



**Aleut Community of St. Paul Island
Tribal Government**



**INDIGENOUS
SENTINELS NETWORK**

Request for Proposals

1. INTRODUCTION

1.1 Background

Indigenous and Aboriginal communities hold an abundance of ecological knowledge gathered through millennia of living and thriving in remote areas. There is a critical need to document local and traditional knowledge because it is often unused or even discredited without documentation. This limits the applicability to management and policy decision-making processes as “anecdotal observations” struggle to successfully integrate among standardized and scientific data.

Indigenous and Aboriginal communities are often in isolated locations and therefore have limited technological capacity in areas such as internet speed, bandwidth and cellular service. These communities often have a collective body of knowledge and data that has been amassed over generations, however, the current dominance of western scientific data collection methods often does not account for local and traditional knowledge in resource management and policy decision-making. The BeringWatch Sentinel program provides a platform that enables data collection in a standardized and accessible manner based on tested protocols, but is rooted in traditional knowledge, to produce credible and actionable insights that are driven by community needs and priorities.

Scientific and management agencies have long operated in seasonal or temporary capacities to address their own data needs and identified knowledge gaps. In order to collect the data they need, researchers and/or managers often visit a community or communities for a period of time, collect data, leave the community, and then publish reports on their observations and data. These reports may be biased due to a lack of context, relationships, and tenure of history they have with the land. Often researchers primarily come to communities like St. Paul in the summer or fall seasons. There are missed opportunities for data collection in other months when some species may be increasingly present due to climate change related shifts in phenology. Thus, there remains an unexploited benefit for agencies to access better and more complete datasets.

There are currently limited methods for Indigenous and Aboriginal communities to capture and identify data, and many available methods have a high barrier to entry. In order to drive change, communities need an accessible, simple and low-cost means for collecting standardized and repeatable data. From these data collection efforts, they will have the ability to document and communicate environmental and biological phenomena around them, and produce strong arguments for policy reform at local, regional, state, national and international levels.

1.2 ISN Mission Statement

Our mission is to drive positive ecological change through systematic collection of local and traditional knowledge (LTK) and scientific data by indigenous communities for indigenous communities.

We hope to accomplish this through the development of the Indigenous Sentinels Network (ISN). ISN will be a multi-tenant Software as a Service (SaaS) platform that the Tribes and First Nations, eNGOs, state and federal agencies, or other interested users can access online. This platform will focus on features that enable flexible data collection for a range of species and projects, incentivize sustained use by community Sentinels and Guardians, and empower actionable insights that benefit the broader community.

1.3 About TGSPI

The Aleut Community of St. Paul Island Tribal Government (TGSPI) is a governmental venue through which the Unangan of St. Paul Island can fulfill their intrinsic rights and responsibilities, and support, recollect, practice, and pass on their culture. TGSPI promotes, maintains, and protects cultural practices, awareness, preservation, self-governance, and self-determination for the Aleut Community of St. Paul Island. The Tribal Government does much in its power to provide for the well-being of the community; continuously thinking outside the box in a challenging strive towards developing and keeping expertise and services that contribute to social and economic security and presence on the home island.

TGSPI Mission

Ataqan Akun. To ensure the optimal quality of life for all Tribal members and never forget where we have come from.

TGSPI Vision

Empowered, healthy families contributing to a thriving culture and sustainable community.

1.4 TGSPI BeringWatch/Island Sentinels Program

The Tribal Government of St. Paul Island developed the BeringWatch/Island Sentinel Program two decades ago, originally to monitor marine mammal subsistence resources, and then added capacity to address other wildlife and subsistence resources and monitor climate change impacts on the community and surrounding ecosystem.

The BeringWatch Sentinel Program has evolved with technology over the past 20 years. The program started out by collecting data with waterproof data books, which evolved into using Personal Digital Assistants (PDAs) for field data collection. Data are now collected through iOS and Android applications or 'Apps'. Originally, data was stored in spreadsheet format, which was then organized into a Microsoft Access database, and now is stored in an online database to facilitate collaboration and data sharing amongst communities. As technology continues to evolve, we are assessing what the future evolution of the ISN platform could look like.

More specifically, within the last ten years, there were key tools developed to help drive this initiative. They consist of mobile applications for collection of data, a web application layer for administrative functionality and reporting, and a central database where all the data collected are stored. The insights that have been pulled from this program have provided significant benefits to the people of St. Paul Island and other Indigenous communities throughout Alaska. The current BeringWatch/ISN online database hosts data collection through a suite of 11 mobile data collection apps available for both iOS and Android mobile devices (see section 6.2 below).

1.5 TGSPI Indigenous Sentinels Network Platform

There are 229 tribal communities like St. Paul Island in Alaska alone that could find similar benefits through implementation of programs through a platform like BeringWatch ISN. Herein lies the need for TGSPI to create a scalable tool that collaborating users can adapt to their needs and use in their own communities.

With the focus of operating at a local level, Tribes and First Nations should be able to customize surveys and program design to fit the unique community needs and research priorities. The impacts should provide strategic benefits back to the tribal communities that are collecting these data. As more people use the platform, there can be a space to find connections and commonalities among observations being collected across communities. As this occurs, there is the opportunity for data fusion and coordination of data collection on a larger scale that is capable of growing the body and breadth of data.

State and Federal agencies see the need to understand sub-Arctic and Arctic environments in order to make decisions on how to best provide support regarding adaptations needed for climate change in the short, mid, and long term. Having a repository of scientific knowledge rooted in traditional knowledge is paramount in ensuring these efforts tie back to initiatives that are most important to Tribes and First Nations.

Creation of this next generation ISN SaaS platform can bring recognition to TGSPI and its partners as Indigenous leaders of data collection in the Arctic and sub-Arctic, and drive impact at a global level.

1.6 Users

The target audience of the ISN platform has 2 distinct segments:

1. Tribal/Indigenous Communities & Community Partnerships

This segment is made up of Tribal Communities and Community Partnerships who primarily collect and leverage data. In recent years, this has extended to community resource user groups such as artisanal and commercial fishermen collecting data during harvest activities (e.g. Skipper Science and Fish Map Apps). With these users, it is important to keep in mind how they will be utilizing the applications. The main reasons for use by this segment will be to track observations for creating baselines, monitoring, detecting changes, and assimilating data. These will be used for decision making in the future. Designed for adaptation, mitigation, and affecting management and policy, the types of data collected depend on the needs and priorities of the local community. Communities own their data and drive the creation and dissemination of reports and insights to empower participation in decision-making and for improvements in local and regional governance and policy.

Within the first audience segment, there are:

- Data collectors (professional and volunteer observers): “Boots on the ground”, individuals conducting surveys, making and logging observations.
- Supervisors/Administrators: Set up users and manage levels of access for individuals, perform and/or oversee quality assurance and quality control measures, provide technical support and lead or assist in reporting.
- Environmental Departments and Community Organizations: Customers of the platform, decision-makers on what data to collect, what is considered sensitive or confidential data, how data are shared, and local users of data as they are collected. Responsible for setting the vision and strategy for data collection efforts, including establishing protocols.

2. Government agencies, NGOs & Academia

This segment is made up of Government Agencies, Non-Governmental Organizations (NGOs) and Academic Institutions that primarily consume, interpret, and analyze data. These users are benefactors of collected data, whose main use for the platform will be to access and utilize data that are stored in the database. They are familiar with data analysis and technology, and they realize there are gaps in datasets they currently have access to. Agencies & Universities can reduce the barrier to collecting and accessing these data and save time and money. They wouldn't necessarily need to go into the field and collect data firsthand. Instead, they can expand the breadth of their data sets through creating protocols and collaborating with communities on those protocols. In some cases these users can provide data to Tribal/Indigenous communities and partnerships by “rematriating” historical datasets that Indigenous communities no longer have access to.

