ASU Arizona State University

09/07/2018

REQUEST FOR PROPOSAL

HAZARDOUS MATERIALS INVENTORY COMPLIANCE AND DATA MANAGEMENT SOFTWARE SUITE

RFP 341902

DUE: 3:00 P.M., MST, 10/19/18

Deadline for Inquiries	3:00 P.M., MST, 09/28/18
Time and Date Set for Closing	3:00 P.M., MST, 10/19/18

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SECTION I – REQUEST FOR PROPOSAL

RFP 341902

Arizona State University is requesting sealed proposals from qualified firms or individuals for **Hazardous Materials Inventory Compliance and Data Management Software Suite.**

Proposals are to be addressed and delivered to the receptionist area, first floor, University Services Building, Purchasing and Business Services, Arizona State University, 1551 S. Rural Road, (located on the east side of Rural Road between Apache Boulevard and Broadway Road) Tempe, Arizona 85281 **on or before 3:00 P.M. MST October 19, 2018. No proposal will be accepted after this time. PROPOSALS MUST BE IN A MARKED SEALED CONTAINER** (i.e., envelope, box):

Name of Proposer
Title of Proposal
RFP Number
Date and Time Proposal is Due

No telephone, electronic or facsimile proposals will be considered. **Proposals received after the time and date set for closing, will be returned to the proposer unopened.**

A representative of Purchasing and Business Services will announce publicly the names of those firms or individuals submitting proposals**.** No other public disclosure will be made until after award of the contract.

Arizona State University's Overnight Delivery (FedEx, Airborne, and UPS) address is:
Purchasing and Business Services
University Services Building
Arizona State University
1551 S. Rural Rd
Tempe, AZ 85281

Arizona State University's U.S. Postal Service Mail address is:
Purchasing and Business Services
Arizona State University
P.O. Box 875212
Tempe, AZ 85287-5212

ARIZONA STATE UNIVERSITY

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Lorenzo Espinoza, Senior Buyer

LE/KD

SECTION II – PURPOSE OF THE RFP

1. INTENT

Arizona State University (ASU) is seeking proposals from qualified vendors to provide a comprehensive Environmental Health and Safety (EHS) compliance and data management software suite. The database must address, at a minimum:

- Chemical, biological, and radiological inventory management
- Complete hazardous, biological, and radiological waste tracking
- Laboratory registration, management and inspections
- Biological safety and security
- Building code administration
- Chemical Safety
- Radiation safety

Bidders may be invited to present a demonstration of their product as part of the evaluation process.

2. BACKGROUND INFORMATION

Arizona State University (ASU) currently operates a compliance software suite and database for managing chemical inventories, chemical safety, laboratory safety, radiation safety, and hazardous waste tracking. ASU is in the process of implementing a new Central Receiving Facility (CRF) where all incoming items, including chemicals, will be received prior to distribution. Chemicals are currently delivered to individual buildings and laboratories, often at or near the point of use.

The CRF will enable ASU to create a centralized inventory entry point, capturing each incoming item, verifying the item for location and product accuracy, properly entering the item in the lab inventory, and marking each container with a unique barcode or RFID identifier. This centralized inventory information and unique container identifier will enable ASU to perform a variety of inventory management functions.

ASU Environmental Health and Safety (EHS) is a nationally recognized, innovative, and award winning leader among Research Universities. Our safety and regulatory compliance programs encompass multiple Campus locations and includes over 2,000 academic and research laboratories.

Arizona State University is a new model for American higher education, an unprecedented combination of academic excellence, entrepreneurial energy and broad access. This New American University is a single, unified institution comprising four differentiated campuses positively impacting the economic, social, cultural and environmental health of the communities it serves. Its research is inspired by real world application blurring the boundaries that traditionally separate academic disciplines. ASU serves more than 91,000 students in metropolitan Phoenix, Arizona, the nation's fifth largest city. ASU champions intellectual and cultural diversity, and welcomes students from all fifty states and more than one hundred nations across the globe.

If you would like more information about ASU, please visit us http://www.asu.edu.

3. TERM OF CONTRACT

The initial contract term will be for one (1) year(s) with the possibility of four (4) successive one (1) year renewals, for a total term not to exceed five (5) years. The contract will be available for use by other University departments during this term.

SECTION III – PRE-PROPOSAL CONFERENCE

No pre-proposal conference will be held.

SECTION IV – INSTRUCTIONS TO PROPOSERS

1. You must address and deliver your proposal to the receptionist area, first floor, University Services Building, Purchasing and Business Services, Arizona State University, 1551 S. Rural Road, Tempe, Arizona 85281, **on or before the time and date set for closing. No proposal will be accepted after this time.** The University Services Building is located on the east side of Rural Road between Apache Road and Broadway Road. **PROPOSALS MUST BE IN A MARKED SEALED CONTAINER** (i.e., envelope, box):

Name of Proposer
Title of Proposal
RFP Number
Date and Time Proposal is Due

No telephone, electronic or facsimile proposals will be considered. **Proposals received after the time and date for closing will be returned to the proposer unopened.**

2. **DIRECTIONS TO USB VISITOR PARKING**. Purchasing and Business Services is in the University Services Building ("USB") 1551 S. Rural Road, Tempe, AZ, 85281 (located on the east side of Rural between Broadway Ave and Apache Boulevard). A parking meter is located near the main entry to USB.

All visitors to USB are required to check in at the USB Reception Desk to obtain a visitor's badge to wear while in the building. The receptionist will call to have you escorted to your meeting.

3. Proposer should use recycled paper and double-sided copying for the production of all printed and photocopied proposal documents. Furthermore, the documents should be clearly marked to indicate that they are printed on recycled content (minimum 30% post-consumer waste paper).

4. You may withdraw your proposal at any time prior to the time and date set for closing.

5. No department, school, or office at the University has the authority to solicit or receive official proposals other than Purchasing and Business Services. All solicitations are performed under the direct supervision of the Chief Procurement Officer and in complete accordance with University policies and procedures.

6. The University reserves the right to conduct discussions with proposers, and to accept revisions of proposals, and to negotiate price changes. During this discussion period, the University will not disclose any information derived from proposals submitted, or from discussions with other proposers. Once a contract is executed, the solicitation file, and the proposals contained therein, are in the public record and will be disclosed upon request.

7. Proposers submitting proposals which meet the selection criteria and which are deemed to be the most advantageous to the University may be requested to give an oral presentation to a selection committee. Purchasing and Business Services will do the scheduling of these oral presentations.

8. The award shall be made to the responsible proposer whose proposal is determined to be the most advantageous to the University based on the evaluation factors set forth in this solicitation. Price, although a consideration, will not be the sole determining factor.

9. If you are submitting any information you consider to be proprietary, you must place it in a separate envelope and mark it "Proprietary Information". If the Chief Procurement Officer concurs, this information will not be considered public information. The Chief Procurement Officer is the final authority as to the extent of material, which is considered proprietary or confidential. Pricing information cannot be considered proprietary.

10. The University is committed to the development of Small Business and Small Disadvantaged Business ("SB & SDB") suppliers. If subcontracting (Tier 2 and higher) is necessary, proposer (Tier 1) will make every effort to use SB & SDB in the performance of any contract resulting from this proposal. A report may be required at each annual anniversary date and at the completion of the contract indicating the extent of SB & SDB participation. **A description of the proposers expected efforts to solicit SB & SDB participation should be enclosed with your proposal.**

11. Your proposal should be submitted in the format shown in Section X. Proposals in any other format will be considered informal and may be rejected. Conditional proposals will not be considered. An individual authorized to extend a formal proposal must sign all proposals. Proposals that are not signed may be rejected.

12. The University reserves the right to reject any or all proposals or any part thereof, or to accept any proposal, or any part thereof, or to withhold the award and to waive or decline to waive irregularities in any proposal when it determines that it is in its best interest to do so. The University also reserves the right to hold all proposals for a period of **one hundred twenty (120) days** after the opening date and the right to accept a proposal not withdrawn before the scheduled proposal opening date.

13. **EXCEPTIONS:** The Arizona State University contract terms and conditions are included in this Request for Proposal in Section XII. These terms and conditions will be incorporated into the contract between the University and the successful proposer. **Proposals that are contingent upon any changes to these mandatory contract terms and conditions may be deemed nonresponsive and may be rejected.** All exceptions must be submitted with justification and alternate language, and MUST be submitted with the proposal. In no event is a Proposer to submit its own standard contract terms and conditions as a response to this RFP.

14. Unless specifically stated to the contrary, any manufacturer's names, trade names, brand names or catalog numbers used in the specifications of this Request for Proposal are for the purpose of describing and/or establishing the quality, design and performance required. Any such reference is not intended to limit or restrict an offer by any proposer and is included in order to advise the potential proposer of the requirements for the University. Any offer, which proposes like quality, design or performance, will be considered.

15. Days: Calendar days

May: Indicates something that is not mandatory but permissible/ desirable.

Shall, Must, Will: Indicates mandatory requirement. Failure to meet these mandatory requirements will result in rejection of your proposal as non-responsive.

Should: Indicates something that is recommended but not mandatory. If the proposer fails to provide recommended information, the University may, at its sole option, ask the proposer to provide the information or evaluate the proposal without the information.

16. Any person, firm, corporation or association submitting a proposal shall be deemed to have read and understood all the terms, conditions and requirements in the specifications/scope of work.

17. All proposals and accompanying documentation will become the property of the University at the time the proposals are opened. **It will be the proposer's responsibility to request that samples be returned to the proposer and provide a method for doing so at the expense of the proposer.** If a request is not received and a method of return is not provided, all samples shall become the property of the University 45 days from the date of the award.

18. All required performance and payment bonds shall be held by the University in a secure location until the performance of the contract and the payment of all obligations rising there under have been 100% fulfilled. Upon completion of the project and all obligations being fulfilled, it shall be the proposer's responsibility to request the surety bonding company to submit to the University the necessary documents to approve the release of the bonds. Until such time the bonds shall remain in full force and effect.

19. The University of Arizona, Northern Arizona University, and Arizona State University are all state universities governed by the Arizona Board of Regents. **Unless reasonable objection is made in writing as part of your proposal to this Request for Proposal, the Board or either of the other two Universities may purchase goods and/or services from any contract resulting from this Request for Proposal.**

20. The University has entered into Cooperative Purchasing Agreements with the Maricopa County Community College District and with Maricopa County, in accordance with A.R.S. Sections 11-952 and 41-2632. Under these Cooperative Purchasing Agreements, and with the concurrence of the proposer, the Community College District and/or Maricopa County may access a contract resulting from a solicitation done by the University. If you do not want to grant such access to the Maricopa County Community College District and or Maricopa County, **please state so** in your proposal. In the absence of a statement to the contrary, the University will assume that you do wish to grant access to any contract that may result from this Request for Proposal.

21. Arizona State University is also a member of the Strategic Alliance for Volume Expenditures ($AVE) cooperative purchasing group. $AVE includes the State of Arizona, many Phoenix metropolitan area municipalities, and many K-12 unified school districts. Under the $AVE Cooperative Purchasing Agreement, and with the concurrence of the proposer, a member of $AVE may access a contract resulting from a solicitation done by the University. If you **do not** want to grant such access to a member of $AVE, **please state so** in your proposal. In the absence of a statement to the contrary, the University will assume that you do wish to grant access to any contract that may result from this Request for Proposal.

22. All formal inquiries or requests for significant or material clarification or interpretation, or notification to the University of errors or omissions relating to this Request for Proposal must be directed, in writing or by facsimile, to:

Lorenzo Espinoza
Purchasing and Business Services
University Services Building
Arizona State University
PO Box 875212
Tempe, AZ 85287-5212

Tel: 480-965-3849
E-mail: Lorenzo.Espinoza@asu.edu

Requests must be submitted on a copy of the Proposer Inquiry Form included in Section XI of this Request for Proposal. All formal inquiries must be submitted at least ten (10) calendar days before the time and date set for closing this Request for Proposal. Failure to submit inquiries by this deadline may result in the inquiry not being answered.

Note that the University will answer informal questions orally. The University makes no warranty of any kind as to the correctness of any oral answers and uses this process solely to provide minor clarifications rapidly. Oral statements or instructions shall not constitute an amendment to this Request for Proposal. Proposers shall not rely on any verbal responses from the University.

23. The University shall not reimburse any proposer the cost of responding to a Request for Proposal.

24. In accordance with an executive order titled "Air Pollution Emergency Proclamation" modified by the Governor of Arizona on July 16, 1996, the University formally requests that all products used in the performance of any contract that results from this Request for Proposal be of low- or no-content of reactive organic compounds, to the maximum extent possible.

25. Arizona requires that the University purchase ENERGY STAR® products or those certified by the Federal Energy Management Program as energy efficient in all categories available. If this Request for Proposal is for a product in a category for which ENERGY STAR® or certified products are available, please submit evidence of the ENERGY STAR® status or certification for the products you are bidding. Please note that if you fail to submit this information but a competitor does, the University will select your competitor's product as meeting specifications and deem your product as not meeting specifications. See A.R.S. §34-451.

26. The University requires that all desktop computers, notebooks, and monitors purchased must meet Electronic Product Environmental Assessment Tool (EPEAT) Gold status as contained in the IEEE 1680 Standard for the Environmental Assessment of Personal Computer Products. The registration criteria and a list of all registered equipment are at http://www.epeat.net/about-epeat/ on the Web.

