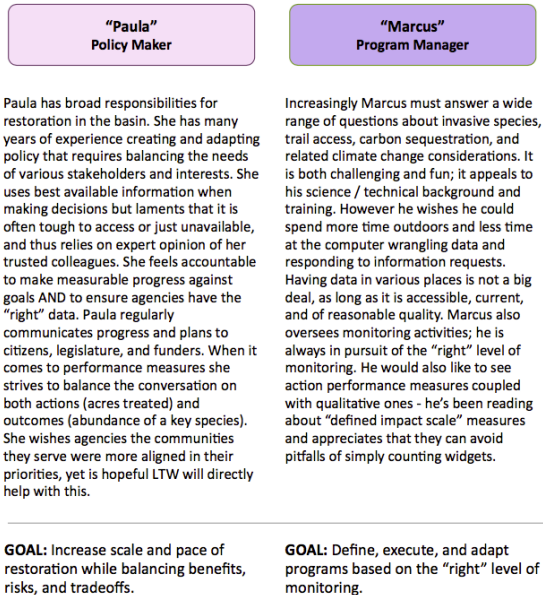


Figure 2. Two of the five personas we developed for the National Forest Foundation

of personas as possible makes it easier to keep them firmly in mind when making recommendations for improvements or designing new processes or systems. Said another way, personas help technologists and designers stay focused on the main point: people, not widgets or features.

In subsequent tasks we will map your personas to the systems they use. Being explicit about who might be impacted by system recommendations will help you make more informed decisions.

By the end of Task 2, we will share an updated matrix of existing systems organized by Unit and Program.

Task 3 – Database and Application Analysis

Following the in-depth interviews, we will analyze and assess each system using a handful of criteria. In addition to the two criteria mentioned in your RFQ, we propose including a couple more based on information collected during interviews:

1. Risk
2. Strategic Alignment to the Organization
3. Level of pain or frustration experienced by users of the system
4. Personas that get benefit from the system

We will draft a rubric for each criterion so they can be applied reliably and consistently. We will review and vet the criteria and rubrics with the WRS Project Manager, ensuring they make sense and are comprehensive. **Figure 3** is the slide we used to share the steps we took for a technical evaluation project for the Puget Sound Partnership. Note this slide shows the three-part rubric for the first criteria and how we used a Likert scale to arrive at numeric ratings that we used to create an aggregate score for each criteria.

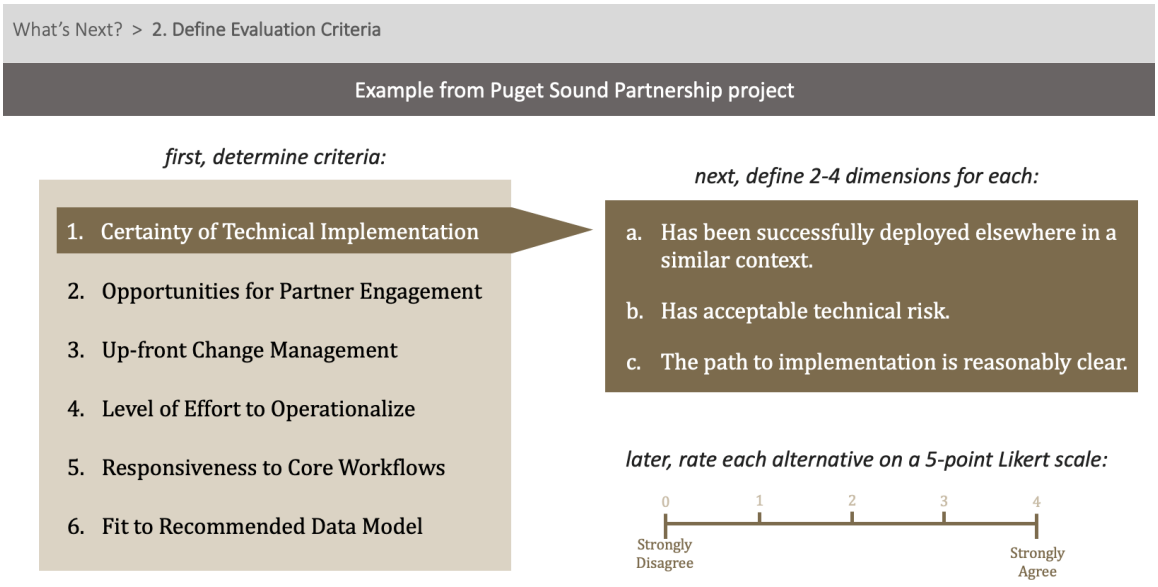


Figure 3. Example criteria and custom rubric we created during the Data Diagnostic for Puget Sound Partnership

The output of Task 3 will be a further expanded matrix of existing systems that includes these criteria and the results of applying the rubrics described above. At this point each system will have a set of ratings that can be expressed as scores which we will use to support our recommendations.

Task 4 – Draft Recommendations

We will develop a list of recommendations to guide WRS' implementation of new processes and tools that will lower risk and improve strategic alignment. While not required by this RFQ, our process will include the development of high-level recommendations that will address themes or patterns we anticipate will be discovered over the course of the project. We will use these high-level recommendations to situate and inform the system-level recommendations, providing a forest-level perspective over the individual trees i.e., databases and spreadsheets. Our previous experience with projects like this has shown these high-level recommendations to be a powerful decision-informing framework going forward.