Within the second audience segment, there are:

1. State & Federal (Government) Agencies: Managers and decision-makers basing policy decisions on insights from data collected.
2. eNGOs: Advocates of favorable environmental policies based on insights from data collected.
3. Enterprise: Purchasers of data, decision makers on what data to receive, set direction for the type of data they are looking to gather for specific business needs.
4. Data Analysts: Accessing, analyzing, and interpreting data for specific research projects and studies.

1.7 Goals

Creation and large-scale implementation of a technology platform for use among Indigenous and Community-based organizations that empowers their user groups and communities to capture and align a network of data that demonstrates the dramatic changes being observed in remote high latitude communities and marine environments. This will help give Indigenous and Aboriginal communities the tools needed to influence and advocate for priority initiatives more effectively, including:

- Insights on environmental impacts that are important to Indigenous and Aboriginal communities.
- Improve local management and governance and facilitate co-management of shared resources.
- Tribes, Indigenous and Aboriginal communities to retain data sovereignty as owners and experts over their data.
- Improve policy at multiple levels, providing a more holistic policy development with greater Indigenous and Aboriginal community involvement and co-management of resources.
- Support tribal, community, academic and agency research to better understand large-scale impacts of climate change.
- Sustained large-scale commitment to local, regional and international data collection efforts.

Setting up programs like ISN directly gives back to the communities that use them. Empowering individuals to:

- Utilize valuable and translatable skills and tools.
- Provide connection back to the issues and causes most important to their surroundings.
- Provide revenue to support improvement and expansion of tools and efforts.

1.8 ISN Platform Design Content to be Used

With this objective in mind, during 2019-2021 the TGSPI team embarked on a discovery and design project with a Seattle-based technology company to evaluate the potential development of a next generation ISN SaaS platform. Through the development process, following documents that have been professionally created and vetted is recommended, with the end product goal to use these as guidance, as we are not looking to redo the work completed as part of this RFP. There is, however, flexibility. You'll be given access to the following list of documents, as a next step of the selection process.

- **Functional Requirements** – A detailed catalog of the functional requirements for the ISN platform.
- **Detailed User Case Scenarios** – Detailed descriptions of how ISN tools are used by communities.
- **User Flows & Information Architecture** – Establish and align on the key users and their main actions throughout the application. Emphasis is on the functionality that will need to be accommodated in the wireframes and set design thinking.
- **Wireframes** – A display of the functional elements of the applications to plan the structure, content, and features needed for development.
- **Mockups** – A visual model of the application created to spec that the development team will utilize to build out the application. The existing mockups serve as a guide and can be adapted and improved during development.
- **Information Architecture and Workflows** – Following the completion of the formal design phase a review of the Information Architecture and Workflows was conducted during late 2021 by a software architecture specialist. This review resulted in a revised set of recommendations and workflow diagrams for the ISN Platform design.
- **Style Guide** – A logo to be used across all assets made going forward for Indigenous Sentinels Network. The color palette, typography, photography styles, high level messaging framework, and usage standards to be used so that ISN has consistent and standard look and feel across the board.

The ISN SaaS Platform *Functional Requirements and User Case Scenarios* are provided as **Attachment A** and **Attachment B** of this RFP. Following the submission of pre-proposals and selection of entities for submission of a full proposal the additional ISN design materials will be made available for review and consideration prior to submission of Final Proposals (see Section 2.2 below). All entities invited to submit a full proposal will be required to sign a Non-Disclosure Agreement (NDA) prior to receiving the full set of ISN design materials.

1.9 TGSPI Core Team

- Patrick Baker, TGSPI Executive Director/ISN Business Manager - Long history of assisting governance administration and economic development; has been instrumental in helping Tribe move towards self-sufficiency. During his 20+ years with TGSPI, the org has grown from 3 staff to 100, resumed local control over all federal self-governance programs, and expanded annual economic impact from \$300,000 to over \$15,000,000.
- Dr. Lauren Divine, TGSPI ECO Director, ISN Program Director/Senior Scientist) - Lead project liaison with ISN communities and collaborating scientific and management organizations. Ph.D. Biologist with 10+ years of experience in scientific data collection, analysis and communication to broad audiences; experience with bridging Indigenous and scientific program capabilities and 5+ years refining and expanding ISN in Alaska.
- Bruce Robson, ISN Product Manager/Technical Director - Oversight of ISN technical design and implementation strategy. Marine Mammal and Fisheries Biologist with 30+ years of experience collecting environmental and biological data in remote regions. Original designer of the BeringWatch database with 20+ years of experience in development and implementation of LTK and scientific data collection tools.
- Hannah-Maria Garcia, ISN Coordinator/ UI/UX Manager - Project coordination for ISN management team, communities, and collaborating organizations. Environmental and Social scientist with a Master's in Marine Policy with 7+ years of experience in scientific data collection, analysis, and science communication; experience with tribal engagement and facilitating collaboration between diverse audiences; and 2+ years of working with ISN in Alaska.

2 REQUEST FOR PROPOSALS

2.1 RFP Overview

TGSPI is soliciting proposals from qualified firms that may lead to the award of one or more contract(s) for ISN UI/UX Design support, Web Development, Mobile App Development and Test and Deployment Services to support development of the TGSPI ISN SaaS Platform.

The key deliverables that should result from this initiative include the following:

- Finalized design of the TGSPI ISN SaaS Platform and mobile applications;
- Development and Implementation of TGSPI ISN SaaS Platform and mobile applications;
- User testing, maintenance and training of TGSPI Technical Team

The Scope of Services for the above are described below.

TGSPI anticipates the timeline for the completion of all services contemplated by this RFP to be approximately nine (9) months to one (1) year from the date of contract award, currently estimated to occur by January 23, 2023. A development schedule with key milestones will be agreed upon as a next step in the Selection Process.

A high-level schedule and procurement timeline are included in Section 2.2 (Table 3); a proposer's ability to perform work within the period specified will be a factor in the overall selection of contractor(s). The initial step will be to identify interested parties that meet the selection criteria in section 4 below, first for Firm/Team Capability and Technical Capability/Alignment to TGSPI. Those that meet the initial Selection Criteria will be shortlisted and given more detailed information on the Scope of Work (e.g., feature description, scheduling and wireframes/mock-ups), and will be asked to formally respond with the Proposal Requirements outlined in Section 3 below. Those shortlisted proposals will be reviewed based on Technical Approach to the Project and Technical Approach to Tribal Data Sovereignty.

TGSPI does not guarantee, either expressly or by implication, that any contract for work or services will be awarded as a result of this RFP, and proposers are responsible for all costs incurred in responding to this RFP. All materials and documents submitted in response to this RFP become the property of TGSPI and will not be returned. Proposals submitted for consideration should be prepared simply and economically, providing adequate information in a straightforward and concise manner.

2.2 Key Dates

Table 3. Procurement Timeline

Procurement Event	Tentative Date / Time
RFP Document Issued	November 1, 2022
Stage 1 Submissions Due	November 15, 2022
Stage 2 Vendors Invited to Submit and technical specifics on the app shared	November 22, 2022
Stage 2 Deadline for Submission of Written Inquiries to RFP	November 29, 2022
Stage 2 Responses Submitted	December 1, 2022
Stage 2 Deadline for Final Proposal Submission	December 23, 2022
Stage 2 Interviews for Qualified Firms	Week of January 16, 2023
Anticipated Decision Award Date/Negotiations	Week of January 23, 2023

2.3 Clarification Questions

All questions relating to this RFP and its attachments must be received in writing via e-mail to bwrobson@aleut.com by the deadline specified in Section 2.1 Key Dates.

TGSPI welcomes interested proposers to collaborate or sub-contract for portions of this work where it is more economical or will result in higher quality outcomes for TGSPI. The full detail of any such partnerships or sub-contracting must be included as part of the RFP response.