27. To the extent applicable to any contract resulting from this Request for Proposal, the proposer shall comply with the Standards for Privacy of Individually Identifiable Information under the Health Insurance Portability and Accountability Act of 1996 contained in 45 CFR Parts 160 and 164 (the "HIPAA Privacy Standards") as of the effective date of the HIPAA Privacy Standards on April 14, 2003 or as later determined. Proposer will use all security and privacy safeguards necessary to protect Protected Health Information (PHI), as defined by HIPAA, and shall immediately report to University all improper use or disclosure of PHI of which it becomes aware.

SECTION V – SPECIFICATIONS/SCOPE OF WORK

5.1 Overview

5.1.1 Arizona State University (ASU) currently operates a compliance software suite and database for managing chemical inventories, chemical safety, laboratory safety, radiation safety, and hazardous waste tracking. ASU is in the process of implementing a new Central Receiving Facility (CRF) where all incoming items, including chemicals, will be received prior to distribution. Chemicals are currently delivered to individual buildings and laboratories, often at or near the point of use.

5.1.2 The CRF will enable ASU to create a centralized inventory entry point, capturing each incoming item, verifying the item for location and product accuracy, properly entering the item in the lab inventory, and marking each container with a unique barcode or RFID identifier. This centralized inventory information and unique container identifier will enable ASU to perform a variety of inventory management functions.

5.1.3 NOTE: Please fill in details about how your platform or technologies will provide the following features/functionalities/services, including examples of previous projects if applicable. Please reply directly underneath each item below in Section V for ease of evaluation.

5.2 Overview of Chemical Purchases at Arizona State University

5.2.1 All chemical purchases are required to be made using our SunRISE (Workday) web-based e-procurement system; SunRISE (Workday) has a two-stage integration to provide for EH&S review and approval prior to purchase, and inventory import after purchase. This integration system is known as “The Bridge”.

5.2.2 The SunRISE (Workday) e-procurement system and “The Bridge” will continue to function as is, and any new system must be compatible. Compatibility details and IT requirements are described in Section 5.5. The proposer must acknowledge and accept this requirement as part of their proposal.

5.2.3 Using the e-procurement system, purchases are primarily from pre-approved suppliers. Suppliers may include internal units (e.g. ASU Gas Services), or Hosted/Punch-out supplier catalogs (i.e. various office, equipment, or chemical suppliers).

5.2.4 When a purchase request (PR) for a chemical is received by the EHS database system, the request is reviewed and either approved or denied based on compliance issues. “The Bridge” automatically compares the requested item to the EHS chemical catalog to ensure the newly ordered material is already listed and in use. If compliance quantities are not exceeded in the requesting Lab Inventory, the Dbase system automatically approves the chemical and a Purchase Order (PO) is created in the workflow process and sent to the supplier for purchase. A PO containing a chemical not listed in the catalog is flagged for manual entry and approval.

5.2.5 The ASU chemical catalog currently contains nearly 100,000 chemicals and provides detailed regulatory and safety information including: Chemical name and description, CAS number, HMIS and ICC data, and container size.

5.2.6 PRs must include the name of the requestor, Principal Investigator (lab or area manager), a lab registration number which denotes the location for delivery and storage, and the quantity requested. This information allows the Dbase to create and maintain a chemical inventory from purchases the lab is requesting

5.2.7 Identification and flagging of restricted or specialty items

- Department of Homeland Security (DHS) Chemicals of Interest (COIs)
- Specific or restricted hazards (explosive, radiological, etc.)

5.3 General Requirements & Functional Specifications

5.3.1 In order to be considered, the information below shall be included in the proposal submittal. Please reply directly underneath each item below in Section 5.3 for ease of evaluation.

5.3.2 The proposed submittal, at a minimum, shall include:

a) An extensive chemical catalog. Proposer must address the feasibility of importing and merging with the existing ASU EHS catalog, which is an extensive catalog of nearly 100,000 chemicals.

b) Proposer must demonstrated the ability to integrate with an external web-based purchasing system that sends orders to the inventory software (SunRISE/Workday) and compatibility with the automatic purchase approval function for hazardous materials (The Bridge).

c) Proposer must describe their container identification and tracking system (barcode or RFID) which is to be added to the container at the point of receipt (CRF) or at remote campus locations. The identification and tracking ID must have the ability to link (via scan) the chemical, container size, catalog information, PO detail, and storage location to the individual container identifier.

d) The use of hand-held identification scanning/reading devices (barcode or RFID) will be employed to read, add, subtract or otherwise adjust inventory both at the CRF and at remote campus locations (laboratories, stockrooms, etc.). Describe the system to be deployed.

e) Once compiled, the laboratory inventories must have the capability, upon query, to produce, at a minimum, the following reports. Provide sample reports:

- Complete lab/area inventory

- Lab and/or control area totals by hazard
- Department of Homeland Security Chemicals of Interest (COI) totals by Lab and/or building
- ICC code compliance information

f) A realistic Implementation timeline based on migration from existing database

g) The Application supports connectivity to peripheral devices (e.g. barcode scanner).

5.4 Additional Functional Requirements

5.4.1 In addition, the proposer must respond to the subjects below and describe the functionality/features provided in the proposed system. If the proposer is unable to deliver in any of the below features, please indicate “N/A” for “Not Applicable”. Please reply directly underneath each item below in Section 5.4 for ease of evaluation:

5.4.2 Hazardous and Biological Waste Management

a) Chemical, Biological, and Universal waste pickup request available online from the EHS webpage. (Does software suite have waste module, place orders, the ability to enter online pick up requests?)

b) Waste container management and tracking

- Describe the ability to create waste container inventories and required cradle to grave tracking.

c) Document Preparation

- Preparation of hazardous waste manifests (including e-manifests), Land Disposal Restrictions (LDRs), and associated shipping and tracking documents prepared from the Dbase

- Assignment of both Environmental Protection Agency (EPA)/Department of Transportation (DOT) regulatory and shipping codes

d) Hazardous Waste Compliance Inspections

- Ninety day accumulation area facility inspection
- Satellite Accumulation Area (SAA) inspections

5.4.3 Radiological Safety

a) Complete Radiological Waste Tracking

- Disposal monitoring

- Decay calculations
- Preparation of disposal manifests and related shipping documents

b) Detailed Inventory Management

- Comprehensive order limits
- Specific isotope management

c) Sealed Source Management

d) License Management

e) Laser Safety Management

f) Dosimetry Management

g) Monitoring Equipment and Calibrations

- Tracking of users and required personnel training
- Specific equipment inspections

5.4.4 Laboratory Safety and Management

a) Online lab registrations and responsible party information.

b) Creation of door and specialty signs (including initial, renewal and amendment)

- Customizable with Globally Harmonized System Classifications (GHS), Biosafety Level (BSL), and National Fire Prevention Association (NFPA) information.
- Required or suggested Personnel Protection Equipment (PPE) for lab entry

c) Laboratory Inspection Program

- Initial and follow-up capabilities with automatic email notifications
- Ability to incorporate pictures of findings
- Ability to indicate repeat violations
- Trend tracking
- Mobile Inspection Capability

d) Mobile Inspection Capability

- Using tablets, scanners, Google Apps or App Store apps, and other handheld devises

e) Mobile Inventory Management

- The ability to add, subtract, modify, and transfer inventory from remote locations
- The ability to add unique barcode or RFID marking

f) Equipment Inspection and Management

- Fume hoods
- Emergency showers and eye washes
- Specialized equipment

g) Chemical Safety Management

- Hazard identification and tracking
- Safety Data Sheets (SDS) linked to inventories

5.4.5 Biological Safety

a) Complete Biological Waste Tracking

b) Inventory Management

- Location and tracking by bio-agent type
- Assignment of biosafety level (BSL) related to inventory

c) Arthropod Containment Management

- Location and tracking by bio-agent type
- Assignment of Arthropod Containment Level (ACL)

d) Genetically-Modified Plant Management

- Location and tracking of GM Plants
- Assignment of Plant Containment Level (PCL)

e) Proposal/Approval Management

- Specific training requirements
- Health screen requirements
- Institutional Biosafety Committee (IBC) disclosure information

f) Autoclave/Biological Safety Cabinet Certification and Equipment Management

g) Medical Monitoring

5.4.6 Fire Safety

a) Fire Marshal Compliance and Safety Inspections

b) Inventory Management

- International Code Compliance (ICC) inventories by hazard (building, room, and zone)

f) Fire Drill Tracking

a) Fire extinguisher management

b) Building Plans review management

g) Special Events Management

5.4.7 Miscellaneous

a) The ability to create additional inventory catalogs allowing the individual tracking and ID marking (barcode, RFID) to be used to track and identify specialized pieces of equipment (Biosafety cabinets, incubators, autoclaves, fire extinguishers, generators, etc.); biological agents; as well as other specialty items is a desired benefit.

5.5 Compatibility and IT Requirements/Specifications

5.5.1 All user-facing (non-administrative) aspects of the Application are browser-based via HTTP protocol (e.g. browser does not require additional software plugin to access Application via browser). Application is updated to support new versions of browsers as they are released.

5.5.2 Supports the American with Disabilities Act/Section 508.

5.5.3 Accessibility from mobile device in user-friendly format (e.g. Responsive web design).

5.5.4 Mobile device usage features include offline mode for relevant modules (e.g. for tablet-based inspection of high-containment areas with no WIFI access).

5.5.5 Application features refresh option or warning message for auto logout due to inactivity; or else saves session to resume upon login.

5.5.6 Application supports Shibboleth for federated identity integration (i.e. single sign-on). If not currently supported, willingness to adopt this support (Reference: http://shibboleth.net/) or to meet the requirement via CAS, InCommon, or provision of SSO using federated identity management system.

5.5.7 The Application features extensible web services (e.g. REST/SOAP/custom API) to allow inbound and outbound integrations with other systems. The proposer can demonstrate adequate close-to-realtime performance of these integrations. Special consideration will be given to Vendors who demonstrate past experience integrating to Enterprise Financial Systems (e.g. Workday) and have connectors pre-built.

5.5.8 Can upload data from file (e.g. Excel).

5.5.9 The proposer will provide technical documentation of the application. Preferably, the system data model/dictionary, and API documentation are made available to assist in the full, correct, and efficient utilization of the Application, including accurate report generation and data analysis.

5.5.10 ANSI SQL-compliant database backend (e.g. MSSQL/MySQL). Direct access to database, via a virtual environment or an on-premise hosted database. If this is not possible, capacity to replicate data to an ASU data warehouse environment could meet this requirement provided the Application frontend administrative features can sufficiently interact with the backend environment to meet the use cases detailed throughout this RFP.

5.5.11 Administrative/Power User roles capable of configuring granular access permissions for other users.

5.6 System & Data Security Requirements

5.6.1 Acknowledgement of Section XIII and Section XIV for ASU's Security Review Process. Note: Section XIV of the RFP is intended for proposers to understand ASU's security review processes for all software or software developed for the project – website or otherwise. The proposer must understand and agree to ASU security assessment requirements if awarded this contract. This section is included only as reference.

5.6.2 Describe in detail delivered security elements such as, but not limited to, the encryption of sensitive data in transport, data at rest, 3rd party security scanning, etc.

5.6.3 Meets industry standards, such as SOC2 Type II reports, compliance with FERPA and HIPAA statutes.

5.6.4 Protects confidential data and session activity both within the application and in transit

5.6.5 Encrypts data and session activity

5.6.6 Supports mass notifications for users during emergencies, including any third party product integrations.

5.6.7 Describe in detail delivered security elements such as, but not limited to, the encryption of sensitive data in transport, data at rest, 3rd party security scanning, etc.

5.6.4 Auditing capabilities to help reduce compliance risk (e.g. capture data describing administrative changes made).

5.7 Support Based on a Service Level Agreement (SLA)

5.7.1 Tiered service levels, including guaranteed incident response and resolution times with associated pricing.

5.7.2 Guaranteed uptime

5.7.3 Email/videoconference/telephone support/hours of operation

5.7.4 27/7 monitoring of application and cloud infrastructure with notification triggers

5.7.5 Disaster Recovery Plan

5.7.6 Downtime & Schedule Maintenance notifications

- Proposer should indicate in their proposal whether versioning notes detailing changes made to software are available to customers. In the event data is mirrored to an ASU data warehouse environment, Proposer will provide advance notice describing upcoming ERD (e.g. database schema) changes so that integration can be modified in advanced.

5.7.7 If proposer’s price for services is tied to any Service Level Agreements (SLAs) outside of the referenced items above in Section 5.4, specify those terms. SLAs shall be listed in terms of support, problem resolution and escalation procedures.

5.8 Training, Support, and Implementation

5.8.1 The successful proposer must provide training and installation support to ensure all new users thoroughly understand the product and become effective as quickly as possible. Thorough and complete online training should be available at no cost.

5.8.2 The successful proposer must provide a detailed work plan on how installation, implementation, and training is provided, and an estimated lead-time for installation, implementation, and training should be provided.