Figure 4. Example high-level recommendations we created during the Data Diagnostic for Puget Sound Partnership

We will provide recommendations for each system including an executive summary that includes scores, brief narrative from interviews, and rationale driving the recommendations. The example below is an evaluation matrix we developed for the Puget Sound Partnership. For WRS, we will add a "Recommended Approach" column with categories like those suggested in the RFQ; e.g., Discontinue, Migrate, Continue. *[4.1.4.1 Recommendations per Database or Application, 4.1.4.2 Recommendation Approach]*

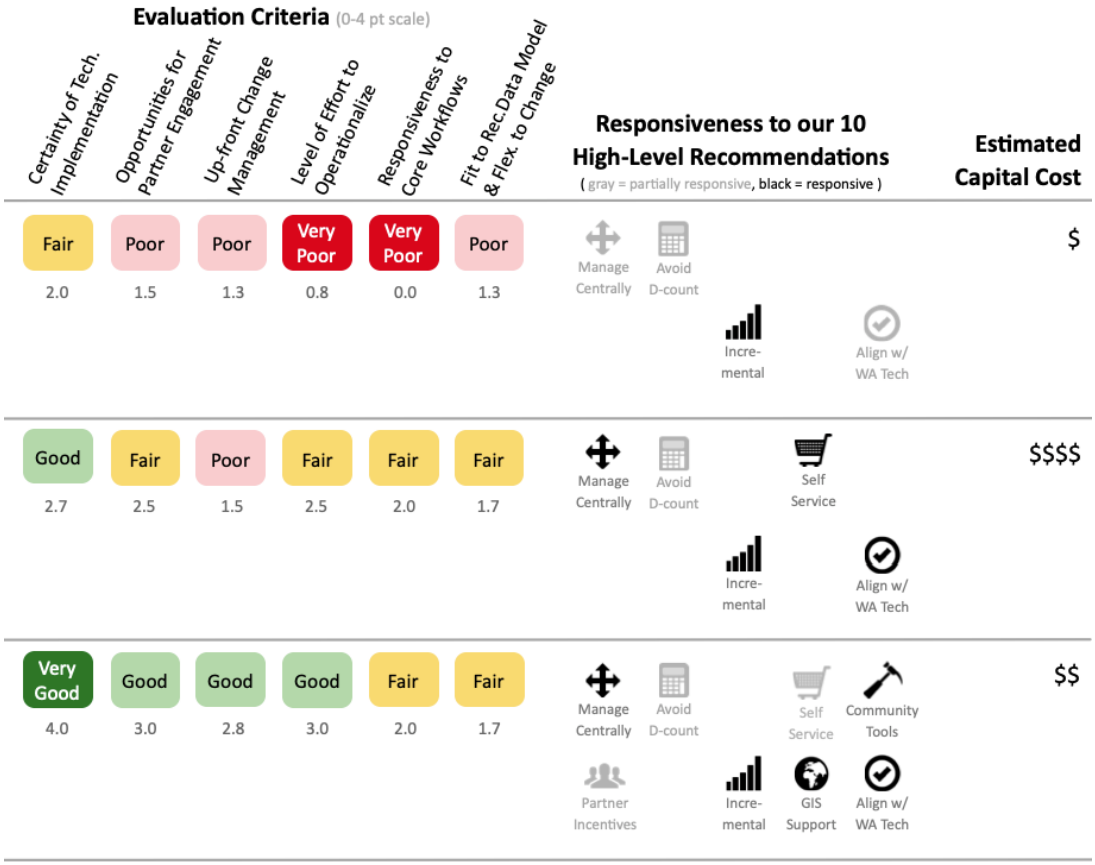


Figure 5. Example evaluation criteria, assessment of responsiveness to our high-level recommendations, and relative costs for Puget Sound Partnership

These draft recommendations will be provided to WRS for review. A follow-up meeting will be scheduled for WRS to provide Sitka with feedback for consideration in the final recommendations.

Task 5 – Final Recommendations and Presentation

With the benefit of feedback on the draft recommendations, we will present our final recommendations package to WRS in a web conference. Our recommendations will follow your rubric and be compartmentalized into major categories. Although much material will have been covered over the course of the project, we anticipate there will be unanswered questions discovered or inspired by this analysis for WRS to consider which we will also include.
[4.1.5 Present Recommendations]

The presentation itself will consist of a walkthrough of the project deliverables and a Q&A session. The analyses, findings, and supporting artifacts collected and developed for the project will be delivered via a shared cloud storage repository, such as OneDrive or Google Drive.

Proposed Timeline

In our experience, when the right people are gathered and committed to collaborating with us, we can complete a Data Diagnostic project like this in 3-4 months. We understand all deliverables must be completed within 200 days of Notice to Proceed.

Figure 6 shows a project schedule we are comfortable committing to assuming adequate availability of the project manager and representatives from the various units and programs. During the course of this project we would like to meet with the WRS project manager weekly to provide status updates, confirm next steps, and coordinate on any hurdles we encounter along the way.

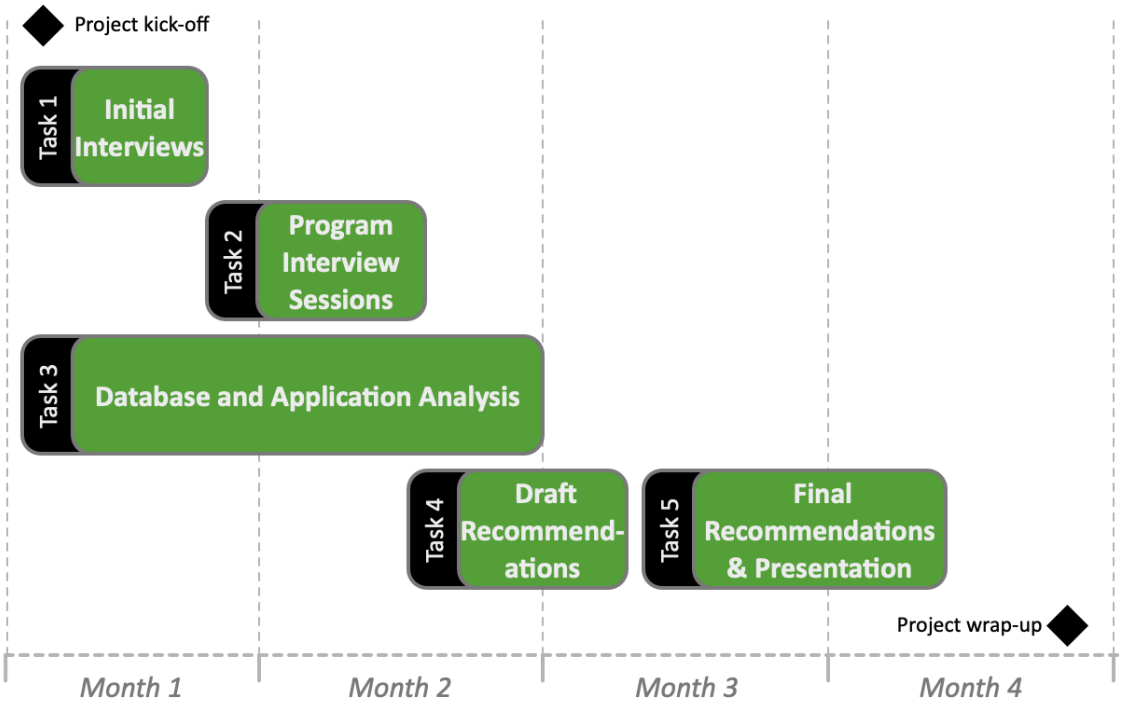


Figure 6. Proposed WRS Data Systems Assessment Timeline

Reference Projects

Reference Project 1:

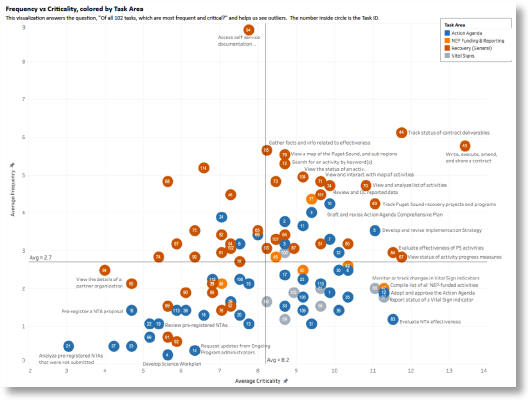
Puget Sound Partnership Data Diagnostic

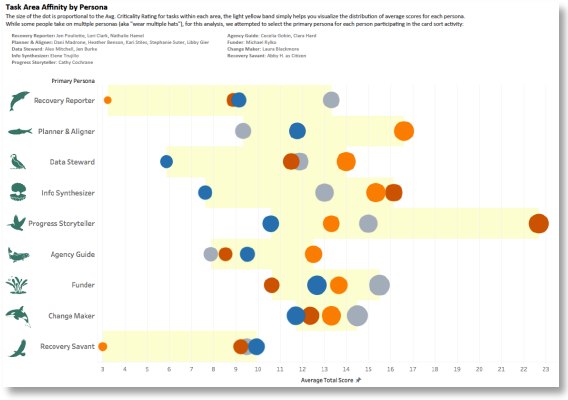
Client: Puget Sound Partnership
Contact: Jennifer Burke, Data Systems Manager, (360) 999-3849, jennifer.burke@psp.wa.gov
Budget: $40,000
Project Dates: May 2018 – August 2018

After completing an internal audit on the variety of systems and tools they utilized to track and report on recovery effort progress, Puget Sound Partnership leadership came to the conclusion that their data management approach needed revision. Starting in April of 2018, Sitka conducted a comprehensive assessment to identify the optimal path for meeting current and future information management and reporting needs. From our in-depth analysis, we determined the Partnership's underlying systems needed to be more sophisticated to support the diversity of partners who provide and consume data related to Puget Sound recovery and their unique information needs.

"The staff is telling me this is the best comprehensive user/audience analysis we've ever done."
Kari Stiles, Adaptive Systems Manager, Puget Sound Partnership

Just three months after the project kickoff meeting, we provided the organization with our key findings, alternative analysis, and recommendations. Since then, the Partnership and a committed group of advisors from partner agencies and organizations have invested in building an integrated information system, Puget Sound Info, to more reliably track activity and progress information and improve measuring effectiveness and recovery planning efforts. Through a phased implementation plan, Puget Sound Info continues to grow to meet high priority data management needs identified in the Data Diagnostic. To learn more about this project, please read the case study.





Figures 7 & 8. User Task Analysis content from Puget Sound Partnership's Data Diagnostic Broadsheet

Reference Project 2:

Montana Trust Lands Management System Data Diagnostic

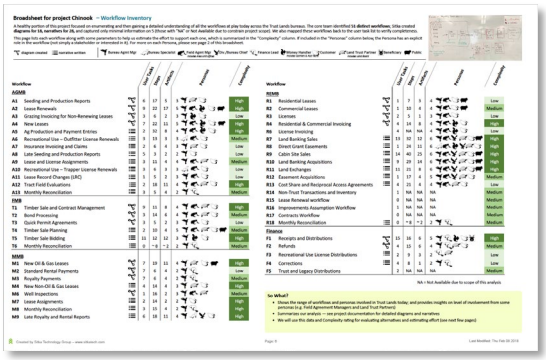
Client: Montana Department of Natural Resources and Conservation
Contact: Dan Rogers, Forest Management Bureau Chief, (406) 542-4302, danrogers@mt.gov
Budget: $46,700
Project Dates: November 2017 – January 2018

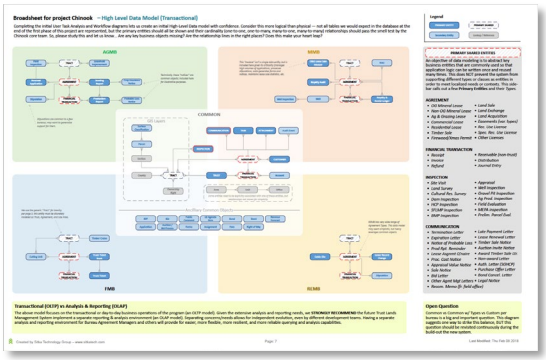
The Montana Department of Natural Resources and Conservation's (DNRC) Trust Lands Management Division administers and manages the state trust timber, surface, and mineral resources for the benefit of Montana schools and other endowed institutions under Title 77, Montana Codes Annotated. This act provides for the maintenance of a centralized trust lands record keeping system, including surface and mineral land ownership, lease management activities, and program-specific financial records.

"The Sitka team understands our interests, brings excellent technical skills to the project, and has been incredibly organized and responsive throughout the process."
Sarah Lyngholm, Forest Product Sales Supervisor, Montana DNRC

The initial Trust Lands Management System was developed by DNRC in 2008. It was a Windows-based property management desktop application with a built-in financial module that supported the forest, minerals, real estate, and agriculture/grazing management bureaus. In 2017, the Department hired Sitka to conduct a Data Diagnostic review of the Division's business processes and workflows and develop a comprehensive vision for a new and improved system.