2.4 Interviews

TGSPI reserves the right to conduct multiple interviews or to proceed without conducting interviews to enhance TGSPI’s understanding of proposals and allow reasonable interpretation of the proposal. If conducted, TGSPI will provide a written invitation for interviews to selected Contractor(s). TGSPI will determine the interview cut-off based on the number of proposals, rankings, and other operational considerations. Interviews will focus on the team’s experience and work plan/project approach. Interviews will not be used to cure proposal deficiencies or material omissions, materially alter the technical or cost elements of the proposal, and/or otherwise revise the proposal. Instructions for the interview will be provided at time of invitation to interview.

2.5 Contracting Method / Payment Terms

The contracting method TGSPI prefers for the contract(s) that may result from award of this RFP is based on the agreed upon scope of work and the preferred payment terms shall be “Firm Fixed Price” for agreed upon scope elements. Under this method of payment, work will be authorized through the agreed scope for specific deliverables, the awarded contractor(s) will be paid a fixed price to complete the agreed upon scope of services and for satisfactory completion of the specified deliverables. Invoicing from Contractor(s) and payments by TGSPI would be tied to achievement of the agreed-upon payment milestones established in each scope definition. TGSPI anticipates multiple deliverables will be defined throughout the project term to clarify the Scope of Services for each element defined. An example of the scope elements that TGSPI intends to issue under the contract(s) that may result from this RFP is provided in Table 4.

Table 4. Scope of Work Elements

Element	Scope of Work
1	Finalization of Scope of Services
2	Review, Analysis and Finalization of ISN SaaS Platform Design
3	Platform Setup
4	API / Services
5	Data Layer
6	Web App Development
7	Mobile App Development
8	Graphic Design
9	User testing, maintenance and training of TGSPI Technical Team

2.6 DBE Participation

The term “Disadvantaged Business Enterprise” or DBE means a for-profit small business concern as defined in Title 49, Part 26.5, US Code of Federal Regulations (CFR). The TGSPI ISN Platform Initiative is not a federally funded project, however, many of TGSPI’s customers (whom this initiative would directly or indirectly benefit) are subject to such considerations. Therefore, TGSPI may give preferential points to proposers who are DBE-certified, and proposers are encouraged to consider sub-contracting portions of the work to DBE (small-business, women and minority-owned) businesses.

2.7 Point of Contact

Communication between TGSPI and proposers for the duration of this solicitation period shall be solely with the TGSPI Executive Director and the ISN Technical Director for this project. The primary point of contact is:

Bruce Robson, ISN Product Manager/Technical Director
Aleut Community of Saint Paul Island
DBA Tribal Government of Saint Paul Island
4720 Business Park Blvd, Suite G-42
Anchorage, AK 99503
Cell: +34 637 70 80 21
bwrobson@aleut.com

Failure on the part of proposer(s) to adhere to this requirement may be reason for disqualification from continuation in the selection process.

3 Proposal Requirements

The procurement process outlined in this RFP is composed of two stages:

- The first stage is intended to vet and hone the list of vendors into a short-list based on attributes such as experience, staffing, and ability to complete the work outlined.
- The second stage involves the short-list proposers to be given access to the wireframes and granular app specifications who will then be asked to submit further content such as technical approach, process and pricing.

Specific details on the requirements in these stages are outlined below. The goal is to limit the effort and burden of the respondents in submitting proposal content for Stage 1, so that only those most qualified respondents would be invited to submit detailed technical proposal responses in Stage 2.

Stage 1

3.1 Responsibility Requirements

- Proposer shall furnish evidence of sufficient financial resources and capability to finance the work to be performed and complete the project in a satisfactory manner. If the proposer is a subsidiary of another company or is a joint venture, the parent company or legal entity of the joint venture shall provide evidence of financial responsibility.
- The Proposer shall furnish evidence that the company possesses the human and physical resources necessary to perform the work as specified in this RFP and assure delivery of all deliverables within the general time frame specified in Section 6.3.
- The Proposer shall furnish evidence of satisfactory performance on contracts of a similar nature that demonstrate proposer’s capabilities to submit deliverables on time, adhere to technical specifications, and record of past successful project completion and support during warranty phase of projects (if applicable).
 - Project Organization and Key Personnel
 - Describe proposer’s project team and identify the primary responsibilities of key personnel and other relevant roles, including sub-contractors (if applicable).
 - Provide an organization chart that clearly identifies the location of project personnel, including management team, technical staff, and proposed development teams. Provide an indication of the overall staffing level for the project, including an estimate of labor effort (hours) for all roles by task with hourly billing rates (in US dollars) in the cost proposal.
 - Provide summary qualifications (e.g., professional bio or up to 2-page Curricula Vitae) that highlights the most relevant experience of the proposed Project Manager and Key Personnel, with priority given to listing experience on projects of similar size, capacity, and dollar value. Required Key Personnel roles shall include, but not be limited to: Project Manager, UI/UX Design Lead, Development Lead.

3.2 Firm Details, Experience and Technical Competence

High level overview of Work Approach

Include a brief (2-3 page) summary of how your firm will approach the proposal, outlining the most important elements of the proposer’s approach to performing the work outlined in the RFP.

Identification of the Proposer and Establishment of Proposer’s Fiscal Responsibility

Please provide the following information:

- Legal name and address of proposer’s company.
- Number of years proposer’s company has been in business.
- Legal form of company (i.e., partnership, corporation, etc.). If a joint venture, identify members of the joint venture and provide all information required within this section for each member. If a corporation, certify that the corporation is in good standing.
- If a company is a wholly owned subsidiary of a parent company, provide the legal name and the form of that parent company.
- Provide the proposer’s Federal Tax Identification Number (US Corporations) or equivalent (all others).

- List address(es) of the office(s) that will work on this project, if selected. Refer to Section 2.7 above for a list of locations where TGSPi personnel are located.
- If certified DBE/SBE/WBE/MBE, furnish copies of any such certification forms that clearly identifies the certifying entity as well as basis for the certification and term.
- Name, title, address, email address, and telephone number of the person to contact concerning the proposal.
- State whether the proposer has filed bankruptcy in the last ten (10) years and provide any other relevant information concerning whether the proposer is financially capable of completing this project.

Experience and Technical Competence

Describe proposer’s experience in completing similar efforts as required by ISN. **Please highlight and describe any previous work done with Indigenous organizations or communities based in remote locations (i.e. with low bandwidth or poor internet connectivity).** List at least three successfully completed projects of a similar nature. For each completed project, provide the name of the company the proposer performed work for, contact information, type of work performed, and dollar value of the contracts. Proposer shall list three (3) references that can speak to the proposer's past performance on similar projects. For each reference, provide a key contact, phone number, and email address of the person responsible for the work performed by the proposer. A project currently being performed may be submitted for consideration as one of the references. The reference projects and completed projects do not need to be the same.

Stage 2

In the second stage of procurement, the short-listed proposers will be given further technical specifics on the app to form the basis of outlining granular details - including a discussion of the proposer’s approach to the project, a breakdown and explanation of project tasks, a proposed schedule, and an estimate of costs.

Proposed Method to Accomplish the Work

- Describe proposer’s technical and management approach to completing the project and provide a single high-level flow diagram that depicts the major stages of work and control gates that sit between each step. Provide a list of software applications and/or other formal tools proposer requires to conduct the project as planned. Provide examples of UI design content proposer would employ, such as additional wireframe models to improve upon or in addition to those provided in Appendix D. Provide a specific itemized work order breakdown list for each task (this will need to align with cost elements as indicated in the following section). Provide a proposed project schedule that lists major phases of work, key milestones, and delivery dates.
- Discuss how and what lines of communication will be implemented to maintain the project schedule. Provide a description of how the proposer will gather input during the UI/UX design phase from TGSPi and TGSPi customers and ultimately from end users who will need to interact with the developed website that will result from this project. Explain how input gathered during UI/UX design will improve the overall product and justify the importance of the recommended user input using cost and quality as a basis for considering these steps. Include necessary travel into cost estimates to carry out the work as planned.
- A Letter of Commitment: Proposer shall provide a letter of commitment signed by an officer of the company, parent company, or joint venture having authority to bind the offer. The proposal shall state that offers are valid for a minimum of 180 days from date of proposal submission.