5.9 Transition Services

5.9.1 A Transition-Out Plan will describe the process for transitioning the University’s data to another product in the future, and, in a hosted model, transitioning to another hosting provider. The proposer shall provide a Transition-Out Plan that establishes and contains the transition responsibilities, descriptions and schedules for the required tasks. The purpose of the Transition-Out Plan is to ensure an efficient and effective transition from the proposer to another service provider or product with minimal disruption to operations. The University expects compliance with the following activities in order to meet this requirement:

- No later than 30 calendar days from date of Contract award, contractor must develop an initial, detailed Transition-Out Plan and submit it to the University Project Director for review and approval. The Transition-Out Plan must, at a minimum, include:
- Goals, expectations and specific objectives of the Transition-Out Plan;
- Description of the methodology and approach for transferring data and other information to another service provider;
- Assumptions and dependencies associated with the Transition-Out; and
- Estimated timelines and milestones for specific tasks throughout the Transition-Out Period.

5.9.2 During execution of the approved Transition-Out Plan, the Transition-Out Team (composed of University staff, contractor, and personnel of another service provider) shall meet regularly to review and update the Transition-Out Plan to reflect revisions to schedules, resource requirements, dependencies, and priorities; and to summarize the progress on the Transition-Out Plan to date.

5.9.3 The Transition-Out Plan submitted by the contractor to the University must be reviewed and approved by University project leadership prior to implementation. Any clarifications or modifications to the Transition-Out plan required by the University must be made by Vendor no later than five (5) calendar days from the date of written request.

5.9.4 During a transition-out period, contractor will be required to work cooperatively and expeditiously to transfer the existing responsibilities to the University or another service provider.

5.10 Value Added Benefits

5.10.1 Proposer should provide additional information on features that add additional functionality to the compliance database will be considered when evaluating the proposal. These include, but are not limited to:

- Industrial Hygiene program management
- Green Office/Green Labs program management
- Sustainability programs
- Pollution Prevention Programs
- Surplus/orphaned chemical management
- Air Quality emissions tracking and management

5.10.2 Please provide a summary of any other value added services or programs which may contribute to the overall value of your proposal, including but not limited to:

- Training
- Industry partnerships
- Support of ASU’s Charter and goals

- Support of Sustainable development, veterans’ affairs, initiatives in support of women, wellness, and our changing regional demographics.
- Support and enhance of ASU’s reputation as an innovative, foundational model for the New American University
- Commitment to provide significant financial and non-financial support for the University and its signature programs.
- Other goods or services provided by your company

SECTION VI – GREEN PURCHASING REQUIREMENTS/SPECIFICATIONS

In order to reduce the adverse environmental impact of our purchasing decisions the University is committed to buying goods and services from manufacturers and suppliers who share the University's environmental concern and commitment. Green purchasing is the method wherein environmental and social considerations are taken with equal weight to the price, availability and performance criteria that we use to make purchasing decisions.

Proposer shall use environmentally preferable products, materials and companies where economically feasible. Environmentally preferable products have a less or reduced effect on human health and the environment when compared to other products and companies that serve the same purpose. If two (2) products are equal in performance characteristics and the pricing is within 5%, the University will favor the more environmentally preferable product and company.

If you are citing environmentally preferred product claims, you must provide proper certification or detailed information on environmental benefits, durability and recyclable properties.

The University and the supplier may negotiate during the contract term to permit the substitution or addition of Environmentally Preferable Products (EPPs) when such products are readily available at a competitive cost and satisfy the university's performance needs.

Unless otherwise specified, proposers and contractors should use recycled paper and double-sided copying for the production of all printed and photocopied documents. Furthermore, the documents shall be clearly marked to indicate that they are printed on recycled content (minimum 30% post-consumer waste) paper.

Proposer shall minimize packaging and any packaging/packing materials that are provided must meet at least one of, and preferably all, of the following criteria:

Made from 100% post-consumer recycled materials
Be recyclable
Reusable
Non-toxic
Biodegradable

Further, proposer is expected to pick up packaging and either reuse it or recycle it. This is a requirement of the contract or purchase order.

SECTION VII – PROPOSER QUALIFICATIONS

The University is soliciting proposals from firms, which are in the business of providing services as listed in this Request for Proposal. Your proposal shall include, at a minimum, the following information. Failure to include these items may be grounds for rejection of your proposal.

1. The proposer shall present evidence that the firm or its officers have been engaged for at least the past five (5) years in providing services as listed in this Request for Proposal.

2. The proposer must provide demonstrated experience in consulting and/or implementing large, scalable technology solutions at large institutions. Higher education experience is preferred similar to the size and scope of ASU. The proposer must provide detailed resumes of all developers on staff assigned to this project.

3. All key personnel proposed by the firm should have relevant experience, and be fully qualified to successfully provide the services described in the Scope of Work. Provide an organizational chart that provides organizational sections, with the section that will have responsibility for performing this project clearly noted.

4. Please provide a copy of the resume(s) of the individual(s) that will be the single point of contact between our organization and yours.

5. The proposer must provide a minimum of three (3) references, a description of recent project and/or experience in providing similar services as described in this RFP, including institution size. References should be verifiable and able to comment on the firm's experience, with a preference for references receiving services similar to those described in this Proposal. Include the name, title, telephone number, and email address of the individual at the organization most familiar with the Proposer.

6. Acknowledgement of Section XIV for ASU's Security Review Process. Note: Section XIV of the RFP is intended for proposers to understand ASU's security review processes. The proposer must understand and agree to ASU security assessment requirements if awarded this contract. This section is included only as reference.

7. The proposer must provide an acknowledgement statement that most deliveries to ASU will require delivery to a centralized location for consolidated distribution and must be coordinated with ASU Materials Management. A finalized logistics policy will be implemented during the course of this RFP and contract, and ASU expects the proposer to comply with ASU on a centralized receiving policy once implemented.

8. The proposer must provide a statement of their review and acceptance of ASU's Terms and Conditions included in this RFP under Section XII. **Note: all exceptions with justification and alternative language MUST be submitted with the proposal.**

9. Describe your firm's approach to providing the services described in Section V, as well as the methodology used. Provide a detailed timeline (ex. Gantt Chart), including major milestones, for each of the steps outlined in Section V. Include other steps if appropriate as well as the resources, from both organizations, that will be necessary for a successful implementation.

SECTION VIII – EVALUATION CRITERIA

Proposals will be evaluated on the following criteria, listed in order of their relative priority with most important listed first:

1. Response to Section V – Specifications/Scope of Work (45%)
2. Response to Section IX – Pricing Schedule (20%)
3. Response to Section VII – Proposer Qualifications (15%)
4. Acknowledgment and acceptance of ASU Terms and Conditions (10%)
5. Sustainability Efforts/Sustainability Questionnaire (10%)

Confidential and/or Proprietary Information must be submitted per the instructions in Section IV, item 9. Any watermarks, footnotes or reference to Confidential and/or Proprietary throughout the submitted proposal will be disregarded as boilerplate markings.

SECTION IX – PRICING SCHEDULE

Proposer shall submit a detailed cost proposal to include all aspects of providing the scope of work associated with this Request for Proposal. Any additional costs, fees, and expenses must be detailed in the proposer's proposal. Any additional expenses, not explicitly stated, will not be honored by ASU unless negotiated and agreed upon prior to the start of additional work. ASU is interested in receiving creative and comprehensive pricing matrices, which leverage the proposer's options with regard to the scope and level of service.

The supplier must fill "Attachment A" Pricing sheet for software fees and costs.

If ASU agrees to reimburse vendor for any travel expenses, all reimbursable travel expenses must be authorized in writing by ASU in advance of the planned travel and must be consistent with ASU Financial Services Policy FIN 421-01, www.asu.edu/aad/manuals/fin/fin421-01.html. If ASU agrees to reimburse vendor for any expenses, vendor will submit all receipts and any required backup documentation to ASU within 60 days after the applicable expenses were incurred. ASU will not be required to reimburse Licensor for any expenses, invoices, or receipts for expenses received after that time. Proposer must acknowledge and accept this provision.

SECTION X – FORM OF PROPOSAL/SPECIAL INSTRUCTIONS

Format of Submittal

To facilitate direct comparisons, your proposal must be submitted in the following format:

- **One (1)** clearly marked hardcopy “original” in 8.5” x 11” double-sided, non-binding form. No metal or plastic binding – may use binder, folder, or clip for easy removal of proposal; and

- **One (1) “single”** continuous (no folders) electronic copy (**flash drive only**), PC readable, labeled and no passwords.

- Any confidential and/or proprietary documents must be on a separate flash drive and labeled appropriately.

- Proposer must check all flash drives before submitting. Company marketing materials should not be included unless the Request for Proposal specifically requests them. All photos must be compressed to small size formats.

Content of Submittal

If proposer fails to provide any of the following information, with the exception of the mandatory proposal certifications, the University may, at its sole option, ask the proposer to provide the missing information or evaluate the proposal without the missing information.

1. Mandatory certifications, Voluntary Product Accessibility Template (VPAT) Sustainability Questionnaire and Substitute W-9 as per Section XIII.

2. Acknowledgment and acceptance of ASU Terms and Conditions per Section XII. All exceptions must be submitted with justification and alternate language, and MUST be submitted with the proposal.

3. Response to Section V Specifications/Scope of Work (15 pages maximum)

4. Response to Section VII Proposer Qualifications (10 pages maximum, not including resumes/CVs)

5. Pricing Schedule per Section IX and pricing using format specified (Attachment A)

SECTION XI – PROPOSER INQUIRY FORM

Pre-Proposal Questions, General Clarifications, etc.

PROJECT NAME: Hazardous Materials Inventory Compliance and Data Management Suite

PROPOSAL NUMBER: RFP 341902

INQUIRY DEADLINE: 3:00 P.M., MST, September 28, 2018

QUESTIONS ON: _____ ORIGINAL PROPOSAL or _____ ADDENDUM NO. _______________

DATE: ______________________________

WRITER: ______________________________

COMPANY: ______________________________

E-MAIL ADDRESS: ______________________________

PHONE: ______________________________ FAX: ______________________________

QUESTIONS:

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SECTION XII – AGREEMENT - TERMS & CONDITIONS

The following terms and conditions will be incorporated into the contract between the University and the successful proposer. **Proposals that are contingent upon any changes to these mandatory contract terms and conditions may be deemed nonresponsive and may be rejected.** All exceptions must be submitted with justification and alternate language, and MUST be submitted with the proposal. In no event is a Proposer to submit its own standard contract terms and conditions as a response to this RFP.

ARIZONA STATE UNIVERSITY AGREEMENT FOR HAZARDOUS MATERIALS INVENTORY COMPLIANCE & DATA MANAGEMENT

These Terms and Conditions (T&Cs) apply to the following (collectively, the PO): written offers, purchase orders, and other documents issued by **the Arizona Board of Regents for and on behalf of Arizona State University** (ASU) to _________ (Supplier) for furnishing equipment, materials, or supplies (Goods) and/or services (Services) to ASU (the Goods/Services) pursuant to RFP 341902 for Hazardous Materials Inventory Compliance and Data Management. These T&Cs together with the PO, any other written agreements signed by both parties, and any other documents incorporated by reference therein or herein will constitute the Agreement. Any terms not defined in these T&Cs will have the meanings set forth in the Agreement.

1. **Offer and Acceptance.** The PO is subject to cancellation by ASU at any time prior to acceptance by Supplier. Supplier accepts all of the Agreement's terms and conditions, without qualification, upon the sooner of the following: 1) any written acceptance by Supplier; or 2) shipment, delivery, or performance of all or any of the Goods/Services. Any term or condition in any invoice, offer, or other document issued by Supplier that modifies, adds to, or changes these T&Cs or the PO is rejected, and will not be part of the Agreement unless agreed by ASU inwriting.

2. **Order of Precedence.** In the event of an inconsistency or conflict between or among the provisions of the Agreement, the inconsistency or conflict will be resolved by giving precedence in the following order: i) the PO; ii) these T&Cs; and iii) any other agreement or document signed by authorized signatories of both the parties.

3. **Modifications**. Any modification to the PO, including changes to quantity, price, terms of payment, delivery terms, specifications, etc. must be in an updated PO signed by the parties. If a delivery must differ from the PO, do not ship, deliver, or perform the Goods/Services and instead contact the appropriate ASU Buyer.

4. **Term and Termination**

   a. The Term of the Agreement is for one year, with the option to renew up to four successive one year terms. If the Agreement is silent as to the Term, the Term will extend from the date of acceptance of the Agreement by Supplier to the final delivery, acceptance, and payment of the Goods/Services. The Term will not exceed 5 years. Following the initial Term, the Agreement may be extended by mutual written agreement.

   b. ASU may terminate the Agreement, with or without cause, upon 30 days written notice to Supplier. Upon termination, Supplier will refund to ASU all prepaid amounts for Goods/Services not delivered or performed. If the Agreement is terminated pursuant to this section, ASU will pay Supplier, as full compensation under the Agreement:(1) the portion of Goods/Services delivered or performed and accepted prior to the termination based on the unit prices in the Agreement, or, if no unit prices are provided, the pro rata amount of the total order price based on the amount delivered or performed; and (2) a reasonable amount, not otherwise recoverable from other sources by Supplier, and as approved by ASU, with respect to the undelivered, unperformed, or unacceptable portion of the Good/Services. In no event will compensation paid previously under the Agreement together with compensation paid under this section exceed the total PO or Agreement price.

   c. ASU may terminate the Agreement, in whole or in part, if Supplier defaults on any of its obligations in the Agreement and fails to cure such default within 7 days after receiving notice of default from ASU. In the event of such a default, ASU may procure the Goods/Services from other sources and Supplier will be liable to ASU for any excess costs ASU incurs.

d. ASU may terminate the Agreement at any time if Supplier files a petition in bankruptcy, or is adjudicated bankrupt; or if a petition in bankruptcy is filed against Supplier and not discharged within 30 days; or if Supplier becomes insolvent or makes an assignment for the benefit of its creditors or an arrangement pursuant to any bankruptcy law; or if a receiver is appointed for Supplier or its business.