In 2018, Sitka was selected to build a new and improved Trust Lands Management System leveraging the Data Diagnostic findings.





Figures 9 & 10. Workflow Inventory and High-Level Data Model findings from Montana DNRC's Data Diagnostic Broadsheet

Reference Project 3:

U.S. Bureau of Reclamation Columbia and Snake River Salmon Recovery Office Data Diagnostic

Client: U.S. Bureau of Reclamation
Contact: Dorothy Finaldi, Program Analyst, (208) 378-5368, dfinaldi@usbr.gov
Budget: $35,000
Project Dates: October 2014 – January 2015

With an eye towards streamlining data management processes to improve the positive impact of its efforts, the Bureau requested proposals to conduct a complete analysis of its existing practices and tools to suggest some new strategies. In September of 2014, the Bureau selected Sitka to conduct a Data Diagnostic to meet their needs for a detailed assessment that included an alternatives analysis and cost/time estimations for subsequent phases of system integrations or development.

During the first kick-off meeting, the Sitka team met with habitat managers, habitat engineers, program analysts, project coordinators, contract managers, and the regional director to whiteboard all the existing workflows. For the Bureau, this included: annual budgeting cycles, project selection, project reviews, and metrics reporting.

"It was a serious 'epiphany moment' when we saw the view of our workflows with the overlay of all the data types generated and managed throughout the year! Sitka helped us identify inefficiencies and unnecessary overlap in our current tracking and reporting processes."
Jude Trapani, Former CSRO Habitat Coordinator, U.S. Bureau of Reclamation

After the diagramming was complete, the next step captured all the various vehicles—paper, spreadsheets, databases, annual reports, project fact sheets, and other electronic documents—the Columbia and Snake River Salmon Recovery Office (CSRO) uses to collect, store, and summarize content for sharing with NOAA and other partners. Based on the findings from the above exercises, Sitka experts interviewed CSRO staff and identified 16 distinct program roles that interact with the systems and data in unique ways. To simplify the early discovery and design process, these 16 roles were consolidated down to a set of four personas. We then identified 76 discrete user tasks and facilitated an interactive prioritization session with the Bureau's core team. This resulted in a deep understanding of their internal and external workflows, how data moves through their program, and areas for improvement.

At the end of the three-month engagement, Sitka officially presented their findings. One of the final deliverables was a map of existing workflows along with a new, high-level data model and recommended alternative for moving forward. To learn more about this project, please read the case study.

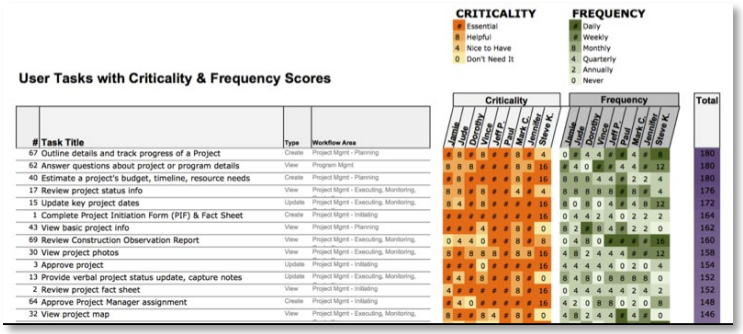


Figure 11. User task list excerpt after criticality and frequency ratings by CSRO staff

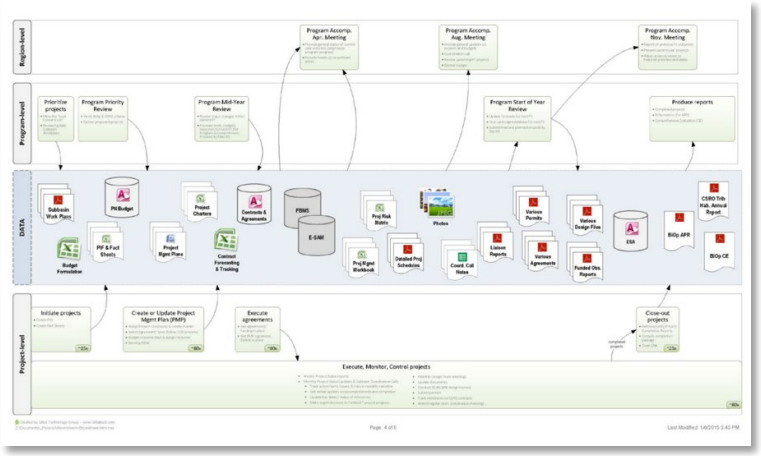


Figure 12. CSRO's Habitat Program workflow showing a multitude of data sources
Broadsheet PDF

Reference Project 4:

Oregon Metro Natural Areas Program Data Diagnostic

Client: Oregon Metro
Contact: Brian Kennedy, Program Director, (503) 797-1908, brian.kennedy@oregonmetro.gov
Budget: $35,000
Project Dates: July 2010 – November 2010

The first phase of this project began in 2010 and involved an in-depth assessment of Oregon Metro's information management needs and analyzing their data and workflows within their Natural Areas Program. Metro sought to raise the visibility of its work so that taxpayers could see how their investments were contributing to Portland's livability. Sitka began by interviewing dozens of program staff: attorneys, paralegals, scientists, property managers, planners, finance managers, and GIS specialists. These interviews yielded a list of over 100 data-related tasks that the new system would need to address. Sitka and Metro collaboratively prioritized these tasks based on criticality and frequency. With this heat map representing a shared understanding of their information needs and opportunities, Sitka introduced Metro to a new data model and workflow process that would become known as Terramet.