3.3 General Proposal Requirements

- The proposal should be concise, well organized, and demonstrate the proposer’s qualifications and experience applicable to the project.
- Please limit submissions to a maximum of forty (40) pages (not including resumes and administration consideration). If the proposal exceeds forty (40) pages, only the first forty (40) pages will be evaluated.
- The final written proposal should be delivered to TGSPi in electronic (PDF) format sent along with other digital attachments.

3.4 Cost Proposal

In order for TGSPi to evaluate the cost effectiveness of proposers’ offering, interested proposers are asked to provide pricing for the scope of services outlined in the RFP and Attachments.

The cost build-up includes:

- Estimated labor effort (hours), by role (labor classification or named individual) and for each work order breakdown item. All cost items shall be broken down and related to the work orders. These amounts shall become the basis for the cost evaluation prior to contractor(s) selection and for purposes of final cost negotiation of contract Work Order(s) with TGSPI.
- Rates should be built up from actual hourly billing rates with proposer's indirect (fringe benefits, overhead and profit margin) clearly delineated.
- Any other direct or indirect costs, such as (but not limited to):
 - o Travel;
 - o Software licensing;
 - o Hosting services;
 - o Subcontractor costs;
 - o Other.

4 SELECTION PROCESS

4.1 Evaluation & Award Process

Proposals will be evaluated in accordance with the criteria and procedures described below:

- a) Selection criteria. Proposals will be evaluated against the criteria outlined in Section 4.2. These criteria form the basis for the initial evaluation, scoring, and ranking of the proposals to establish a shortlist of firms in the competitive range.
- b) Competitive range. The approach and procedures are those which are applicable to a competitive procurement whereby proposals are evaluated to determine the most qualified proposer(s). Discussions may be carried out with the most qualified proposer(s), after which revised proposals may be requested. However, TGSPI may select proposer(s) for contract award without any discussions or without requesting revised proposals.
- c) Confidential process. All detailed technical proposals, cost proposals, and evaluations related to proposer(s) selection will be kept strictly confidential throughout the selection process. Only the members of the TGSPI Evaluation Panel and TGSPI employees and agents having a legitimate interest will be provided access to the proposals and evaluation results during this period.
- d) Authority to contract. The TGSPI Evaluation Panel will recommend one or more proposer(s) for contract award, after which TGSPI will request authority to enter into formal contract negotiations. All proposers will be notified by TGSPI regarding whether they have been selected for contract negotiations.
- e) Contract negotiations. TGSPI and the selected proposer(s) will negotiate the scope of work, technical specifications, contract terms and conditions, schedule, level of effort and price. If TGSPI is unable to reach agreement with the selected proposer(s), negotiations will be terminated and TGSPI may seek to negotiate with another proposer(s).

4.2 Selection Criteria

Table 5 provides the preliminary selection criteria and approximate weighting by which proposals will be evaluated. This information is being included to provide insight into TGSPI's priorities for partner selection. TGSPI reserves the right to modify these criteria and weights based upon business preferences.

Table 5. Selection Criteria

Selection Criteria	Weight	Selection Criteria	Weight
Stage 1 - Firm/Team Capability	25	Stage 1 - Technical Capability / Alignment to TGSPI	20
<i>Team Size/Resource Availability</i>	5	<i>Tech Stack alignment to TGSPI</i>	5
<i>Development Experience</i>	5	<i>GIS Knowledge</i>	5
<i>UI / UX Capability & Expertise</i>	10	<i>Proposed SaaS System Capability</i>	5
<i>Location / Development Centers</i>	5	<i>Proposed Mobile App Functionality</i>	5
Stage 2 - Technical Approach to Project	20	Stage 2 - Technical Approach to Tribal Data Sovereignty	15
<i>Completeness / clarity of Scope</i>	5	<i>Ledger database experience and expertise</i>	5
<i>Overall project approach</i>	5	<i>Multilingual / Cultural Web Experience</i>	5
<i>Approach to Project Design Onboarding</i>	5	<i>Expertise in Web Accessibility</i>	5
<i>Schedule and Efficiency</i>	5	Cost Effectiveness/Pricing	20
Total			100

5 TERMS & CONDITIONS

5.1 General Conditions

Any response received prior to the date and time specified for the receipt of responses may be withdrawn by written request from the proposer. TGSPI reserves the right to amend or cancel this RFP by addendum before the final submittal due date. Revisions will be sent to interested proposers at least five (5) business days prior to the deadline for responses. Proposers shall confirm in its transmittal letter of its response the receipt of all addenda issued to this RFP.

Although under no obligation, TGSPI reserves the right to request additional information and/or clarification from any or all proposers submitting a response to this RFP.

This RFP does not commit TGSPI to award a contract, to defray any costs incurred in the preparation of a proposal pursuant to this RFP, or to procure or contract work. TGSPI may reject all proposals without providing the reason(s) underlying the rejection. A failure to award a contract as a result from this RFP process shall not be grounds for a cause of legal action against TGSPI.

Upon being successful in this selection process, one or more proposer(s) may enter into legal agreement(s) with TGSPI for the provision of services. The agreement(s) will specify the payment terms, contractual period of performance, responsibilities of both parties, and full terms and conditions of the agreement(s), as well as other particulars to be defined contingent on the proposer(s)' jurisdiction. A copy of TGSPI's ISN/BeringWatch Master Use Agreement is included as Attachment H for reference.

Definitions	
Business Days	Means a day other than Saturday, Sunday or public holiday in the place in which any relevant act is to be or may be done.
Claim	Means any action, claim, demand or proceeding.
Confidential Information	Means any information relating to TGSPI, a TGSPI associate, or a TGSPI partner, or any information relating to the Contractor, a Contractor associate, or a Contractor partner.
Consequential Damages	Means any indirect, special, economic or consequential loss or damage (including down time costs, failure to realize anticipated savings, loss of revenue or profits, loss of opportunity or goodwill, loss of or inability to use equipment or software or loss of data) whether in an action in contract, tort (including negligence), product liability, statute, under an indemnity or on any other basis.
Harmful Code	Means any software, hardware or other technologies, devices or means, the purpose or effect of which is to permit unauthorized access to, or to destroy, disrupt, disable, distort, or otherwise harm or impede in any manner, any (i) computer, software, firmware, hardware, system, or network, or (ii) any application or function of any of the foregoing or the integrity, use or operation of any data processed thereby.
Intellectual Property	Means any intellectual or industrial property right, including any patent, design right, invention, copyright, confidential or proprietary information, know-how, trademark or other right.
Loss	Means damage, loss, cost, expense or liability incurred by a party, whether present or future, fixed or unascertained, actual or contingent.