5. **Prices**. All Prices will be as listed in the PO or, if not listed in the PO, will be as otherwise set forth in the Agreement. Unless otherwise specified in the Agreement: 1) all prices are in US Dollars; 2) prices include any cost for shipping, packaging, shipping insurance, and handling; and 3) prices will include any travel, labor, interest, import/export fees, and other costs associated with providing the Goods/Services.

6. **Settlement Method and Terms.** Payment will be subject to the provisions of Title 35 of the Arizona Revised Statutes (ARS), as amended from time to time, relating to time and manner of submission of claims. ASU's obligation will be payable only and solely from funds appropriated for the purpose of the Agreement. After delivery and acceptance of the Goods/Services, Supplier will submit an acceptable invoice to ASU. Invoices must be itemized, reference the Agreement or PO number, and include sufficient detail to document the invoiced amount. Unless otherwise specified on the PO, ASU will pay Supplier for the Goods/Services delivered and accepted net 45 days after receipt by ASU of an invoice meeting the requirements of this section.

7. **Taxes.** Unless otherwise specified in the Agreement, prices will include all taxes and fees, including, without limitation, sales, use, or excise taxes, import duties, value added taxes, permit fees, license fees, or similar charges (Taxes). Taxes do not include ASU income taxes or taxes related to ASU’s employees.

8. **Inspection.** Supplier will supply the Goods/Services to ASU exactly as specified in the Agreement. The Goods/Services will meet the highest and best industry practices. ASU will have the right to inspect any Goods/Services prior to and a reasonable amount of time after delivery. If ASU determines that any Goods/Services are incomplete, defective, or not in compliance with the specifications or other requirements of the Agreement, ASU may reject such Goods/Services.

9. **Warranties.** In addition to any implied warranties, Supplier warrants to ASU that: 1) the Goods/Services will be free from any defects in design, workmanship, materials, or labor; 2) all of the Services will be performed in a professional and workmanlike manner and in conformity with highest and best industry standards by persons reasonably suited by skill, training and experience for the type of services they are assigned to perform; 3) Supplier will comply, and will be responsible for ensuring the Supplier Parties (as defined below) comply, with all applicable laws, rules, and regulations in the performance of the Agreement; 4) Supplier owns or has sufficient rights in the Goods/Services that they do not infringe upon or violate any Intellectual Property (as defined below) of any third parties, and are free and clear of any liens, claims, or encumbrances; 5) any data, code, or software developed or delivered by Supplier to ASU will not contain any viruses, worms, Trojan Horses, or other disabling devices or code; 6) all sensitive data, personal data, and personally identifiable data, as those terms may be defined in applicable laws (PII) provided by Supplier to ASU was obtained legally, and Supplier has obtained all requisite permissions from the individuals whose PII is being provided for (a) Supplier to provide the PII to ASU, and (b) ASU to use the PII for the purposes and in the jurisdictions set forth in the Agreement; 7) the prices of Goods/Services in the Agreement are the lowest prices at which these or similar goods or services are sold by Supplier to similar customers; in the event of any price reduction between execution of the Agreement and delivery of any Goods/Services, ASU shall be entitled to such reduction; and 8) all Goods/Services delivered by Supplier will conform to the specifications, drawings, and descriptions set forth in the Agreement, and to the samples furnished by the Supplier, if any. In the event of a conflict among the specifications, drawings, and descriptions, the specifications will govern.

10. **Indemnification**. Supplier will indemnify, defend, save and hold harmless the State of Arizona, its departments, agencies, boards, commissions, universities, and its and their officials, agents and employees (collectively, Indemnitee) for, from, and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys’ fees, and costs of claim processing, investigation, and litigation) for bodily injury or personal injury (including death), or loss or damage to tangible or intangible property to the extent caused, or alleged to be caused, by (i) the negligent or willful acts or omissions of Supplier, or any of its owners, officers, directors, members, managers, agents, employees, contractors or subcontractors (the Supplier Parties); (ii) a breach of the Agreement; or (iii) failure to comply with any applicable law, rule, or regulation. Supplier will be responsible for primary loss investigation, defense and

judgment costs where this indemnification is applicable.

11. **Responsibility.** Each party is responsible for the negligent or willful acts or omissions of its employees and contractors when acting under such party's direction and supervision. ASU recognizes an obligation to pay attorneys' fees or costs only when assessed by a court of competent jurisdiction. Notwithstanding the terms of the Agreement or any other document: (i) other than for employees and contractors acting under ASU's direction and supervision, ASU is not responsible for any actions of any third parties, including its students; and (ii) no person may bind ASU unless they are an authorized signatory in PUR-202

12. **Intellectual Property Ownership**. Neither Supplier nor any Supplier Parties will make, conceive, discover, develop or create, either solely or jointly with any other person or persons including ASU, any Intellectual Property specifically for or at the request of ASU in connection with this Agreement (Contract IP). However, to the extent any Contract IP is created, it will be owned by ASU and Supplier hereby irrevocably assigns, and will cause all Supplier Parties to so assign, without further consideration, to ASU all right, title, and interest to all Contract IP. Intellectual Property means any and all ASU Data, inventions, designs, original works of authorship, formulas, processes, compositions, programs, databases, data, technologies, discoveries, ideas, writings, improvements, procedures, techniques, know-how, and all patent, trademark, service mark, trade secret, copyright, and other intellectual property rights (and goodwill) relating to the foregoing. Supplier will make full and prompt disclosure of the Contract IP to ASU.

13. **Supplier's Intellectual Property**. Supplier will retain ownership of its pre-existing Intellectual Property, including any that may be incorporated into the Contract IP, provided that Supplier informs ASU in writing before incorporating any pre-existing Intellectual Property into any Contract IP. Supplier hereby grants to ASU a perpetual, irrevocable, royalty-free, worldwide right and license (with the right to sublicense), to freely use, make, have made, reproduce, disseminate, display, perform, and create derivative works based on such pre-existing Intellectual Property as may be incorporated into the Contract IP or otherwise provided to ASU in the course of performing under the Agreement.

14. **Data Use, Ownership, and Privacy**. The terms of this section apply if Supplier receives, has access to, stores, or analyzes any ASU Data (as defined below). As between the parties, ASU will own, or retain all of its rights in, all data and information that ASU provides to Supplier, as well as all data and information managed by Supplier on behalf of ASU, including all output, reports, analyses, and other materials relating to, derived from, or generated pursuant to the Agreement, even if generated by Supplier, as well as all data obtained or extracted through ASU's or Supplier's use of such data or information (collectively, ASU Data). ASU Data also includes all data and information provided directly to Supplier by ASU students and employees, and includes personal data, metadata, and user content. ASU Data will be ASU's Intellectual Property and Supplier will treat it as ASU Confidential Information (as defined below). Supplier will not use, access, disclose, or license, or provide to third parties, any ASU Data, except: (i) to fulfill Supplier's obligations to ASU hereunder; or (ii) as authorized in writing by ASU. Without limitation, Supplier will not use any ASU Data, whether or not aggregated or de-identified, for product development, marketing, profiling, benchmarking, or product demonstrations, without, in each case, ASU's prior written consent. Supplier will not, directly or indirectly: (x) attempt to re-identify or de- aggregate de-identified or aggregated information; or (y) transfer de-identified and aggregated information to any third party unless that third party agrees not to attempt re-identification or de-aggregation. For ASU Data to be considered de-identified, all direct and indirect personal identifiers must be removed, including names, ID numbers, dates of birth, demographic information, location information, and school information. Upon request by ASU, Supplier will deliver, destroy, and/or make available to ASU, any or all ASU Data.

    Notwithstanding the foregoing, if the Agreement allows Supplier to provide aggregated and de-identified data to third parties, then Supplier may provide such data solely to the extent allowed in the Agreement, and, unless otherwise stated herein, only if such data is aggregated with similar data of others (i.e. is not identified as ASU, ABOR, or Arizona-specific).

15. **Nondisclosure and Trade Secrets**. Supplier may receive (or has received) from ASU and otherwise be exposed to confidential and proprietary information relating to ASU's business practices, strategies, and technologies, ASU Data, as well as confidential information of ASU necessary to perform and/or provide the Goods/Services (collectively, ASU Confidential Information). ASU Confidential Information may include, but is not limited to, confidential and proprietary information supplied to Supplier with the legend "ASU Confidential and Proprietary," or other designations of confidentiality. As between Supplier and ASU, the ASU Confidential Information is the sole, exclusive, and valuable property of ASU. Accordingly, Supplier will not reproduce or otherwise use any of the ASU Confidential Information except in the performance or provision of the Goods/Services, and will not disclose any of the ASU Confidential

Information in any form to any third party, either during or after the Term, except with ASU's prior written consent. Upon termination of the Agreement, Supplier will cease using, and will return to ASU, all originals and all copies of the ASU Confidential Information, in all forms and media, in Supplier's possession or under Supplier's control. In addition, Supplier will not disclose or otherwise make available to ASU any confidential information of Supplier or received by Supplier from any third party.

Supplier will have no obligation to maintain as confidential as ASU Confidential Information (other than ASU Data) that Supplier can show: (i) was already lawfully in the possession of or known by Supplier before receipt from ASU; (ii) is or becomes generally known in the industry through no violation of the Agreement or any other agreement between the parties; (iii) is lawfully received by Supplier from a third party without restriction on disclosure or use; (iv) is required to be disclosed by court order following notice to ASU sufficient to all ASU to contest such order; or (v) is approved in writing by ASU for release or other use by Supplier.

16. **Information Security.** The terms of this section apply to the extent: 1) ASU is purchasing or leasing software, or processing a software renewal; 2) Supplier is creating any code for ASU; 3) Supplier receives, stores, or analyzes ASU Data (including if the data is not online); OR 4) Supplier is hosting, or managing by infrastructure outside of ASU, including in the cloud, ASU Data. This section applies to Goods/Services delivered or performed by subcontractors at all tiers and to all ASU Data.

All systems containing ASU Data must be designed, managed, and operated in accordance with information security best practices and in compliance with all applicable laws, rules, and regulations. To diminish information security threats, Supplier will (either directly or through its third party service providers) meet the following requirements:

a. Access Control. Control access to ASU's resources, including ASU Data, limiting access to legitimate business need based on an individual's job-related assignment. Supplier will, or will cause the system administrator to, approve and track access to ensure proper usage and accountability, and Supplier will make such information available to ASU for review, upon ASU's request.

b. Incident Reporting. Report information security incidents immediately to ASU (including those that involve information disclosure incidents, unauthorized disclosure of ASU Data, network intrusions, successful virus attacks, unauthorized access or modifications, and threats and vulnerabilities).

c. Off Shore. Direct Services that may involve access to ASU Data or personal client data or development or modification of software for ASU, will be performed within the borders of the United States. Unless stated otherwise in the Agreement, this requirement does not apply to indirect or "overhead" services, redundant back-up services or services that are incidental to the performance of the Agreement.

d. Patch Management. Carry out updates and patch management for all systems and devices in a timely manner and to the satisfaction of ASU. Updates and patch management must be deployed using an auditable process that can be reviewed by ASU upon ASU's request.

e. Encryption. All systems and devices that store, process or transmit sensitive ASU Data must use an industry standard encryption protocol for data in transit and at rest.

f. Notifications. Notify ASU immediately if Supplier receives any kind of subpoena for or involving ASU Data, if any third party requests ASU Data, or if Supplier has a change in the location or transmission of ASU Data. All notifications to ASU required in this Information Security paragraph will be sent to ASU Information Security at Infosec@asu.edu, in addition to any other notice addresses in the Agreement.

g. Security Reviews. Complete SOC2 Type II or substantially equivalent reviews in accordance with industry standards, which reviews are subject to review by ASU upon ASU's request. Currently, no more than two reviews per year are required.

h. Scanning and Penetration Tests. Perform periodic scans, including penetration tests, for unauthorized applications, services, code and system vulnerabilities on the networks and systems included in the Agreement in accordance with industry standards and ASU standards (as documented in NIST 800-115) or equivalent. All web-based applications (e.g. HTTP/HTTPS accessible URLs, APIs, and web services) are required to have their own web application security scan and remediation plan. Supplier must correct weaknesses withina reasonable period of time, and Supplier must provide proof of testing to ASU upon ASU's request.

i. ASU Rights. ASU reserves the right (either directly or through third party service providers) to scan and/or penetration test any purchased and/or leased software regardless of where it resides.

Secure Development. Use secure development and coding standards including secure change management procedures in accordance with industry standards. Perform penetration testing and/or scanning prior to releasing new software versions. Supplier will provide internal standards and procedures to ASU for review upon ASU request.

17. **End User Licenses.** The terms of this section apply if the Goods/Services include software or other computer programs or applications that require acceptance of a clickwrap, click-through, end user license, or other similar agreement (End User Agreement) prior to the use of the software. If Supplier requires ASU's individual users to accept an End User Agreement, the terms of the End User Agreement that conflict or are inconsistent, with the terms of the Agreement or ASU's Privacy Policy will be null and void.