"We already knew Sitka had deep experience assisting organizations like ours that manage natural resources, but I was extremely impressed with how well the Sitka experts understood our domain."
Katy Weil, Senior Management Analyst, Oregon Metro

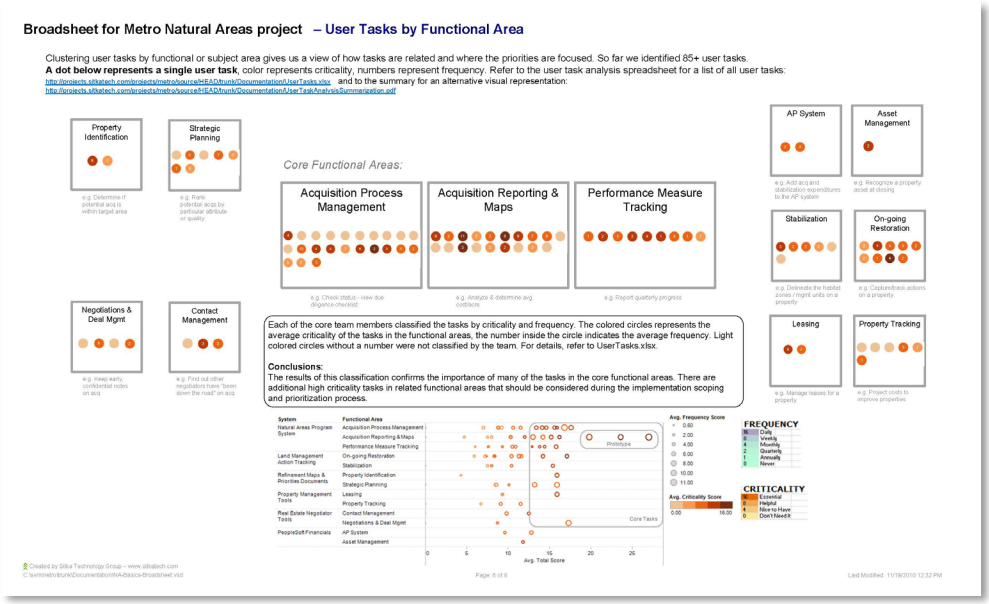


Figure 13. An example of a broadsheet for Oregon Metro's data management roadmap

Project Team

The Sitka team for your Wildlife-Data Systems Assessment project brings over 80 years of combined experience. Brian Knowles, Sitka's COO, has led or co-led many similar assessment projects over the past 15 years and will serve as the Executive Sponsor. Dal Marsters and Liz Christeleit are Senior Consultants who will co-lead this assessment and will work directly with the WRS project manager and representatives from selected units and programs. Both Dal and Liz have play key roles in systems assessment projects for public agencies and organizations working in the natural resource management space. Jonason Ho will serve as Technical Architect and provide technical depth for evaluating systems and making recommendations. **Table 1** below provides more detail on the Sitka team that will work on this project.

TABLE 1. EXPERIENCE AND QUALIFICATIONS OF KEY PERSONNEL

Team Member	Project Role, Expertise, and Relevant Technical Capabilities	Experience / Education
 **Brian Knowles**	**Executive Sponsor** Systems Strategy & Roadmapping, Data Modeling • User Task and Workflow Analysis • Usability and UX Design • Data Analytics and Information Design • Systems Design • DB – Microsoft SQL Server, PostgreSQL, MySQL, Oracle, Peoplesoft • GIS – ESRI ArcGIS Server, ArcGIS Desktop, Google Maps API, OpenLayers, GeoServer, PostGIS • Web – C#, ASP.NET, SQL, JavaScript, XML, HTML, JSON • Microsoft Visual Studio, Team Foundation Server, SVN, Nagios	**27 years** Brian is a founding member of Sitka who oversees and guides delivery of all professional services. He has led or co-led many Data Diagnostics including the ones for the Gordon & Bette Moore Foundation, Puget Sound Partnership, Bush Heritage, US Bureau of Reclamation, Weyerhaeuser, and Oregon Metro. Brian has also led the design and development of many custom data management systems still fully operational in both the private and public sectors. He is skilled in requirements analysis, process and workflow analysis, data modeling and creating software that gets to the heart of the client's needs. **Education:** BA, Business Administration – Marketing, Portland State University, Portland; Rotary International Ambassadorial Scholar to Konstanz, Germany
 **Dal Marsters**	**Senior Consultant** Customer Interactions, Data Analysis, Evaluations, Systems Design, Project Management, Information Design • Systems Visioning • User Experience and Workflow Design • Information Modeling • Database Design • User Acceptance Testing • DB – MS SQL Server	**28 years** Dal has been with Sitka for 8 years and has overseen and ensured the success of many projects for a wide range of customers. He played a pivotal role on Sitka's most recent Data Diagnostic project for the Packard Foundation in 2020. He is currently guiding the implementation of the final recommendations from the Data Diagnostic for US Bureau of Reclamation's Columbia and Snake River Office. Dal also oversees web application and systems integration projects for Washington Department of Natural Resources and Bonneville Power Administration's Columbia Basin Fish & Wildlife program. **Education:** BA, Liberal Studies, Portland State University
 **Liz Christeleit, PhD**	**Senior Consultant** Project Management, Customer Interactions, Systems Assessments, User Interface Design • Systems Design • Requirements Analysis • Workflow and Task Analysis • DB – MS SQL Server, PostgreSQL, MongoDB • GIS – Web Mapping (Leaflet.js), ESRI ArcGIS Desktop & Server	**11 years** Liz has built intuitive web applications for clients in environmental monitoring and resource conservation. She is experienced in complex workflows and systems to effectively solve client-specific problems by distilling technical documentation and literature and engaging with subject matter experts. Liz played a critical role on the Data Diagnostic Sitka conducted for Puget Sound Partnership. Liz's Geology and Geophysics background allows her to quickly get up to speed on science aspects of our work. She leads one of our delivery teams, setting the vision and managing