Materials	Means the materials provided by the Contractor to TGSPI or produced by or on behalf of the Contractor for the purposes of the agreement.
Non-excludable Rights	Means a condition, warranty, right or remedy that is implied into this agreement by law and that cannot be excluded or restricted by agreement.
Obligations	Means any or all of: (i) services; (ii) operation services; and (iii) any obligations under this agreement which survive termination of this agreement.
Personally Identifiable Information	Means information or an opinion about an individual whose identity is apparent, or can reasonably be ascertained which the subcontractor accesses, receives, collects, stores, uses, generates, discloses or processes under or in connection with this agreement.
Privacy Law	Any applicable laws which relate to the privacy and protection or personal information, any privacy codes of conduct or similar instruments in relation to privacy protection which are industry standards and applicable to the Work including the Privacy Policy and any privacy notice, policy or consent issued by TGSPI or any other related party with respect to the handling of Personally Identifiable Information.
Privacy Policy	The privacy management plan and policy with respect to the handling of Personally Identifiable Information.
Product	Means the resulting product of the Work.
Project	Means the project for which the Contractor is engaged.
Quality Requirements	Means the quality requirements specified in the schedule to the agreement.
Specifications	Means the specifications specified in the schedule to the agreement.
Warranty Period	Means the warranty period specified in the schedule to the agreement.
Work	Means all work involved in the performance of an Obligation by the Contractor.

5.2 Contractor Warranties

The Contractor shall warrant to TGSPI that:

- a) the Obligations will be performed in accordance with best industry practices and procedures;
- b) the Work will strictly conform to the Specifications and the Quality Requirements;
- c) the Work will be in good working order and free from all defects including defects arising from faulty design, incorrect implementation, insufficient at the time of development or faulty or inferior workmanship;
- d) the Work will be fit for the purpose for which it is intended;
- e) the Work will be free of Harmful Code;
- f) the Work will be performed in accordance with and will comply with all applicable laws, rules, regulations, statutes, ordinances, and other applicable legal requirements;
- g) it is authorized to enter into this agreement; and
- h) the Contractor will carry out the Obligations under this agreement diligently and with all due care and skill.

5.3 Repair or Replacement of Faulty Work

Within the Warranty Period, the Contractor shall, at its cost and without delay (and in any event within five Business Days of receipt of notice from TGSPI), repair, rectify, or replace (at the Contractor's option) all Work that does not comply with the warranties in clause 5.2 without any additional costs incurred to TGSPI.

5.4 TGSPI Repair and Rectification

- a) If the Contractor fails to comply with a notice under clause 5.3, TGSPI may, in its absolute discretion, repair and/or rectify defects in the Work.
- b) If TGSPI repairs and/or rectifies Work under clause 5.4(a), the Contractor is liable to compensate TGSPI for the repair costs.
- c) TGSPI may, in its absolute discretion, deduct and/or offset the value of the repair and/or rectification costs under clause 5.4(b) from any amount owing by TGSPI to the Contractor.

5.5 Privacy

Each party must comply with all Privacy Laws and its own Privacy Policy in relation to Personally Identifiable Information (including without limitation in respect of collection, storage, use and disclosure).

5.6 Intellectual Property

- a) All Intellectual Property in the Materials vests and will remain vested at all times in TGSPI.
- b) The Contractor must not use the Materials other than for the purpose of fulfilling its obligations under the agreement.
- c) The Contractor must surrender fully paid Materials to TGSPI within two weeks after receiving a request from TGSPI to do so, or on expiry or earlier termination of the agreement.
- d) The Contractor assigns to TGSPI any software embedded in or supplied with the Product, and all Intellectual Property in relation to it, if the software has been developed by the Contractor for TGSPI; and grants TGSPI a non-exclusive, paid-up, perpetual, worldwide license to use and copy any other software embedded in or supplied with the Product.
- e) The license granted in clause 5.7(d) is transferable if TGSPI sells (or otherwise deals with in any way whatsoever) the Product in which the software is embedded.
- f) Subject to clause 5.7(d), all Intellectual Property in the Product vests and will remain vested at all times in TGSPI.

5.7 Liability Limit

In no circumstances will either party be liable to the other for Consequential Damages. Subject to Section 5.8(a) the aggregate liability of each party to the other in relation to this agreement, whether in contract, tort (including negligence), product liability, or statute, is limited to the value of the total contract price as of the date a claim is made.

- a) The limitation shall not apply in case of:
 - i.) A party's obligations as regards Non-excludable Rights;
 - ii.) Death and personal injury;
 - iii.) Fraud, misrepresentation, or intentional and wilful misconduct by a party giving rise to the Loss or Claim;
 - iv.) Gross negligence by the Contractor in its execution of its Obligations hereunder; or
 - v.) Indemnification obligations agreed to in this agreement.
- b) Notwithstanding the foregoing, in no event shall either party lose, waive, or otherwise abrogate any statutory immunities and/or liability limitations granted to either or both of them by any legislative authority.

5.8 General Indemnity

- a) Contractor shall to the maximum extent allowed by applicable law fully defend, indemnify and hold harmless TGSPI and all of its directors, officers, employees, successors and assigns, and agents from any and all contractual and negligence claims, demands, causes of action, damages, losses, and expenses (including attorneys' fees) of whatsoever nature, character, or description that any person or entity has or may have arising out of or related to the breach of or failure to perform the agreement by Contractor or any sub-agreements thereunder or resulting from any negligent act, omission, misconduct, or fault of Contractor or its subcontractors and suppliers and their employees and agents except to the extent of the act and/or omission of TGSPI.
- b) Contractor additionally agrees, to the maximum extent allowable by applicable law to protect, defend, indemnify and hold TGSPI harmless from and with respect to any Losses which TGSPI and all of its directors, officers, employees, successors, assigns and agents may sustain, directly or indirectly as a result of (i) any claim by a third party that anything made, used, sold, otherwise disposed of, or licensed in or as a result of the Agreement allegedly infringes any trademark, copyright, patent, trade secret, or other intellectual property right of a third party.

5.9 Confidentiality

If a contractor receives Confidential Information from TGSPI, the receiving contractor must:

- a) use its best endeavors to protect the confidentiality of TGSPI's Confidential Information;
- b) keep all documents containing the TGSPI's Confidential Information in a secure place;
- c) clearly mark all documents created by it containing TGSPI's Confidential Information as being confidential;
- d) comply with all reasonable instructions given to it by TGSPI's regarding the TGSPI's Confidential Information;
- e) not disclose the other party's Confidential Information to a third party without first obtaining the consent of other party;
- f) immediately notify TGSPI if it becomes aware of any loss or unauthorized use, access, copying or disclosure of the other party's Confidential Information; and
- g) take steps reasonably requested by TGSPI to prevent or stop a breach or threatened breach of this clause 5.10.

5.10 Time

Contractor acknowledges that timely performance is an important element of the Agreement. Accordingly, the Contractor shall put forth its best efforts to complete its services in accordance with the agreed-upon schedule. It shall be the responsibility of the Contractor to advise TGSPI on no less frequent than bi-weekly basis of the progress of its work, and information regarding whether the project is projected to comply with the schedule limits.

5.11 Force Majeure

Either party is excused from performance hereunder if such non-performance results from acts of God, war, riots, acts of governmental authorities, or other cause that could not have been overcome by the exercise of due diligence or planning by the non-performing party. In the event of the occurrence of a force majeure event the party unable to perform shall promptly notify the other party. It shall further pursue its best efforts to resume performance as quickly as possible and shall suspend performance only for such period of time as is necessary as a result of the force majeure event.

6 SCOPE OF SERVICES

6.1 Existing Codebase Technical Assessment

This part of the RFP aims to describe the existing TGSPI codebase. The comments and recommendations are isolated purely to the existing applications. Plans and design recommendations for the SaaS project are to be found in the Recommendations section.

The primary BeringWatch/ISN mobile applications are built with mostly custom code which makes it time-consuming to translate into new scenarios and a more manual process.

The Coastal Erosion Monitoring (CEM) mobile application is using the most up to date technology and utilizes frameworks instead of relying mostly on custom code. Additionally, there is dependency management which means a stronger process, less prone to errors, and increased automation. To duplicate the BeringWatch technology for other customers in the short term, the CEM mobile application could be considered as a template and foundation.