18. **Background Checks**. Supplier will exclude from any direct participation in Supplier's performance under the Agreement, any unqualified persons. In addition, at the request of ASU, Supplier will, at Supplier's expense, conduct reference checks and employment, education, SSN trace, National Sex Offender Registry, and criminal history record checks (collectively, Screenings) on requested persons employed or contracted by Supplier to perform work under the Agreement. Supplier will maintain as part of the records Supplier is required to maintain hereunder, all Screening information and all documentation relating to work performance for each employee or contractor who performs work hereunder. Supplier will abide by all applicable laws, rules and regulations including the Fair Credit Reporting Act and any equal opportunity laws, rules, and regulations.

19. **Americans with Disabilities Act and Rehabilitation Act**. To the extent applicable, Supplier will comply with all applicable provisions of the Americans with Disabilities Act, the Rehabilitation Act of 1973, and all applicable federal regulations, as amended from time to time (ADA Laws). All electronic and information technology and products and services to be used by ASU faculty/staff, students, program participants, or other ASU constituencies must be compliant with ADA Laws. Compliance means that a disabled person can acquire the same information, engage in the same interactions, and enjoy the same services as a nondisabled person, in an equally effective and integrated manner, with substantially equivalent ease ofuse.

20. **Foreign Corrupt Practices Act/UK Bribery Act/ Local Anti-corruption Law Compliance.** Supplier warrants that it is familiar with the U.S. laws prohibiting corruption and bribery under the U.S. Foreign Corrupt Practices Act and the United Kingdom laws prohibiting corruption and bribery under the UK Bribery Act. In connection with Supplier's work under the Agreement, Supplier will not offer or provide money or anything of value to any governmental official or employee or any candidate for political office in order to influence their actions or decisions, to obtain or retain business arrangements, or to secure favorable treatment in violation of the Foreign Corrupt Practices Act, the UK Bribery Act, or any other local anti-corruption law, either directly or indirectly. Any breach of the U.S. Foreign Corrupt Practices Act, the UK Bribery Act, or other local anti-corruption law, will be a material breach of the Agreement.

21. **Export Controls.** If any of the Goods/Services are export-controlled under the U.S. Export Administration Regulations, U.S. International Traffic in Arms Regulations, or through the sanctions and embargoes established through the Office of Foreign Assets Control (collectively, the Export Control Laws), Supplier will provide ASU with written notification that identifies the export-controlled Goods/Services and such Goods/Services export classification. None of the work undertaken pursuant to the Agreement will require either party to take or fail to take any action that would cause a violation of any of the Export Control Laws. The parties will cooperate to facilitate compliance with applicable requirements of the Export Control Laws.

22. **Assignment**. Supplier may not transfer or assign the Agreement or any of Supplier's rights or obligations thereunder, either directly or indirectly, or by operation of law, without ASU's prior written consent, and any attempt to the contrary will be void.

23. **Governing Law and Venue**. The Agreement will be governed by the laws of the State of Arizona without regard to any

conflicts of laws principles. ASU's obligations hereunder are subject to the regulations/policies of the Arizona Board of Regents. Any proceeding arising out of or relating to the Agreement will be conducted in Maricopa County, Arizona. Each party consents to such jurisdiction, and waives any objection it may now or hereafter have to venue or to convenience of forum.

24. **Packaging.** Supplier will package the Goods in accordance with good commercial practice. Each shipping container will be clearly and permanently marked as follows: (i) Supplier's name and address; (ii) ASU's name, address, and purchase order number; (iii) container number and total number of containers, e.g., box 1 of 4 boxes; and (iv) the number of the container bearing the packing slip. Supplier will bear cost of packaging unless otherwise provided.

25. **Shipment Under Reservation Prohibited.** Supplier will not ship the Goods under reservation and no tender of a bill of lading will operate as a tender of the Goods.

26. **Title and Risk of Loss.** The title and risk of loss of the Goods will not pass to ASU until they are delivered, received, and the contract of coverage has been completed. All risk of transportation and all related charges will be the responsibility of Supplier. Supplier will insure and file all claims for visible and concealed damage. ASU will notify Supplier promptly of any damaged Goods and will assist Supplier in arranging for inspection. Notice of rejection may be made to Supplier at any time within 1 month after delivery to ASU.

27. **No Replacement of Defective Tender.** Every tender of Goods will fully comply with all provisions of the Agreement as to time of delivery, quantity, quality, and the like. If a tender is made that does not fully conform, this will constitute a breach and Supplier will not have the right to substitute a conforming tender.

28. **Force Majeure.** Neither party will be held responsible for any losses resulting if the fulfillment of any terms or provisions of the Agreement are delayed or prevented by any cause not within the control of the party whose performance is interfered with, and which by the exercise of reasonable diligence, the party is unable to prevent. The party impacted by the force majeure will take commercially practicable actions to mitigate the impact of the force majeure.

29. **Business Continuity Plan**. If requested by ASU, Supplier will provide to ASU, within 30 days after such request, a comprehensive plan for continuing the performance of its obligations during a Public or Institutional Emergency (the Business Continuity Plan). The Business Continuity Plan, at a minimum, will address the following: 1) identification of response personnel by name; 2) key succession and performance responses in the event of sudden and significant decrease in workforce; and 3) contingency plans for the Supplier to continue the performance of its obligations under the Agreement, despite the emergency. In the event of a Public or Institutional Emergency, Supplier will implement the applicable actions set forth in the Business Continuity Plan and will make other commercially practicable efforts to mitigate the impact of the event. For clarification of intent, being obliged to implement the plan is not of itself an occurrence of force majeure, and Supplier will not be entitled to any additional compensation or extension of time by virtue of having to implement it, unless otherwise agreed to by ASU in writing. A Public or Institutional Emergency will mean a natural or manmade event that creates a substantial risk to the public, that causes or threatens death or injury to the general public, or that causes a significant disruption to the day-to-day business operations of ASU.

30. **Gratuities.** Supplier will not give or offer any gratuities, in the form of entertainment, gifts or otherwise, or use an agent or representative of Supplier to give or offer a gratuity, to any officer or employee of the State of Arizona with a view toward securing an agreement or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such Agreement. If ASU determines that Supplier has violated this section, ASU may, by written notice to Supplier cancel the Agreement. If the Agreement is canceled by ASU pursuant to this section, ASU will be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the costs incurred by Supplier in providing gratuities.

31. **Modifications.** The Agreement may be modified or rescinded only by a writing signed by authorized signatories of both parties.

32. **Interpretation-Parol Evidence.** The Agreement is intended by the parties as a final expression of their agreement and is intended to be a complete and exclusive statement of the terms of their agreement. No course of prior dealings between the parties and no usage of the trade will be relevant to supplement or explain any term used in the Agreement.

Acceptance or acquiescence in a course of performance rendered under the Agreement will not be relevant to determine the meaning of the Agreement even though the accepting or acquiescing party has knowledge of the nature of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code is used in the Agreement, the definition contained in the Code, as adopted by the state of Arizona, willcontrol.

33. **No Waiver**. No waiver by ASU of any breach of the provisions of the Agreement by Supplier will be construed to be a waiver of any future breach or bar ASU's right to insist on strict performance of theAgreement.

34. **Labor Disputes.** Supplier will give prompt notice to ASU of any actual or potential labor dispute that delays or may delay performance of the Agreement.

35. **Assignment of Anti-Trust Overcharge Claims.** In actual economic practice, overcharges resulting from anti-trust violations are borne by the ultimate purchaser. Therefore, Supplier hereby assigns to ASU any and all claims for such overcharges.

36. **Sales and Use Tax.** Supplier will comply, and require all of the Supplier Parties to comply, with all applicable state and sales excise tax laws and compensation use tax laws and all amendments to same. Supplier will indemnify, defend, and hold harmless ASU, for, from, and against any and all claims and demands made against it by virtue of the failure of Supplier or any subcontractor to comply with the provisions of any or all tax laws and amendments. ASU is not exempt from state sales excise tax and compensation use tax.

37. **Rights to Inventions Made Under an Agreement or Agreement.** Agreements for the performance of experimental, developmental, or research work will provide for the rights of the United States government and the recipient in any resulting invention, in accordance with 37 CFR part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Agreements and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

38. **Parking**. Supplier will obtain all parking permits and/or decals required while performing any work on ASU premises. If needed, Supplier should contact ASU Parking and Transit, http://cfo.asu.edu/pts.

39. **Campus Deliveries and Mall Access**. Supplier will familiarize itself with ASU parking, campus delivery options, and loading zones. Not all campus buildings are directly accessible and some require Supplier to unload at lots or loading areas that may not be adjacent to the delivery or work location. As a result, Supplier must then transport Goods by using electric style golf carts, dolly, or other manual device across pedestrian malls. Many campuses include features and pedestrian malls that may have limited access for Supplier vehicle and carts. Walk-Only Zones prohibit access to all wheeled traffic during enforcement times, and deliveries or work requiring vehicular or cart access may need to be arranged outside of enforcement times. For details about parking permits, supplier permits, loading zones, mall access, and pedestrian mall restrictions, go to http://cfo.asu.edu/pts. For additional information, go to http://walk.asu.edu.

40. **Liens.** All Goods/Services delivered and performed under the Agreement will be free of all liens and, if ASU requests, Supplier will deliver to ASU a formal release of all liens.

41. **Performance and Payment Bonds.** At the request of ASU, Supplier will provide and pay for performance and payment bonds. Bonds will cover the faithful performance (100%) of the Agreement and the payment of all obligations (100%) thereunder, in such form as ASU may prescribe. Supplier will deliver the required bonds to ASU not later than the date of executing the Agreement. Supplier will require the attorney in fact who executes the required bonds on behalf of surety to affix thereto a certified and current copy of his/her power of attorney indicating the monetary limit of such power. Surety will be a company licensed to do business in the State of Arizona and will be acceptable to ASU. Supplier will increase the bond amount to include any change order, at 100% of the total value amount of each change order.

42. **Price Adjustment.** ASU normally considers price changes at the end of one contract period and the beginning of another. Price change requests will be supported by evidence of increased costs to Supplier. ASU will not approve price increases that will merely increase gross profitability of Supplier at the expense of ASU. Price change requests will be a factor in the contract extension review process. ASU will determine whether any requested price increase or an alternate option is in the best interest of ASU. Any price adjustment to the Agreement will require an updated PO.

43. **Academic Freedom and Accreditation.** ASU will maintain ultimate authority over all curriculum. Nothing in the Agreement will limit ASU's academic freedom or require ASU to violate any of the policies, standards, and requirements of ABOR or any accrediting entities.

44. **Essence of Time.** Time will be of the essence as to matters contemplated by the Agreement.

45. **Non-Discrimination.** The parties will comply with all applicable laws, rules, regulations, and executive orders governing equal employment opportunity, immigration, and nondiscrimination, including the Americans with Disabilities Act. **If applicable, the parties will abide by the requirements of 41 CFR §§ 60- 1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.**

46. **Conflict of Interest**. If within 3 years after the execution of the Agreement, Supplier hires as an employee or agent any ASU representative who was significantly involved in negotiating, securing, drafting, or creating the Agreement, then ASU may cancel the Agreement as provided in ARS § 38-511.

47. **Arbitration.** The parties agree to arbitrate disputes filed in Arizona Superior Court that are subject to mandatory arbitration pursuant to ARS § 12-133.

48. **Dispute Resolution.** If a dispute arises under the Agreement, the parties will exhaust all applicable administrative remedies provided for under Arizona Board of Regents Policy 3-809.

49. **Records**. To the extent required by ARS § 35-214, Supplier will retain all records relating to the Agreement. Supplier will make those records available at all reasonable times for inspection and audit by ASU or the Auditor General of the State of Arizona during the term of the Agreement and for 5 years after the completion of the Agreement. The records will be provided at ASU in Tempe, Arizona, or another location designated by ASU on reasonable notice to Supplier.

50. **Failure of Legislature to Appropriate**. In accordance with ARS § 35-154, if ASU's performance under the Agreement depends on the appropriation of funds by the Arizona Legislature, and if the Legislature fails to appropriate the funds necessary for performance, then ASU may provide written notice of this to Supplier and cancel the Agreement without further obligation of ASU. Appropriation is a legislative act and is beyond the control of ASU.

51. **Weapons, Explosives, and Fireworks**. ASU's Weapons, Explosives, and Fireworks Policy prohibits the use, possession, display or storage of any weapon, explosive device or fireworks on all land and buildings owned, leased, or under the control of ASU or its affiliated entities, in all ASU residential facilities (whether managed by ASU or another entity), in all ASU vehicles, and at all ASU or ASU affiliate sponsored events and activities, except as provided in ARS § 12- 781, or unless written permission is given by ASU's Police Chief or a designated representative. Supplier will notify all persons or entities who are employees, officers, subcontractors, consultants, agents, guests, invitees or licensees of Supplier of this policy and Supplier will enforce this policy against all such persons and entities.

52. **Confidentiality**. ASU, as a public institution, is subject to ARS §§ 39-121 to 39-127 regarding public records. Any provision regarding confidentiality is limited to the extent necessary to comply with Arizona law.

53. **Indemnification and Liability Limitations**. Because ASU is a public institution, any indemnification, liability limitation, releases, or hold harmless provisions are limited as required by Arizona law, including Article 9, Sections 5 and 7 of the Arizona Constitution and ARS §§ 35-154 and 41-621. ASU's liability under any claim for indemnification is limited to claims for property damage, personal injury, or death to the extent caused by acts or omissions of ASU.