Team Member	Project Role, Expertise, and Relevant Technical Capabilities	Experience / Education
	• Web – JavaScript, Java, JSON, HTML5, Angular.js, C# .NET, ASP.NET MVC	the scope, schedule, and budget for municipal, regional, and state agencies customers, including California Resource Conservation Districts, Peaks to People Water Fund, Idaho Soil and Water Conservation Commission, and Puget Sound Partnership. **Education:** PhD, Geology & Geophysics, Yale University; BA, Geology, Occidental College
 **Jonason Ho**	**Technical Architect** Data Systems Assessments, Data Modeling, Web and Mobile Application Development, Database Development and Management, Systems Design • DB – MS SQL, Oracle, MongoDB, Linux • Web – Angular, ES6, Java8, JavaScript, JSON, Nodejs, REST, SOAP, Spring Boot, XML • DevOps– Docker, GIT	**22 years** Jonason is our technical lead on the Montana DNRC's Trust Land Management System and Sage Grouse Habitat Conservation Program management system. Both of these projects that started with systems evaluation efforts similar to the Wildlife Data Systems Assessment. He is a software engineer with expertise in developing innovative web applications that provide an exceptional user experience. Jonason's experience includes software design process, requirements gathering and definition, design, implementation, testing, and maintenance of multi-tiered applications. **Education:** BS, Computer Science, Oregon State University, Corvallis

Cost Proposal

Our cost proposal in **Table 2** follows the format provided in the RFQ Amendment 1's Pricing Page. While section 5.2 of the RFQ asks for cost for each deliverable and a total cost, the amended Pricing Page on provides a single line item. We are happy to provide cost information by task or by deliverable upon request.

Our cost proposal includes all labor, equipment, and expenses.

TABLE 2. PRICING PAGE

Item No.	Description	Unit of Measure	Quantity	Amount
4.1	WVDNR-Data Systems Assessment	Job	1	$40,000
			TOTAL:	$40,000

Vendor: Sitka Technology Group, Inc.

Authorized Signature: 

Date: 4/5/2021

Appendix A – Designated Contact

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Name, Title: 

COO & Cofounder

Printed Name and Title: Brian Knowles, COO & Cofounder

Address: 525 3rd Street #229, Lake Oswego, OR 97034

Phone Number | Fax Number: (503) 808-1206 | (503) 926-9131

Email Address: brian@sitkatech.com

Appendix B – Certification and Signature

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Company: Sitka Technology Group, Inc.

Authorized Signature (Representative Name and Title):  , COO and Cofounder

Printed Name and Title of Authorized Representative: Brian Knowles, COO and Cofounder

Date: 4/5/2021

Phone Number / Fax Number: 503.808-1206 / 503.926.9131

Appendix C – Addendum Acknowledgement Forms

State of West Virginia
Agency Request for Quote
Consulting

Proc Folder: 855856			**Reason for Modification:**
Doc Description: Addendum No.01-Wildlife-Data Systems Assessment			Addendum Addendum No. 01 is issued to publish and distribute the attached information to the Vendor Community.
Proc Type: Agency Purchase Order			
Date Issued	**Solicitation Closes**	**Solicitation No**	**Version**
2021-03-30	2021-04-20 13:30	ARFQ 0310 DNR2100000042	2

BID RECEIVING LOCATION

BID RESPONSE
DIVISION OF NATURAL RESOURCES
PROPERTY & PROCUREMENT OFFICE
324 4TH AVE
SOUTH CHARLESTON WV 25303-1228
US

VENDOR

Vendor Customer Code: VS0000037658
Vendor Name : Sitka Technology Group
Address : 503 #229
Street : 3rd Street
City : Lake Oswego
State : Oregon **Country :** United States **Zip :** 97034
Principal Contact : Brian Knowles
Vendor Contact Phone: 503-808-1206 **Extension:**

FOR INFORMATION CONTACT THE BUYER
James H Adkins
(304) 558-3397
jamie.h.adkins@wv.gov

Vendor Signature X  **FEIN#** 26-2500703 **DATE** 4/5/2021

All offers subject to all terms and conditions contained in this solicitation

Date Printed: Mar 30, 2021 **Page** 1 FORM ID: WV-PRC-ARFQ-002 2020/05

State of West Virginia
Agency Request for Quote
Consulting

Proc Folder: 855856			**Reason for Modification:**
Doc Description: Addendum No.02-Wildlife-Data Systems Assessment			ADDENDUM Addendum No. 02 is issued to publish and distribute the attached information to the Vendor Community.
Proc Type: Agency Purchase Order			
Date Issued	**Solicitation Closes**	**Solicitation No**	**Version**
2021-04-02	2021-04-20 13:30	ARFQ 0310 DNR2100000042	3

BID RECEIVING LOCATION

BID RESPONSE
DIVISION OF NATURAL RESOURCES
PROPERTY & PROCUREMENT OFFICE
324 4TH AVE
SOUTH CHARLESTON WV 25303-1228
US

VENDOR

Vendor Customer Code: VS0000037658
Vendor Name : Sitka Technolgy Group
Address : 503 #229
Street : 3rd Street
City : Lake Oswego
State : Oregon **Country :** United States **Zip :** 97034
Principal Contact : Brian Knowles
Vendor Contact Phone: 503-808-1206 **Extension:**

FOR INFORMATION CONTACT THE BUYER
James H Adkins
(304) 558-3397
jamie.h.adkins@wv.gov

Vendor Signature X **FEIN#** 26-2500703 **DATE** 4/5/2021

All offers subject to all terms and conditions contained in this solicitation

Date Printed: Apr 2, 2021 **Page** 1 FORM ID: WV-PRC-ARFQ-002 2020/05

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: ARFQ DNR21*42

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification. Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

☑ Addendum No. 1	☐ Addendum No. 6
☑ Addendum No. 2	☐ Addendum No. 7
☐ Addendum No. 3	☐ Addendum No. 8
☐ Addendum No. 4	☐ Addendum No. 9
☐ Addendum No. 5	☐ Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Sitka Technology Group

Company

Authorized Signature

4/5/2021

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Appendix D – Purchasing Affidavit

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Sitka Technology Group

Authorized Signature: Keith Steele Date: 3/30/21

State of Oregon

County of Clackamas, to-wit: Keith Steele

Taken, subscribed, and sworn to before me this 30th day of March, 2021.

My Commission expires June 5, 2022.