The application programming interface (API) and Dashboard application could benefit from being separated into 2 distinct pieces: front-end and back-end for clearer management and troubleshooting. The PHP version being used for some apps has passed its End of Life, meaning it is no longer getting security updates, leaving it more vulnerable. There are also updates for Yii and MySQL which may be necessary. Moving forward, to mitigate risk, TGSPI is upgrading versions of core software like PHP or MySQL, as well as integrating the latest security updates for Yii.

In summary, the current technology and applications overall are working well for their immediate use. The items mentioned above would be good considerations in the short term for those using the current technology to increase stability, efficiency and security while the new system is being built.

In order to build a scalable platform that meets the requirements outlined in this document, TGSPI plans to build something fundamentally different that will only utilize the existing codebase as a baseline. The finalized design will indicate which features are no longer necessary, and which features are new or must be updated or changed. All of the data that has been collected over time with the current system must be migrated to the new platform, but only useful code will be utilized going forward. Anyone using the existing application(s) would need to transition to the new system once it is built. However, it is critically important that existing applications as well as all data that has been previously collected with them must be functionally replicated or “absorbed” within the future SaaS platform in order to ensure the continuity of long-term data collection programs and datasets.

6.2 BeringWatch/ISN Current State Analysis

Overview

It is important to understand how the BeringWatch applications are currently working, and how users currently interact with them as a starting point for conceptualizing and designing a functional and usable experience. It is also of critical importance to determine how current technologies fit into the future state solution.

The existing BeringWatch program does the majority of its data collection through its mobile applications. There are a suite of mobile applications for different BeringWatch programs and one centralized web application that houses data across all programs. The current suite of BeringWatch ISN mobile applications includes 11 mobile apps available on iOS and Android:

- ISN Sentinel
- ISN Citizen Sentinel
- ISN Migratory Bird Phenology
- ISN Greenup

- ISN Coastal Erosion Monitoring
- ISN Northern Fur Seal Harvest
- ISN Subsistence Harvest
- ISN CONAS
- ISN Rat Prevention
- Skipper Science
- Fish Map App

The mobile applications function exclusively for data entry that pertains to its program or programs (e.g., subsistence harvest, coastal erosion monitoring). Users can enter data in the mobile application offline and sync data when the mobile device has connectivity. The web app acts as a data input tool like the mobile apps (working only while connected to the internet), though it also includes a dashboard, functionality for configuring the existing programs, creating reports from available data across all programs, a quality control workflow, and an event calendar.

There are two other essential elements of the BeringWatch program that don't tie directly into the applications that have been built. First are the methods of communicating program findings. This is currently done through posts to a public-facing website and Facebook page. Second are methods to support and train individuals that will collect data and use the database including handbooks, templates and/or protocols.

The current system requires a manual process when new programs are created or new customers get set up with their own system. This is because the current technology was created with the primary purpose to collect data for a specific set of programs. It was not built with frequent additions, customization, or flexibility of programs at the forefront. Currently, if a global update is needed, manual updates of each program would be addressed separately because they each operate independently. Herein lies a key difference between the current and future state, and purpose of creating a SaaS platform.

6.3 ISN Future State - Overview

The future state ISN Platform will be developed with the intention of creating and configuring custom programs, and getting new customers onboarded to the technology in an automated way. As demonstrated in Figure 2, new customers would only need a license to the platform to create studies and collect data. If an update to the system is required, it would only need to be made in one place (at the platform level), to be seen in all applicable instances.

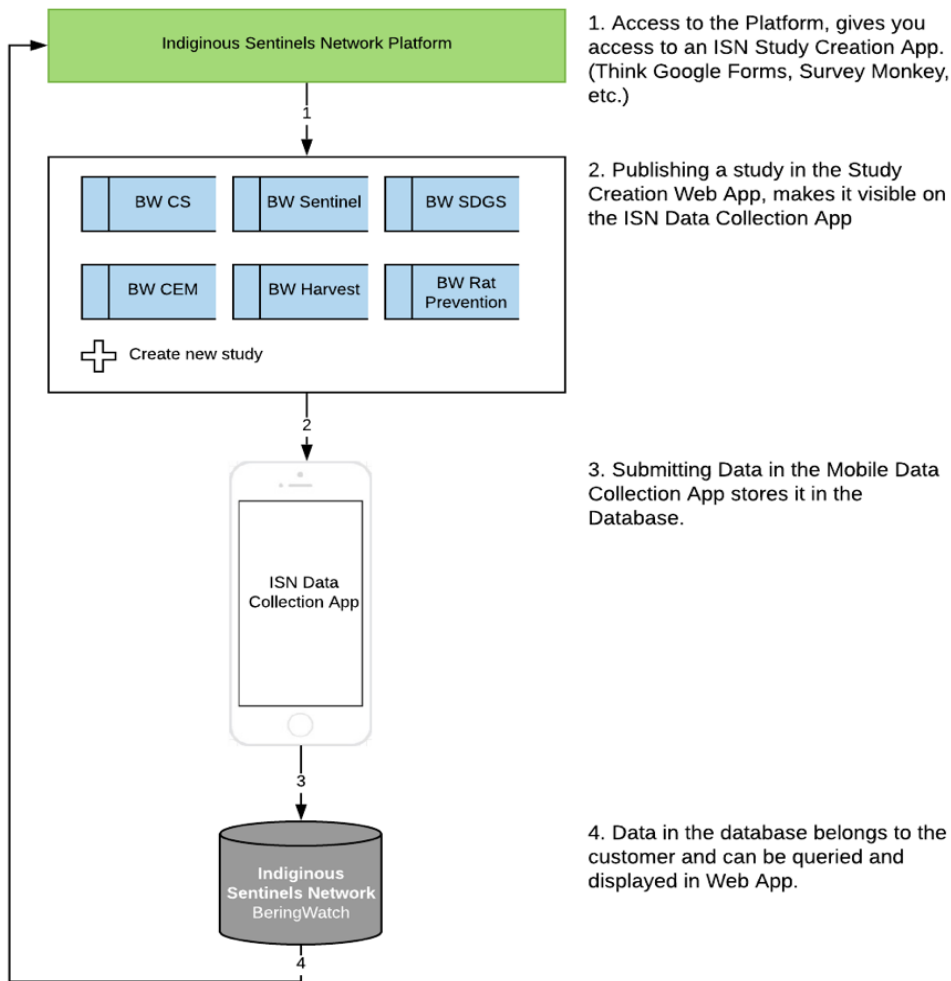


Figure 1. BeringWatch / ISN’s future state.

ISN will be the vehicle through which users can create, configure, and customize studies that fit their specific needs. Each customer can utilize the web application interface to create studies from pre-defined fields and field types to publish to their users. All of the surveys created will be available through the ISN mobile application, where users can then enter data. Data entered through the application (web or mobile) will live in a database that only that customer and its users has access to see.

Some additional optional functionality of the platform includes designating a quality control workflow for another layer of data integrity, choice of what data (if any) a customer would like to share or make public, sharing studies or protocols with others on the platform to be able to log data against, and similarly selecting studies created by others to log data against.

There are three use-case scenarios that help paint the vision for how ISN could be used from the perspective of a Data Collector, Tribal Director, Environmental Organization. Descriptions of these can be found in Attachment B.

The diagram below demonstrates that each license from the ISN will give a set of functionalities in the form of access to the Web Application, Mobile Application, and Database relevant to that customer’s instance. That customer can create as many programs as they desire and can either keep them and all their data within their license or choose to share with others on the platform.