54. **Advertising, Publicity, Names and Marks**. Supplier will not do any of the following, without, in each case, ASU's prior written consent: (i) use any names, service marks, trademarks, trade names, logos, or other identifying names, domain names, or identifying marks of ASU (ASU Marks), including online, advertising, or promotional purposes; (ii) issue a

press release or public statement regarding the Agreement; or (iii) represent or imply any ASU endorsement or support of any product or service in any public or private communication. Any permitted use of ASU Marks must comply with ASU's requirements, including using the ® indication of a registered mark.

55. **Privacy; Educational Records**. Student educational records are protected by the U.S. Family Educational Rights and Privacy Act, 20 U.S.C. § 1232g and its implementing regulations (FERPA). Supplier will not require any ASU students or employees to waive any privacy rights (including under FERPA or the European Union's General Data Protection Regulation (GDPR)) as a condition for receipt of any educational services, and any attempt to do so will be void. Supplier will comply with FERPA and will not access or make any disclosures of student educational records to third parties without prior notice to and consent from ASU or as otherwise provided by law. If the Agreement requires or permits Supplier to access or release any student records, then, for purposes of the Agreement only, ASU designates Supplier as a "school official" for ASU under FERPA, as that term is used in FERPA. In addition, any access or disclosures of student educational records made by Supplier or any Supplier Parties must comply with ASU's definition of legitimate educational purpose in SSM 107-01: Release of Student Information, at http:asu.edu/aad/manuals/ssm/ssm107-01.html. If Supplier violates the terms of this section, Supplier will immediately provide notice of the violation to ASU.

56. **Data Protection.** Supplier will ensure that all services undertaken pursuant to the Agreement are performed in compliance with applicable privacy and data protection laws, rules, and regulations. If Supplier will serve as a Processor of ASU Data that includes Personal Data of Data Subjects who reside in the European Union, Supplier will cooperate with ASU to comply with the GDPR with respect to such Personal Data and Data Subjects. This includes ensuring that all Data Subjects have signed appropriate Consents, and signing and complying with all documents and agreements reasonably requested by ASU, including any data processing agreements. All capitalized terms in this section not otherwise defined in the Agreement are defined in the GDPR.

57. **Authorized Presence Requirements**. As required by ARS § 41-4401, ASU is prohibited from awarding a contract to any contractor or subcontractor that fails to comply with ARS § 23-214(A) (verification of employee eligibility through the e-verify program). Supplier warrants that it and its subcontractors comply fully with all applicable immigration laws, rules, and regulations that relate to their employees and their compliance with ARS § 23-214(A). A breach of this warranty will be a material breach of the Agreement that is subject to penalties up to and including termination of the Agreement. ASU retains the legal right to inspect the papers of any contractor or subcontractor employee who works hereunder to ensure that the contractor or subcontractor is complying with the above warranty.

58. **Small Business.** If subcontracting (Tier 2 and higher) is necessary, Supplier will make commercially reasonable efforts to use Small Business (SB) and Small Diverse Business (SDB) in the performance of the Goods/Services. ASU may request a report at each annual anniversary date and at the completion of the Agreement indicating the extent of SB and SDB participation.

59. **Tobacco Free.** ASU is tobacco-free. For details visit www.asu.edu/tobaccofree.

60. **Title IX Obligation**. Title IX protects individuals from discrimination based on sex, including sexual harassment. ASU fosters a learning and working environment built on respect and free of sexual harassment. ASU's Title IX Guidance is available online. Supplier will: (i) comply with ASU's Title IX Guidance; (ii) provide ASU's Title IX Guidance to any Supplier Parties reasonably expected to interact with ASU students or employees, in person or online; and (iii) ensure that all Supplier Parties comply with ASU's Title IX Guidance.

61. **No Boycott of Israel**. As required by ARS § 35-393.01, Supplier certifies it is not currently engaged in a boycott of Israel and will not engage in a boycott of Israel during the Term.

62. **Survival Clause.** All provisions of the Agreement that anticipate performance after the termination of the Agreement, and all provisions necessary or appropriate to interpret and enforce such provisions, will survive termination of the Agreement.

63. **Recordings; Use of Name and Likeness**. The terms of this section apply if Supplier is providing a speaking engagement or performance (Presentation) as part of the Agreement. Both parties mayrecord the Presentation for internal records. No recording of the Presentation, either visual or audio, will be made by or on behalf of Supplier for

the purposes of profit or significant distribution without prior written approval from ASU. ASU may require an additional payment for the privilege, and may require Supplier to sign a filming/recording agreement. ASU may record the Presentation on video tape, audio tape, film, photograph or any other medium, use Supplier's name, likeness, voice and biographical material in connection with these recordings for purposes within the ASU mission, including education and research, and exhibit or distribute the recording in whole or in part without restrictions or limitation for any educational or promotional purpose that ASU deems appropriate.

64. **No Revenue Sharing**. The terms of this section apply if Supplier is providing a speaking engagement or performance (Presentation) for an ASU sponsored event (Event) as part of the Agreement. Supplier will not participate in any revenues associated with the Presentation or Event. This includes: sponsorship, ticketing, ticketing fees, ASU concessions revenues, and any other revenue streams that may be associated with the Event.

65. **Insurance Requirements**. Without limiting any liability of or any other obligation of Supplier, Supplier will purchase and maintain (and cause its subcontractors to purchase and maintain), until all of their obligations have been discharged or satisfied, including any warranty periods under the Agreement, insurance against claims that may arise from or in connection with the performance of the work hereunder by Supplier, its agents, representatives, employees or subcontractors, as described at Exhibit A.

66. **Federal Funding Provisions.** If the Agreement involves the use of United States federal funds, including from a government grant or funds from a subcontract at any tier relating to a federal government grant, the following terms apply to the Agreement:

   a. **Byrd Anti-Lobbying Amendment**. If the Agreement is for $100,000 or more, Supplier will file the certifications required by 31 U.S.C 1352 and associated regulations. Each tier certifies to the tier above that it will not or has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. 1352. Each tier will also disclose any lobbying with non-federal funds that takes place in connection with obtaining a federal award. Such disclosures are forwarded from tier to tier up to ASU.

   b. **Debarment & Suspension**. Supplier represents and warrants that neither it nor any of its subcontractors supplying the Goods/Services have either directly or indirectly or through subcontractors, been suspended, debarred, or otherwise excluded from participation in or penalized by any federal or state procurement, non-procurement, or reimbursement program. Supplier affirms that it has confirmed the above statement by checking The System for Award Management (SAM) www.uscontractorregistration.com within 180 days prior to commencing work under the Agreement. Supplier will provide immediate written notice to ASU upon learning that it or any of its subcontractors are under any investigation or proposed action that could result in such exclusion, suspension, or debarment.

67. **Government Subcontract Provisions.** If this order is a subcontract under a U.S. government prime contract, the clauses contained in the following paragraphs of the Federal Procurement Regulations (FPR) or the Armed Services Procurement Regulations (ASPR) are incorporated into the Agreement by this reference. Each regulation contains criteria for determining applicability of the regulation to a particular contract.

   In the following clauses, the terms "Government" and "Contracting Officer" will mean ASU; the term "Agreement" will mean the Agreement and the term "Contractor" will mean Supplier. Supplier will comply with all applicable federal laws and regulations, including but not limited to Uniform Guidance (2 CFR Part 200) and Debarment and Suspension (45 CFR 620).

   For purchases funded with federal funds, the following provisions are incorporated into the Agreement by reference where applicable and form a part of the terms and conditions of the Agreement. Supplier agrees to flow down all applicable clauses to lower-tier entities.

   FEDERAL ACQUISITION REGULATIONS (FAR)**

   52.202-1 Definitions

52.203-3 Gratuities
52.203-5 Covenant Against Contingent Fees
52.203-6 Restrictions on Subcontractor Sales to the Government
52.203-7 Anti-Kickback Procedures
52.203-12 Limitation on Payments to Influence Certain Federal Transactions
52.204-2 Security Requirements
52.209-6 Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended or Proposed for Debarment
52.211-15 Defense Priority and Allocation Requirements
52.214-27 Price Reduction For Defective Cost or Pricing Data
52.215-1 Instructions to Offerors—Competitive Acquisition.
52.215-2 Audit and Records - Negotiation
52.215-12 Subcontractor Cost or Pricing Data
52.215-13 Subcontractor Cost or Pricing Data – Modifications
52-215-14 Integrity of Unit Prices
52-219-8 Utilization of Small Business Concerns
52-219-9 Small Business Subcontracting Plan
52.222-1 Notice to the Government of Labor Disputes
52.222-4 Contract Work Hours and Safety Standards Act Overtime Compensation
52.222-6 Davis-Bacon Act [Construction Wage Rate Requirements]
52.222-20 Walsh Healey Public Contracts Act [Contracts for Materials, Supplies, Articles, and Equipment Exceeding $15,000.]
52.222-21 Prohibition of Segregated Facilities
52.222-26 Equal Opportunity
52.222-35 Equal Opportunity for Veterans
52.222-36 Equal Opportunity for Workers with Disabilities
52.222-37 Employment Reports on Veterans
52.222-40 Notification of Employee Rights Concerning Payment of Union Dues or Fees
52.222-41 Service Contract Act of 1965, as Amended
52.222-50 Combating Trafficking in Persons
52.223-3 Hazardous Material Identification and Material Safety Data
52.223-6 Drug-Free Workplace
52.225-1 Buy American Act – Supplies
52.225-13 Restrictions on Certain Foreign Purchases
52.227-1 Authorization and Consent (Alt I in all R&D)
52.227-2 Notice and Assistance Regarding Patent and Copyright Infringement
52.227-3 Patent Indemnity
52.227-10 Filing of Patent Applications--Classified Subject Matter
52.227-11 Patent Rights – Ownership by the Contractor (Alt I-V)
52.227-13 Patent Rights - Ownership by the Government
52.227-14 Rights in Data – General
52.233-1 Disputes
52.242-1 Notice of Intent to Disallow Costs
52.242-15 Stop-work order
52.243-1 Changes - Fixed Price (43.205 (a) (1) Alts may apply)
52.243-2 Changes - Cost Reimbursement (43.205 (b) (1) Alts may apply)
52.244-2 Subcontracts
52.244-5 Competition in Subcontracting
52.244-6 Subcontracts for Commercial Items
52.245-2 Government Property – Installation Operation Services
52.246-15 Certificate of Conformance
52.247-63 Preference for U.S. Flag Air Carriers
52.247-64 Preference for U.S. Flag Commercial Vessels
52.249-2 Termination for Convenience of the Government (Fixed Price)
52.249-5 Termination for the Convenience of the Government (Educational and Other Nonprofit Institutions)
52.249-14 Excusable Delays

DEFENSE FEDERAL ACQUISITION REGULATIONS

(DFAR) DFAR CIT. TITLE**

252.203-7001 Prohibition on Persons convicted of Fraud or Other Defense-Contract-Related Felonies 252.222-7000 Restrictions on Employment of Personnel
252.225-7000 Buy American Act and Balance of Payments program 252.227-7013 Rights in Technical Data and Computer Software 252.227-7016 Rights in Bid or Proposal Information
252.227-7018 Rights in Noncommercial Technical Data and Computer Software 252.227-7019 Validation of Asserted Restrictions – Computer Software
252.227-7037 Validation Technical Data
252.243-7001 Pricing of Agreement Modifications
252.244-7000 Subcontracts for Commercial Items and Commercial Components

**Full text of the FAR clauses can be found at http://www.arnet.gov/far
**Full text of the DFAR clauses can be found at http://farsite.hill.af.mil/VFDFARs.htm

68. Notices. All notices and communications required or permitted under this Agreement will be in writing and will be given by personal delivery against receipt (including private courier such as FedEx), or certified U.S. Mail, return receipt requested. All notices and communications will be sent to the addresses below or such other addresses as the parties may specify in the same manner:

To ASU:
ASU Environmental Health & Safety
PO Box 876412
Tempe, AZ 85287-6412
Attn: Mgr., Environmental Health & Safety

To Supplier:
____
____
____
____

With a copy to:
ASU Purchasing & Business Services
PO Box 875212
Tempe, AZ 85287-5212
Attn: Chief Procurement Officer

With a copy to:
____
____
____
____

Notices, if delivered, and if provided in the manner set forth above, will be deemed to have been given and received on the date of actual receipt or on the date receipt was refused. Any notice to be given by any party may be given by legal counsel for such party.

Exhibit A – Insurance Requirements

EXHIBIT A - Insurance Requirements

Without limiting any liabilities or any other obligation of Supplier, Supplier will purchase and maintain (and cause its subcontractors to purchase and maintain), until all of their obligations have been discharged or satisfied, including any warranty periods under the Agreement, insurance against claims that may arise from or in connection with the performance of the work hereunder by Supplier, its agents, representatives, employees or subcontractors, as described below.

These insurance requirements are minimum requirements for the Agreement and in no way limit any indemnity covenants in the Agreement. ASU does not warrant that these minimum limits are sufficient to protect Supplier from liabilities that might arise out of the performance of the work under the Agreement by Supplier, its agents, representatives, employees, or subcontractors. These insurance requirements may change if Supplier is a foreign entity, or with foreign insurance coverage.