AFFIX SEAL HERE

NOTARY PUBLIC

OFFICIAL STAMP
KRISTA NICOLE HENDRICKSON
NOTARY PUBLIC – OREGON
COMMISSION NO. 975294
MY COMMISSION EXPIRES JUNE 05, 2022

Purchasing Affidavit (Revised 01/19/2018)

Appendix E – Resumes

BRIAN KNOWLES, Principal, Chief Delivery Officer

PROFESSIONAL EXPERIENCE

COO & Co-Founder **10/2008 – Present**
SITKA TECHNOLOGY GROUP, Portland, OR sitkatech.com

Co-founder and Chief Operations Officer leading the "Portfolio/Program Management" practice area. Brian spearheads the design and development of many software solutions that are still fully operational, working in both the private and public sectors. He is skilled in project management, strategic planning, requirements analysis, process and workflow analysis, data modeling and creating software that gets to the heart of the client's needs. Brian provides project oversight and often serves as a liaison between external project teams, other stakeholders, and Sitka.

Contract Senior Software Developer **10/2005 – 10/2008**
BONNEVILLE POWER ADMINISTRATION, Fish & Wildlife, Portland, OR bpa.gov/efw

Teamed to implement new features and improve existing code base of Pisces, the Fish and Wildlife Department's contract and project management system. Utilized .NET Smart Client technologies, including Windows Forms, Web Services and MS SQL Server 2000. The Pisces team uses agile development practices and has been recognized by the BPA and externally for effectively delivering value and introducing agile development principles in a governmental organization.

Spearheaded and contributed to significant improvements in the design, performance and health of the code base and data model. Utilized code and database refactoring techniques to improve the maintainability and flexibility of the system. Utilized database design and data migration techniques to improve the fit of the data model to the domain. A marked improvement in code quality, reduced defects and performance has been noted in targeted modules. Upgraded the applications to .NET 2.0 and the database to SQL Server 2005.

Senior Software Engineer / Technical Lead **2/2003 – 9/2005**
FIOS INC, Portland, OR

Teamed to implement innovative concept-based search technology into Prevail, Fios' online document review solution. Contributed to all aspects of the project, including Web interface development using ASP.NET and high-throughput indexing and concept space management processes that could handle millions of documents through concurrent processing. Teamed to profile and make significant improvements to the performance of Prevail search services and document viewing services. Led the effort to create automated build and deployment scripts for all custom-developed software applications. Achieved 100% continuous integration coverage for all 36 apps. Created one-touch deployment scripts that automated the deployment of n-tier applications in all environments. Cut deployment time for Prevail from 10 man-hours to 5 minutes.

Senior Software Developer **4/2002 – 2/2003**
HOLLYWOOD ENTERTAINMENT, Wilsonville, OR

Technical lead for a team of four developers that maintained and enhanced the transaction-processing system using Perl, PL-SQL and UNIX skills. The system imported daily sales data from over 2000 stores and required high availability and high throughput.

Documented current enterprise application integration strategy and mapped the architecture. Researched and proposed application integration strategy to more closely and effectively connect over 2000 stores with the applications located at company headquarters.

Senior Consultant **10/2000 – 4/2002**
LOGICAL E-BUSINESS SOLUTIONS, INC, Beaverton, OR

Member of a team of consultants specializing in engineering mission-critical Internet systems. Developed an application to manage project status reporting using ASP.NET, VB.NET and NUnit for Providence Health System. The project utilized Extreme Programming development practices and test-driven development. Developed a key component for a customer relations management Web site for a major software company. The application allowed customers to update their account information while keeping all back-end systems in sync. The project was developed using Extreme Programming methodology, server-side Java, Oracle and NDS. Ported a Microsoft ASP based application for commuter rideshare matching to the J2EE architecture. Project used EJB components and JSP pages structured using model-view-controller principles.

Senior Systems Developer **11/1998 – 10/2000**
PG&E NATIONAL ENERGY GROUP, Portland, OR

Teamed to develop a large, n-tier, e-commerce application using Java based application server technology. The application allowed on-line auction capabilities for managing gas pipeline capacity. Project developed using Java application server technology, the Extreme Programming methodology and object-oriented design principles. Researched, recommended, and implemented Web development and content management products and methods. Conducted focus groups to gather developer and end-user requirements for a new Intranet infrastructure. Developed design criteria for the Intranet infrastructure. Conducted systematic product selection. Designed and implemented the test and production environments, while meeting multiple organizations' requirements.

Senior Systems Developer **5/1996 – 11/1998**
TEKTRONIX, INC, Beaverton, OR

Led development and maintenance of division's external Web site. Site structure and design, content development, content conversion, programming and database development, process creation, page production, marketing communications, usage analysis, technical training, organizational education, and daily correspondence with customers via E-mail.

EDUCATION

BA, Business Administration – Marketing, Portland State University, Portland, OR 1995
Rotary International Ambassadorial Scholar to Konstanz, Germany, 1995-1996

TECHNICAL EXPERTISE & CERTIFICATIONS

- Languages: C#, ASP.NET, SQL, JavaScript, XML, HTML, JSON
- Databases: Microsoft SQL Server, PostgreSQL, MySQL, Oracle, Peoplesoft
- Software: Microsoft Visual Studio, Team Foundation Server, SVN, Nagios
- GIS: ESRI ArcGIS Server, ArcGIS Desktop, Google Maps API, OpenLayers, GeoServer, PostGIS

DAL MARSTERS, Engagement Manager

PROFESSIONAL EXPERIENCE

Engagement Manager **3/2017 – Present**
SITKA TECHNOLOGY GROUP, Portland, OR sitkatech.com

Works in an agile team developing custom web applications in the conservation space, including projects for Bonneville Power Administration and Oregon Metro. Leads the analysis and implementation of Estuary project management, Biological Opinion progress tracking, and limiting factor analysis tools. Completed the integration of the Columbia Basin Fish & Wildlife Program's Windows-based Pisces application into cbfish.org to make managing contracts and creating program-level analytics faster and easier for regional stakeholders.

Product Manager **8/2014 – 2/2016**
KAVI CORPORATION, Portland, OR

Developed product roadmap for enhanced secure messaging, content development workflows, member management, balloting, third party integrations, and more. Served as Agile product owner and created epics and stories, worked cross-functionally to manage scope and deliver product features.