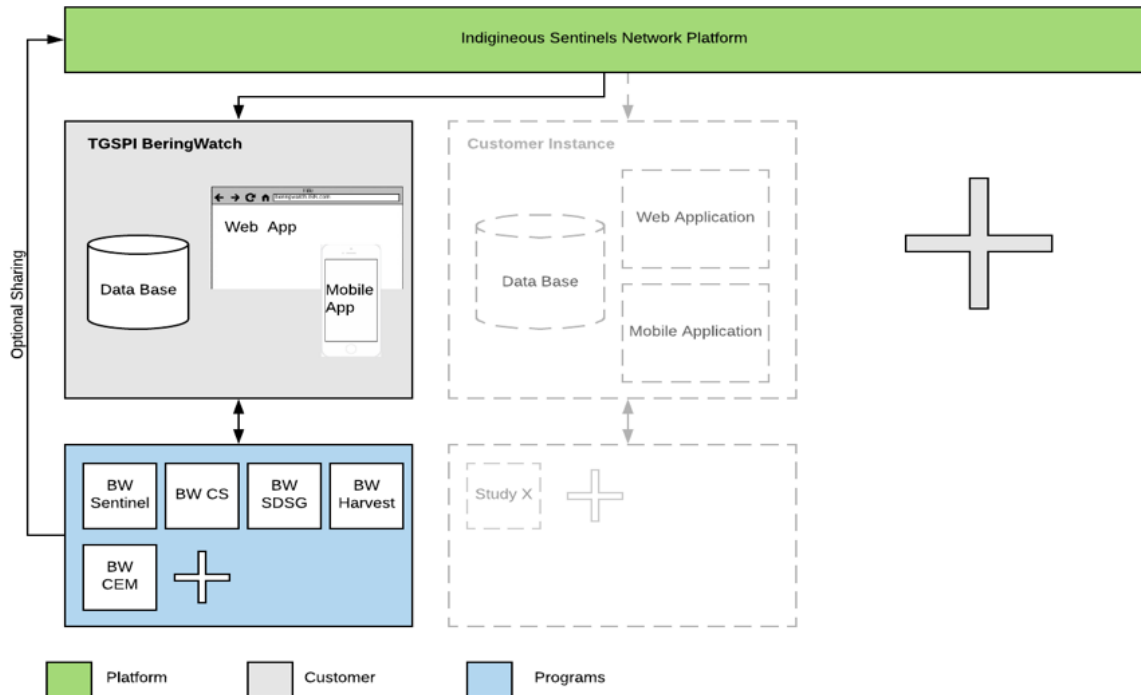


Figure 2. Access to the Web Application, Mobile Application, and Database relevant to that customer’s instance.

At its core, the platform TGSPI plans to build will use the core of the current state functionality and workflow as a foundation or baseline. The critical path of execution for the functional requirements being:

- Platform. Multi-tenant SaaS platform that customers can subscribe to and set up autonomously online.
- Ownership. Customers are able to have their own branded license of Indigenous Sentinels Network including a web application interface, mobile application interface, and database.
- Customization. Customers are able to create programs from predefined protocols available in the platform or create custom programs and protocols for their users to collect data.
- Data Security. Customers are able to choose to share their data with the platform, or keep it contained to their own database on a project-by-project basis.
- Data Collection. Users are able to log observations under the applicable program from either the mobile application or the web application.
- Actionable Insights. Users are able to create, and export reports based on data their community has collected, data collected by a community partnership, and any other data that is made available to them through the platform.

A few common threads identified by stakeholders of the existing BeringWatch Program should be considered as important requirements for setting the platform up for sustainability and success. TGSPI is open to working with multiple collaborating developers to achieve these goals:

1. Data Sovereignty – Customers own and control the distribution of all data that they collect. Sharing and distribution of data to other entities and permission for further distribution will be securely tracked and monitored through the use of an appropriate technology (a ledger database approach may be preferred). Data distribution tracking solutions must consider at minimum the granularity of control required, the ability to revoke permissions and the delineation between raw and aggregated data.
2. Mapping and GIS Interoperability – For users with a close connection to the landscapes and species that they depend on for their livelihood, it is critical that the platform uses state of the art mapping technology for data visualization and spatial analysis. At minimum a functional mapping capability is required on the future ISN platform. Interoperability with easily available open source Geographic Information System (GIS) software would be a preferred solution.

3. Form Builder – An easy to use but technically sophisticated form builder must be incorporated into the ISN platform to allow users to customize their own data collection forms.
4. Incentives – Users need to feel personally invested in the data collection efforts, and incentivized to use and keep using the application. This may take the form of hiring professional data collectors on a temporary, seasonal, part-time or full-time basis or through providing a ‘payment-per-observation’ program for opportunistic or consistent data collection. The TGSPI currently uses the Tipalti payment system in partnership with the Alaska Conservation Foundation (ACF) for payment of incentives. TGSPI will evaluate proposals for incorporating an incentive payment system from qualified firms to determine whether it is cost effective and secure to include this functionality.
5. Engagement – Provide users with reasons to get into the application beyond just logging an observation. In a world of social media and immediate gratification, incorporating ways for users to feel engaged while using the ISN platform is important.
6. Use of Open Source components – TGSPI is interested in considering the use of open source software components and may give preferential consideration to design solutions utilizing open source components.

6.4 Functional Requirements

Definitions

The following is a guide for how to interpret the table of functional requirements listed in Appendix A.

The line items in each section can be read as:

- # - Requirement IDs to help track requirements in discussion and planning.
- Category - High level category grouping for requirements.
- Feature - High level group of functionality as a category for the requirements.
- Sub-Feature - Secondary level grouping of functionality (where appropriate).
- Description of the object that should be able to meet functionality following it.
- Roles - Platform level (e.g. Super Admin), Community Level (e.g. Admin, Supervisor, Observer or Citizen) and Organization Level (e.g. Collaborating researcher or manager) associated with the functional requirement.
- Phase - The timing for implementation of the requirement in either the Version 1 or Version 2 release of the ISN Platform.

6.5 Project Schedule

Contractor(s) shall utilize standard Project Management practices, including use of scheduling software to plan, execute, and track progress against the plan. Proposer(s) shall include a high-level schedule with their initial submission that will become the basis for the contract schedule that will be finalized with TGSPI during Finalization of Scope of Services Work Order 1.

6.6 Deliverables List

The following list of deliverables is provided to assist proposer(s) with preparation of project approach and cost proposals. The exact list of deliverables is subject to change during 1 - Finalization of Scope of Services based on final scoping agreement by TGSPI and Contractor(s).

The project will follow a work order breakdown established by TGSPI. The following is a preliminary Scope of Services for purposes of soliciting technical proposals and cost proposals from interested proposers. The Scope of Services will be updated by TGSPI and the selected Contractor(s) following selection and contract negotiations.

1 — Finalization of Scope of Services

The initial work order shall be to finalize the scope of services, pricing and schedule for subsequent work orders.

Examples of Expected Deliverables:

- *Final Scope of Services for work orders 2 through 11*
- *Updated Pricing (revised Cost Proposal) for Work Orders 2 through 11*
- *Baseline Project Schedule*

2 — Review, Analysis and Finalization of ISN SaaS Platform Design

The second work order shall be to finalize the Requirements Analysis for the ISN SaaS Platform Design. Working with TGSPi, the selected Contractor(s) will refine and update the list of Functional and Non- Functional Requirements in Attachment A and proceed to develop the following deliverables for the ISN Platform and web portal:

Examples of Expected Deliverables:

- *Data Information Analysis*
- *Definitions & Relationships*

3 — Platform Setup

The third work order is anticipated to cover the ISN Platform setup. The exact approach to developing the UI/UX may be adapted from the current design and will depend upon the technical approach of the selected proposer(s). TGSPi is interested in understanding what methods the proposer(s) may utilize to improve the overall outcome of Design leading to a highly intuitive UI that is assured a high-degree of acceptance by TGSPi's customers.