A. Minimum Scope and Limits of Insurance: Supplier's insurance coverage will be primary insurance with respect to all other available sources. Supplier will provide coverage with limits of liability not less than those stated below:

1. Commercial General Liability – Occurrence Form. Policy will include bodily injury, property damage, personal injury, and broad form contractual liability coverage.

• General Aggregate	$2,000,000
• Products – Completed Operations Aggregate	$1,000,000
• Personal and Advertising Injury	$1,000,000
• Contractual Liability	$1,000,000
• Fire Legal Liability (only if Agreement is for leasing space)	$ 50,000
• Each Occurrence	$1,000,000

a. Policy will include the following additional insured language: "The State of Arizona, its departments, agencies, boards, commissions, universities, and its officers, officials, agents, and employees, will be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of Supplier."

b. Policy will contain a waiver of subrogation against the State of Arizona, its departments, agencies, boards, commissions, universities, and its officers, officials, agents, and employees, for losses arising from work performed by or on behalf of Supplier.

2. Automobile Liability. If Supplier will be driving on ASU campus or on ASU business the following section will apply: Policy will include Bodily Injury and Property Damage for any owned, hired, and/or non-owned vehicles used in the performance of the Agreement in the following amounts. If Supplier is not an individual then coverage will be a combined single limit of $1,000,000. If Supplier is an individual then coverage will be $100,000 per person, $300,000 per accident, and $50,000 property damage.

a. Policy will include the following additional insured language: "The State of Arizona, its departments, agencies, boards, commissions, universities, and its officers, officials, agents, and employees, will be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of Supplier, involving vehicles owned, leased, hired, or borrowed by Supplier."

b. Policy will contain a waiver of subrogation against the State of Arizona, its departments, agencies, boards, commissions, universities, and its officers, officials, agents, and employees, for losses arising from work performed by or on behalf of Supplier.

c. Policy will contain a severability of interest provision.

3. Worker's Compensation and Employers' Liability. Applicable statutory limits, as amended from time to time.

a. Employer's Liability in the amount of $1,000,000 injury and disease.

b. Policy will contain a waiver of subrogation against the State of Arizona, its departments, agencies, boards, commissions, universities, and its officers, officials, agents, and employees, for losses arising from work performed by or on behalf of Supplier.

c. This requirement will not apply to any contractor or subcontractor exempt under ARS § 23-901, when such contractor or subcontractor signs the Sole Proprietor Waiver Form.

4. Technology/Network Errors and Omissions Insurance. The terms of this section apply if: 1) ASU is purchasing or leasing software, or processing a software renewal; 2) Supplier is creating any code for ASU; 3) Supplier receives, stores, or analyzes ASU Data (including if the data is not online); 4) Supplier is hosting, or managing by infrastructure outside of ASU, including in the cloud, ASU Data; OR 5) ASU is purchasing or leasing equipment that will connect to ASU's data network.

•	Each Claim	$5,000,000
•	Annual Aggregate	$5,000,000

a. This insurance will cover Supplier's liability for acts, errors and omissions arising out of Supplier's operations or services, including loss arising from unauthorized access, or use that results in identity theft or fraud.

b. If the liability insurance required by the Agreement is written on a claims-made basis, Supplier warrants that any retroactive date under the policy will precede the effective date of the Agreement, and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of 2 years beginning at the time work under the Agreement is completed.

c. Policy will cover professional misconduct for those positions defined in the scope of work of the Agreement.

5. Professional Liability (Errors and Omissions Liability). If the Supplier will provide ASU Services under the Agreement, the Policy will include professional liability coverage as follows:

□	Each Claim	$1,000,000
•	Annual Aggregate	$2,000,000

a. If the professional liability insurance required by the Agreement is written on a claims-made basis, Supplier warrants that any retroactive date under the policy will precede the effective date of the Agreement; and that either continuous coverage will be maintained or an extended discovery period will be exercised for 2 years beginning at the time work under the Agreement is completed.

b. Policy will cover professional misconduct for those positions defined in the scope of work of the Agreement.

B. Cancellation; Material Changes: Cancellation notices will be delivered to ASU in accordance with all policy provisions. Notices required in this Section must be sent directly to ASU Purchasing and Business Services, email Insurance.certificates@asu.edu or mail to PO Box 875212, Tempe, AZ, 85287-5212.

C. Acceptability of Insurers: Insurance is to be placed with duly licensed or approved non-admitted insurersin the State of Arizona with an "A.M. Best" rating of not less than A- VII. ASU in no way warrants that the above required minimum insurer rating is sufficient to protect Supplier from potential insurer insolvency. Self-Insurance may be accepted in lieu of or in combination with insurance coverage requested.

D. Verification of Coverage: Each insurance policy required by the Agreement must be in effect at or prior to commencement of work under the Agreement and remain in effect for the term of the Agreement. Failure to maintain the insurance policies as required by the Agreement, or to provide evidence of renewal, is a material breach of contract.

If requested by ASU, Supplier will furnish ASU with valid certificates of insurance. ASU's project or purchase order number and project description will be noted on each certificate of insurance. The State of Arizona and ASU may require complete, certified copies of policies at the time of notice of any loss or claim.

E. Subcontractors. Supplier's certificate(s) may include all subcontractors as insureds under its policies as required by the Agreement, or Supplier will furnish to ASU upon request, copies of valid certificates and endorsements for each subcontractor. Coverages for subcontractors will be subject to the minimum requirements identified above.

F. Approval. These insurance requirements are the standard insurance requirements of ASU. Any modification or variation from the insurance requirements in the Agreement will require the approval of ASU's Department of Risk and Emergency Management.

(Fillable PDF versions of mandatory certifications are located on-line under Supplier Forms: http://cfo.asu.edu/purchasing-forms. ORIGINAL signatures are REQUIRED for either version.)

CONFLICT OF INTEREST CERTIFICATION

(Date)

Purchasing and Business Services
Arizona State University
PO Box 875212
Tempe, AZ 85287-5212

The undersigned certifies that to the best of his/her knowledge: (**check only one**)

( ) There is no officer or employee of Arizona State University who has, or whose relative has, a substantial interest in any contract resulting from this request.

( ) The names of any and all public officers or employees of Arizona State University who have, or whose relative has, a substantial interest in any contract resulting from this request, and the nature of the substantial interest, are included below or as an attachment to this certification.

(Firm)

(Email Address)

(Signature required)

(Print name)

(Print title)

(Address)

(Phone)

(Fax)

(Federal Taxpayer ID Number)

(Purchasing 1/31/07. Previous editions are obsolete and cannot be used.)

FEDERAL DEBARRED LIST CERTIFICATION

Certification Regarding Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters (Dec 2001)

____
(Date)

Purchasing and Business Services
Arizona State University
PO Box 875212
Tempe, AZ 85287-5212

In accordance with the Federal Acquisition Regulation, 52.209-5:

(a) (1) The Offeror certifies, to the best of its knowledge and belief, that—
(i) The Offeror and/or any of its Principals—

(A) (check one) **Are (   )** or **are not (   )** presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency; (The debarred list (List of Parties Excluded from Federal Procurement and Non-Procurement Programs) can be found at https://www.sam.gov/index.html/.)

(B) (check one) **Have (   )** or **have not (   )**, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) (check one) **Are (   )** or **are not (   )** presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) The Offeror (check one) **has (   )** or **has not (   )**, within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) “Principals,” for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (*e.g.,* general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

______________________________ (Firm)	______________________________ (Address)
______________________________ (Email Address)	______________________________
______________________________ (Signature required)	______________________________ (Phone)
______________________________ (Print name)	______________________________ (Fax)
______________________________ (Print title)	______________________________ (Federal Taxpayer ID Number)

(Federal Debarred List Continued)
(Purchasing 1/31/07)

ANTI-LOBBYING CERTIFICATION

Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions (Sept 2007)

____
(Date)

Purchasing and Business Services
Arizona State University
PO Box 875212
Tempe, AZ 85287-5212

In accordance with the Federal Acquisition Regulation, 52.203-11:

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989—

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of this contract;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by Section 1352, Title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.

(Signature page follows)

(Firm)

(Email Address)

(Signature required)

(Print name)

(Print title)

(Address)

(Phone)

(Fax)

(Federal Taxpayer ID Number)

(Anti-Lobbying Certificate)
(Purchasing 1/31/07)

LEGAL WORKER CERTIFICATION

____
(Date)

Purchasing and Business Services
Arizona State University
PO Box 875212
Tempe, AZ 85287-5212

Authorized Presence Requirements. As required by ARS § 41-4401, ASU is prohibited from awarding a contract to any contractor or subcontractor that fails to comply with ARS § 23-214(A) (verification of employee eligibility through the e-verify program). Vendor warrants that it and its subcontractors comply fully with all applicable federal immigration laws and regulations that relate to their employees and their compliance with ARS § 23-214(A). A breach of this warranty will be a material breach of this Contract that is subject to penalties up to and including termination of this Contract ASU retains the legal right to inspect the papers of any Contractor or subcontractor employee who works hereunder to ensure that the contractor or subcontractor is complying with the above warranty.

A breach of the foregoing warranty shall be deemed a material breach of the contract. In addition to the legal rights and remedies available to the University hereunder and under the common law, in the event of such a breach, the University shall have the right to terminate the contract. Upon request, the University shall have the right to inspect the papers of each contractor, subcontractor or any employee of either who performs work hereunder for the purpose of ensuring that the contractor or subcontractor is in compliance with the warranty set forth in this provision.

__________________________________ (Firm)	__________________________________ (Address)
__________________________________ (Email address)	__________________________________
__________________________________ (Signature required)	__________________________________ (Phone)
__________________________________ (Print name)	__________________________________ (Fax)
__________________________________ (Print title)	__________________________________ (Federal Taxpayer ID Number)

(Purchasing 7/25/16)

Voluntary Product Accessibility Template (VPAT)

All electronic and information technology developed, procured, maintained, or used in carrying out University programs and activities must be compliant with Sections 504 and 508 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, as amended, other relevant local, state, and federal laws, and related university policies.

This VPAT was designed to provide information on how a product or service conforms to the section 508 accessibility standards (from the U.S. Access Board) for electronic and information technology (EIT) in a consistent fashion and format. Supplier must make specific statements, in simple understandable language, about how their product or service meets the requirements of the section 508 standards.

SUPPLIER MUST COMPLETE ALL SECTIONS.

DATE:	
PRODUCT NAME:	
PRODUCT VERSION NUMBER:	
SUPPLIER COMPANY NAME:	
SUPPLIER CONTACT NAME:	
SUPPLIER CONTACT EMAIL:	

SUMMARY TABLE		
Criteria	**Level of Support & Supporting Features**	**Remarks and Explanations**
Section 1194.21 Software Applications and Operating Systems		
Section 1194.22 Web-based Internet Information and Applications		
Section 1194.23 Telecommunications Products		
Section 1194.24 Video and Multi-media Products		
Section 1194.25 Self-Contained, Closed Products		
Section 1194.26 Desktop and Portable Computers		
Section 1194.31 Functional Performance Criteria		
Section 1194.41 Information, Documentation and Support		

Section 1194.21 Software Applications and Operating Systems - Detail		
Criteria	**Level of Support & Supporting Features**	**Remarks and Explanations**
(a) When software is designed to run on a system that has a keyboard, product functions shall be executable from a keyboard where the function itself or the result of performing a function can be discerned textually.		
(b) Applications shall not disrupt or disable activated features of other products that are identified as accessibility features, where those features are developed and documented according to industry standards. Applications also shall not disrupt or disable activated features of any operating system that are identified as accessibility features where the application programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer.		
(c) A well-defined on-screen indication of the current focus shall be provided that moves among interactive interface elements as the input focus changes. The focus shall be programmatically exposed so that Assistive Technology can track focus and focus changes.		
(d) Sufficient information about a user interface element including the identity, operation and state of the element shall be available to Assistive Technology. When an image represents a program element, the information conveyed by the image must also be available in text.		
(e) When bitmap images are used to identify controls, status		

indicators, or other programmatic elements, the meaning assigned to those images shall be consistent throughout an application's performance.		
(f) Textual information shall be provided through operating system functions for displaying text. The minimum information that shall be made available is text content, text input caret location, and text attributes.		
(g) Applications shall not override user selected contrast and color selections and other individual display attributes.		
(h) When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.		
(i) Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.		
(j) When a product permits a user to adjust color and contrast settings, a variety of color selections capable of producing a range of contrast levels shall be provided.		
(k) Software shall not use flashing or blinking text, objects, or other elements having a flash or blink frequency greater than 2 Hz and lower than 55 Hz.		
(l) When electronic forms are used, the form shall allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.		

Section 1194.22 Web-based Intranet and Internet information and Applications - Detail

Criteria	Level of Support & Supporting Features	Remarks and Explanations
(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).		
(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.		
(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.		
(d) Documents shall be organized so they are readable without requiring an associated style sheet.		
(e) Redundant text links shall be provided for each active region of a server-side image map.		
(f) Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.		
(g) Row and column headers shall be identified for data tables.		
(h) Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.		
(i) Frames shall be titled with text that facilitates frame identification and navigation		
(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.		
(k) A text-only page, with equivalent information or		

functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.		
(l) When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by Assistive Technology.		
(m) When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with 1194.21(a) through (l).		
(n) When electronic forms are designed to be completed on-line, the form shall allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.		
(o) A method shall be provided that permits users to skip repetitive navigation links.		
(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.		