Business Systems Analyst **2/2014 – 8/2014**
OREGON HEALTH AUTHORITY, Portland, OR

Served as a technology liaison between the Office of Information Services and the Public Health Division. Worked with subject matter experts in the field of public health surveillance to develop and publish health indicators on the web. Acted as project manager and analyst for the Environmental Public Health Tracking (EPHT) web portal and analyst for the Oregon Public Health Assessment Tool (OPHAT) project.

Senior Product Manager **7/2009 – 11/2013**
SITKA TECHNOLOGY GROUP, Portland, OR sitkatech.com

Served as product manager and business analyst for cbfish.org, the Columbia Basin Fish and Wildlife Program's project proposal and budget management web application. Worked with key stakeholders in the Bonneville Power Administration (BPA) and Northwest Power and Conservation Council (NPCC) to articulate product vision, analyze business processes, design application features, prioritize software releases, craft development stories, provide training and end user support.

Program Director **4/2005 – 6/2009**
GOLFNOW.COM, Portland, OR

Responsible for golf tee time booking engine, email marketing system, customer database management system, golf content distribution management tools, proprietary content management system, tee time booking engine API, and special programs. Gathered and analyzed product requirements, managed design process, managed project scope, and maintained project backlog.

Senior Quality Assurance Engineer **8/2004 – 4/2005**
KRONOS, Portland, OR

Test planning, test case development, test execution, and risk assessment on large scale web-based systems for automated job application processing service. White and black box testing of HTML, XML, and JavaScript user interface elements and middle tier SQL scripts, stored procedures and functions. Active initiator and contributor to Quality Assurance process-improvement initiatives.

EDUCATION

- **BA, Liberal Studies**, Portland State University, Portland, OR, 2014

SKILLS

- Agile Methodologies: XP, Scrum, Kanban
- Analysis Tools: Visio, Omnigraffle, Balsamiq, Adobe Creative Suite
- Programming Languages: Python, SQL
- Databases: SQL Server

ELIZABETH CHRISTELEIT, PhD, Engagement Manager

PROFESSIONAL EXPERIENCE

Engagement Manager **8/2016 – Present**
SITKA TECHNOLOGY GROUP, Portland, OR sitkatech.com

Builds intuitive web applications for clients in environmental monitoring and resource conservation. Makes sense of complex workflows and systems to effectively solve client-specific problems by distilling technical documentation and literature and engaging with subject matter experts.

Researcher **5/2010 – 8/2016**
DEPARTMENT OF GEOLOGY & GEOPHYSICS, Yale University, New Haven, CT

Effectively managed research projects, international fieldwork, and proposal and publication writing with a wide range of collaborators, from undergraduate students to senior faculty members. Conducted geospatial analysis of large elevation and precipitation datasets using ArcGIS.

Web Developer **1/2015 – 8/2016**
INDEPENDENT

Developed personal projects using the MongoDB, Express, React, Node stack in Javascript. Continuously learned new tools and integrated open-source libraries to improve code and application efficiency, including implementation of interactive web graphics with D3.

Teaching Fellow **9/2011 – 5/2015**
DEPARTMENT OF GEOLOGY & GEOPHYSICS, Yale University, New Haven, CT

Taught labs and fieldtrips in the following courses: Structure of the Lithosphere, Geomorphology & Surface Processes, Global Tectonics, Regional Perspectives on Global Geoscience.

Geoscience Policy Intern **5/2010 – 8/2010**
AMERICAN GEOSCIENCES INSTITUTE, Alexandria, VA

Attended and reported on congressional hearings related to geoscience.

EDUCATION

- **PhD, Geology & Geophysics**, Yale University, New Haven, CT, 2017
- **BA, Geology, Occidental College**, Los Angeles, CA, 2009

SKILLS

- **Programming Languages:** .NET technologies, (ASP.NET, C#, VB.NET, ADO.NET, MVC, EF, LINQ), Java, AJAX, Javascript, JQuery, HTML/XHTML/DHTML, SQL/TSQ
- **Databases:** Microsoft SQL Server, MS Access, MySQL, PostgreSQL
- **Skills / Technologies:** Agile methodologies, Data Warehousing/ETL
- **IIS:** Visual Studio, SOAP/Web Services, Reporting Services, NUnit, ApprovalTests, Nagios
- **Source Control:** GitHub, Tortoise SVN
- **Mapping:** Geoserver, OpenLayers

JONASON HO, Technical Architect

PROFESSIONAL EXPERIENCE

Technical Architect **5/2019 – Present**
SITKA TECHNOLOGY GROUP, Portland, OR sitkatech.com

Responsible for web application development for Montana Department of Natural Resources and Conservation's Trust Lands Management System and Sage Grouse Web Application Phase II.

Senior Application Developer **8/2011 – 5/2019**
DAT SOLUTIONS, Beaverton, OR

Worked with multiple agile teams to design, develop, and deploy distributed, scalable applications capable of handling high traffic. Built real-time system and user activity reports for operations engineers and call center staff. Developed freight matching platform and served as primary contact to help client developers use backend services. Improved user experience and streamlined system recovery by updating flagship product from desktop client to web environment. Implemented cloud-based identity service bringing authentication to industry standard and improving usability. Engineered load test system to replicate full production load. Developed and maintained API for third-party client integration.

Application Developer **11/2007 – 5/2011**
ARRIS, Beaverton, OR

Developed telecom-industry software. Designed and implemented applications in collaboration with project managers, server engineers, and client engineers. Developed a content management application for cable service providers.

Web Developer **8/2000 – 11/2007**
CON-WAY ENTERPRISE SERVICES, Portland, OR

Developed and maintained transportation-industry software. Designed and implemented various applications including customer information, delivery tracking, and safety record entry.

Web Developer **6/1999 – 8/2000**
WARN INDUSTRIES, Milwaukie, OR

Developed company website as well as client-server applications to schedule equipment and manage customer information.

EDUCATION

- **BS, Computer Science,** Oregon State University, Corvallis, OR, 1999

SKILLS

- Java8, REST, JSON, SOAP, XML, Kafka, JUnit, Gradle, Spring Boot, Javascript, ES6, Angular, Nodejs, Git, Bitbucket, Docker, Jenkins, AWS, OOAD, TDD, CD/CI, Agile, OAuth, Oracle, Mongodb, Linux