Examples of Expected Deliverables:

- *Environments*
- *Set up code repositories for application source code and metadata*
- *Set up processes for Continuous Integration/Continuous Delivery (CI / CD) in the DevOps pipeline*
- *Set up notification service (e.g. Amazon SNS) for message delivery*
- *Set up database frameworks (e.g. Amazon Quantum Ledger Database (QLDB) or alternative open source distributed ledger technology (e.g. Quorum), Auth DB (Mongo OR DynamoDB)*
- *DB Backups / Recovery*
- *Monitoring / Performance*

4 — API / Services

The fourth work order is to set up the API / Services for the ISN Platform.

Examples of Expected Deliverables:

Setup & Implementation

- *Framework Setup*
- *Auth Service - Authentication, Registration, Reset Forgotten Password, Log Out, Authorization, OAuth (Google)*
- *Sync Service - GraphQL & validation of data, sync with the cloud*
- *Data Service - Geography, Communities, Program/Study Categories, Observation Focuses, Policies, Report Configuration, Protocols, Dashboards*
- *Study Service - Studies and Study Templates, Observations, Proprietary Files Upload/Processing*
- *QAC Service - Quality & Access Control: Quality Control Workflow, Data Access Request Workflow, Trainings*
- *Comm Service - Email/SMS communication, push notifications*
- *Report Service - Study Data Reports, Audit Logs, Sharing Reports and Templates, Budgeting Re Wrapper Implementation / Repos*

Testing

- *Reports, Data visualization processing, Data Exports / Formats*
- *Billing Service - Invoicing, Payments. Integration with a third party service*
- *Testing*
- *Automated Test App Setup*
- *Service Endpoints Tests*

5 — Data Layer

The fourth work order is to set up the Data Layer for the ISN Platform.

Examples of Expected Deliverables:

- *Wrapper Implementation / Repositories*
- *Testing*

6 — Web App Development

Following the completion of design, TGSPi the Contractor(s) will proceed with Web App development. The Contractor(s) will be expected to provide a software development plan at the outset of this work order to be approved by TGSPi prior to commencement of development work.

Examples of Expected Deliverables:

Setup & Implementation

- *Framework Setup*
- *Authorization and Administration Pages - Register, Log In/Out, Forgot Psw, Reset Psw*
- *Data Management Pages - Geography (Geographic Areas and Observation Areas for communities, Vantage Points/locations of observations, geographic delineation of areas being viewed),*
- *Community (Invitations - Admin, Member, Cross-Community, Researcher, Expert, Community, Village, Consortium), Program/Study Categories (1 level), Observation Focuses (dynamic multi-level list dependency), Policies, Report Configs, Protocols (upload PDFs), Data Access Requests, Training Requests/Signups*
- *Study Pages - Study Info, Programs, Expected Parameters, Incentives, Protocols, Recipients, Geography, Communities, Observers, Community Report Config, Study Invite Workflow Pages,*
- *Study Templates Management and Sharing Pages, Draft Update, Micro-Environmental Data Measurement/Integration, Proprietary Files Upload, Quality Control Request*
- *QAC Pages - Quality Control Pages, Expert Review Pages, Quality Control Communication Pages, Data Access Request Pages, Approval/Denial Pages, Training Signup Pages*
- *Communication Pages - Non-Automated messaging via Email/SMS with Interfaces to create a message, Announcement pages, Notification Pages*
- *Report Page - Query Data Page, Select Fields Page, Save/Create Template and Share Template Pages, Export/Print Pages/Preview*
- *Map Query - Ability to query maps by selecting Vantage Points or drawing a polygon as an area of interest*
- *Billing Pages - Payment Setup/Processing Pages*

Dashboards

- *Super Admin Dashboard - Import Data Component, Program Global Template Management, Study Global Template Management, Community Management, Invoicing*
- *Admin Dashboard - Members, Program Management, Study Management, Study Resources, *Quality Control Component, *Expert Invitation Component*
- *Supervisor Dashboard Quality Control Component, Expert Invitation Component (same as for Admin Dashboard)*
- *Observer Dashboard - Drafts Component (same as under Mobile App but built for Web)*
- *Community Dashboard - all shared components, apply to users*
- *Shared: Active Studies - list of latest active studies within community / network*
- *Shared: Active Observations - list of latest active observations within the community / network*
- *Shared: Observation Comments - ability to add comments on active observations if allowed*
- *Shared: Announcements - announcements per role/community etc.*
- *Shared: Profile Configuration - profile setup by interests*
- *Shared: Polls & Surveys - Integrate with Google Forms, save/export data for sharing*

Testing

- *Framework Setup*
- *Unit Tests*
- *UI/Integration Tests*

7 — Mobile App Development

Following the completion of design, TGSPi the Contractor(s) will also proceed with Mobile App development. As with deliverable 6 above, the Contractor(s) will be expected to provide a software development plan at the outset of this work order to be approved by TGSPi prior to commencement of development work.

Examples of Expected Deliverables:

Setup & Implementation

- *Framework Setup*
- *Internet Connectivity Loop - Logic to check for internet connectivity and reliability. Once the conditions are met, if drafts exist, alert the user with offer to sync drafts with the cloud*
- *Drafts Page / Sync - List pending drafts and allow user to select which drafts to sync if any (could delay the*

- sync)
- *Draft Creation Workflow - Taking geolocation, entering information defined by the Study template to provide observation data, workflow from required to optional and custom fields with ability to take additional resources such as photos/videos*
- *Notifications - If Internet connectivity is established, check for pushed notifications and alert user immediately*
- *Observer Dashboard Drafts Component*
- *Drafts Component -View of pending drafts, not submitted for quality control process. It allows user to review / modify draft as well as upload proprietary files for it before submitting it for quality control review process. Returned requests with need for more clarification and/or additional actions are also marked on this component inline with actual observation*

Testing

- *Unit Tests*
- *UI/Integration Tests*

8 — Graphic Design

The graphic design work order is assumed to follow the existing ISN Style guide provided in Attachment G

Examples of Expected Deliverables:

Analysis

- *Review Existing UI - review existing UI and analyze if it matches new Business Requirements*
- *Define Reusable Components/Aspects - list reusable components/pages that may be used with or without modifications*

Creation/Modification

- *New UI Design - create new missing UI*
- *Modification of Existing UI - modify reusable existing UI*

Styling

- *Platform Styling Definitions - Global style for overall platform (background, framework, container pages etc.)*
- *Report Styling Definitions - Print style for reports, first page, footer, header etc.*
- *Component Styling Definitions - Sections of a page, hopefully reusable*
- *Element Styling Definitions - Form elements such as textbox, buttons, radio options, dropdown lists, checkbox(es), textareas etc. Validate Imported Data*

9 — User testing, maintenance and training of TGSPI Technical Team

As soon as minimum viable product (MVP) functionality is ready for the ISN Platform, TGSPI and Contractor(s) shall commence usability testing, which will be iterative. The first stage of testing is expected to be conducted internally, with TGSPI and Contractor testers or contracted testers. Bug tracking and change control shall be provided on an on-going basis using a suitable tracking program.

Examples of Expected Deliverables:

- *Platform integration and testing, including documentation and change control*
- *TGSPI user training for ISN Platform configuration and customization*
- *ISN technical documentation*

6.7 Scrum framework & communication

We prefer the use of weekly meetings in order to keep in good communication with team members. We are open to organizing tasks into sprints (e.g., biweekly), so that issues can be dealt with quickly and efficiently. We are happy to use a project tool, such as Asana or JIRA, that your team is comfortable with, or we will set one up in order to keep track of feature progress.

7 ATTACHMENTS

[Attachment A – ISN Functional and Business Requirements](#)

[Attachment B – User Case Scenarios for ISN](#)

[Attachment C – Design Phase II Wireframes](#)

[Attachment D – Design Phase II Mockups](#)

[Attachment E – Design Phase II Information Architecture Diagrams](#)

[Attachment F – Revised Information Architecture Diagrams](#)

[Attachment G – ISN Style Guide](#)

[Attachment H – ISN/BeringWatch Master Use Agreement](#)