Section 1194.23 Telecommunications Products - Detail		
Criteria	**Level of Support & Supporting Features**	**Remarks and Explanations**
(a) Telecommunications products or systems which provide a function		

allowing voice communication and which do not themselves provide a TTY functionality shall provide a standard non-acoustic connection point for TTYs. Microphones shall be capable of being turned on and off to allow the user to intermix speech with TTY use.		
(b) Telecommunications products which include voice communication functionality shall support all commonly used cross-manufacturer non-proprietary standard TTY signal protocols.		
(c) Voice mail, auto-attendant, and interactive voice response telecommunications systems shall be usable by TTY users with their TTYs.		
(d) Voice mail, messaging, auto-attendant, and interactive voice response telecommunications systems that require a response from a user within a time interval, shall give an alert when the time interval is about to run out, and shall provide sufficient time for the user to indicate more time is required.		
(e) Where provided, caller identification and similar telecommunications functions shall also be available for users of TTYs, and for users who cannot see displays.		
(f) For transmitted voice signals, telecommunications products shall provide a gain adjustable up to a minimum of 20 dB. For incremental volume control, at least one intermediate step of 12 dB of gain shall be provided.		
(g) If the telecommunications product allows a user to adjust the receive volume, a function shall be		

provided to automatically reset the volume to the default level after every use.		
(h) Where a telecommunications product delivers output by an audio transducer which is normally held up to the ear, a means for effective magnetic wireless coupling to hearing technologies shall be provided.		
(i) Interference to hearing technologies (including hearing aids, cochlear implants, and assistive listening devices) shall be reduced to the lowest possible level that allows a user of hearing technologies to utilize the telecommunications product.		
(j) Products that transmit or conduct information or communication, shall pass through cross-manufacturer, non-proprietary, industry-standard codes, translation protocols, formats or other information necessary to provide the information or communication in a usable format. Technologies which use encoding, signal compression, format transformation, or similar techniques shall not remove information needed for access or shall restore it upon delivery.		
(k)(1) Products which have mechanically operated controls or keys shall comply with the following: Controls and Keys shall be tactilely discernible without activating the controls or keys.		
(k)(2) Products which have mechanically operated controls or keys shall comply with the following: Controls and Keys shall be operable with one hand and shall not require tight grasping, pinching,		

twisting of the wrist. The force required to activate controls and keys shall be 5 lbs. (22.2N) maximum.		
(k)(3) Products which have mechanically operated controls or keys shall comply with the following: If key repeat is supported, the delay before repeat shall be adjustable to at least 2 seconds. Key repeat rate shall be adjustable to 2 seconds per character.		
(k)(4) Products which have mechanically operated controls or keys shall comply with the following: The status of all locking or toggle controls or keys shall be visually discernible, and discernible either through touch or sound.		

Section 1194.24 Video and Multi-media Products – Detail

Criteria	**Level of Support & Supporting Features**	**Remarks and Explanations**
a) All analog television displays 13 inches and larger, and computer equipment that includes analog television receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals. Widescreen digital television (DTV) displays measuring at least 7.8 inches vertically, DTV sets with conventional displays measuring at least 13 inches vertically, and stand-alone DTV tuners, whether or not they are marketed with display screens, and computer equipment that includes DTV receiver or display circuitry,		

shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals.		
(b) Television tuners, including tuner cards for use in computers, shall be equipped with secondary audio program playback circuitry.		
(c) All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain speech or other audio information necessary for the comprehension of the content, shall be open or closed captioned.		
(d) All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain visual information necessary for the comprehension of the content, shall be audio described.		
(e) Display or presentation of alternate text presentation or audio descriptions shall be user-selectable unless permanent.		

Section 1194.25 Self-Contained, Closed Products – Detail		
Criteria	**Level of Support & Supporting Features**	**Remarks and Explanations**
(a) Self-contained products shall be usable by people with disabilities without requiring an end-user to attach Assistive Technology to the product. Personal headsets for private listening are not Assistive Technology.		
(b) When a timed response is required, the user shall be alerted		

and given sufficient time to indicate more time is required.		
(c) Where a product utilizes touchscreens or contact-sensitive controls, an input method shall be provided that complies with 1194.23 (k) (1) through (4).		
(d) When biometric forms of user identification or control are used, an alternative form of identification or activation, which does not require the user to possess particular biological characteristics, shall also be provided.		
(e) When products provide auditory output, the audio signal shall be provided at a standard signal level through an industry standard connector that will allow for private listening. The product must provide the ability to interrupt, pause, and restart the audio at any time.		
(f) When products deliver voice output in a public area, incremental volume control shall be provided with output amplification up to a level of at least 65 dB. Where the ambient noise level of the environment is above 45 dB, a volume gain of at least 20 dB above the ambient level shall be user selectable. A function shall be provided to automatically reset the volume to the default level after every use.		
(g) Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.		
(h) When a product permits a user to adjust color and contrast settings, a range of color selections capable of producing a variety of contrast levels shall be provided.		

(i) Products shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.		
(j) (1) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following: The position of any operable control shall be determined with respect to a vertical plane, which is 48 inches in length, centered on the operable control, and at the maximum protrusion of the product within the 48 inch length on products which are freestanding, non-portable, and intended to be used in one location and which have operable controls.		
(j)(2) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following: Where any operable control is 10 inches or less behind the reference plane, the height shall be 54 inches maximum and 15 inches minimum above the floor.		
(j)(3) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following: Where any operable control is more than 10 inches and not more than 24 inches behind the reference plane, the height shall be 46 inches maximum and 15 inches minimum above the floor.		
(j)(4) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following:		

Operable controls shall not be more than 24 inches behind the reference plane.		

Section 1194.26 Desktop and Portable Computers – Detail		
Criteria	**Level of Support & Supporting Features**	**Remarks and Explanations**
(a) All mechanically operated controls and keys shall comply with 1194.23 (k) (1) through (4).		
(b) If a product utilizes touchscreens or touch-operated controls, an input method shall be provided that complies with 1194.23 (k) (1) through (4).		
(c) When biometric forms of user identification or control are used, an alternative form of identification or activation, which does not require the user to possess particular biological characteristics, shall also be provided.		
(d) Where provided, at least one of each type of expansion slots, ports and connectors shall comply with publicly available industry standards		

Section 1194.31 Functional Performance Criteria – Detail		
Criteria	**Level of Support & Supporting Features**	**Remarks and Explanations**
(a) At least one mode of operation and information retrieval that does not require user vision shall be provided, or support for Assistive Technology used by people who are blind or visually impaired shall be provided.		
(b) At least one mode of operation and information retrieval that does not require visual acuity greater than 20/70 shall be provided in		

audio and enlarged print output working together or independently, or support for Assistive Technology used by people who are visually impaired shall be provided.		
(c) At least one mode of operation and information retrieval that does not require user hearing shall be provided, or support for Assistive Technology used by people who are deaf or hard of hearing shall be provided		
(d) Where audio information is important for the use of a product, at least one mode of operation and information retrieval shall be provided in an enhanced auditory fashion, or support for assistive hearing devices shall be provided.		
(e) At least one mode of operation and information retrieval that does not require user speech shall be provided, or support for Assistive Technology used by people with disabilities shall be provided.		
(f) At least one mode of operation and information retrieval that does not require fine motor control or simultaneous actions and that is operable with limited reach and strength shall be provided.		

Section 1194.41 Information, Documentation and Support – Detail		
Criteria	**Level of Support & Supporting Features**	**Remarks and Explanations**
(a) Product support documentation provided to end-users shall be made available in alternate formats upon request, at no additional charge		
(b) End-users shall have access to a description of the accessibility and compatibility features of products in		

alternate formats or alternate methods upon request, at no additional charge.		
(c) Support services for products shall accommodate the communication needs of end-users with disabilities.		

USE THE FOLLOWING LANGUAGE FOR FILLING OUT THE LEVEL OF SUPPORT AND SUPPORTING FEATURES COLUMN IN THE TABLES ABOVE.

SUPPORTS - Use this language when you determine the product fully meets the letter and intent of the Criteria.

SUPPORTS WITH EXCEPTIONS - Use this language when you determine the product does not fully meet the letter and intent of the Criteria, but provides some level of access relative to the Criteria.

SUPPORTS THROUGH EQUIVALENT FACILITATION - Use this language when you have identified an alternate way to meet the intent of the Criteria or when the product does not fully meet the intent of the Criteria.

SUPPORTS WHEN COMBINED WITH COMPATIBLE AT - Use this language when you determine the product fully meets the letter and intent of the Criteria when used in combination with compatible assistive technology. For example, many software programs can provide speech output when combined with a compatible screen reader (commonly used assistive technology for people who are blind).

DOES NOT SUPPORT - Use this language when you determine the product does not meet the letter or intent of the Criteria.

NOT APPLICABLE - Use this language when you determine that the Criteria do not apply to the specific product.

NOT APPLICABLE - FUNDAMENTAL ALTERATION EXCEPTION APPLIES - Use this language when you determine a fundamental alteration of the product would be required to meet the criteria. “Fundamental alteration” means a change in the fundamental characteristic or purpose of the product or service, not merely a cosmetic or aesthetic change. Generally, adding access should not change the basic purpose or characteristics of a product in a fundamental way.

The Supplier Sustainability Questionnaire is used to help the University understand how sustainable a supplier is. Sustainability is an important goal for the University, and as such, we expect our suppliers to help us support this goal. There are two (2) different questionnaires posted, one is for large companies while the other is for small businesses. A company is considered to be large when there are more than 100 fulltime employees or over 4 million dollars in annual revenue generated.

SUPPLIER SUSTAINABILITY QUESTIONNAIRE – LARGE COMPANY

Firm Name: ______________________ Date: ______________________

The Supplier Sustainability Questionnaire must be completed and returned with your Proposal. This questionnaire is applicable to firms that provide services as well as those that provide goods.

The University's vision is to be environmentally sustainable while expanding our education, research, and community support programs. The University seeks suppliers who share our sustainability vision. Accordingly, please answer the following questions.

To each question please provide at least one (1) of the following types of responses:

- An explanation or description
- A URL of your policy or program

An electronic copy of your illustrative policies or programs must be provided if requested. If the question does not apply, answer with N/A and provide an explanation as to why.

Energy

1. What is your firm doing to be energy efficient?
2. What are your firm's annual greenhouse gas emissions in metric tons of carbon dioxide equivalent? (Enter total metric tons of CO2 equivalency [includes the following GHGs: CO2, CH4, N2), SF6, HFCs and PFCs])
3. What plan is in place to reduce greenhouse gas emissions in the future?

Solid Waste

1. What is your firm doing to reduce waste to landfill?
2. What is your firm's annual waste to landfill generated in metric tons? (Enter total metric tons)
3. What plan is in place to reduce waste to landfill generated in the future?

Water Waste

1. What is your firm doing to reduce water waste?
2. What is your firm's annual water waste in gallons? (Enter total gallons)
3. What plan is in place to reduce water waste in the future?

Packaging

1. What is your firm's plan to minimize packaging and/or describe your firm's packaging "Take Back" program?

2. What kind of reusable, recyclable, and/or compostable packaging materials does your firm use?
3. What does your firm do to encourage/require your suppliers to minimize packaging and/or use reusable, recyclable, or compostable packaging materials?

Sustainability Practices

1. What programs does your firm have to encourage your employees to use alternative transportation while commuting to work and travelling locally?
2. What sustainability guidelines or environmental statement does your firm have to guide the firm as a whole?
3. What are your firm's sustainable purchasing guidelines?
4. What kind of position(s) or team(s) does your firm have dedicated to overseeing sustainability initiatives?
5. List the sustainability related professional associations of which your firm is a member.
6. What kind of effort does your firm make to reduce the use of environmentally harmful materials?
7. Has an environmental life-cycle analysis of your firm's products been conducted by a certified testing organization?
8. Does your firm use Green Seal/EcoLogo certified or biodegradable/eco-friendly cleaning products?
9. Has your firm been cited for non-compliance of an environmental or safety issue in the past ten years?
10. Name any third party certifications your firm has in regards to sustainable business practices?
11. Describe any other initiatives your firm has taken to integrate sustainability practices principles into your operations.

Community

1. What charity, community development, educational programs, or environmental programs is your firm involved in within your local community?
2. What educational programs does your firm have to develop employees?

SUPPLIER SUSTAINABILITY QUESTIONNAIRE – SMALL COMPANY

Firm Name: ______________________ Date: ______________________

The Supplier Sustainability Questionnaire must be completed and returned with your Proposal. This questionnaire is applicable to firms that provide services as well as those that provide goods.

The University's vision is to be environmentally sustainable while expanding our education, research, and community support programs. The University seeks suppliers who share our sustainability vision. Accordingly, please answer the following questions.

To each question please provide at least one (1) of the following types of responses:

- An explanation or description
- A URL of your policy or program

An electronic copy of your illustrative policies or programs must be provided if requested. If the question does not apply, answer with N/A and provide an explanation as to why.

Energy

1. What is your firm doing to be energy efficient?
2. What plan is in place to reduce greenhouse gas emissions in the future?

Solid Waste

1. What is your firm doing to reduce waste to landfill?
2. What plan is in place to reduce waste to landfill generated in the future?

Water Waste

1. What is your firm doing to reduce water waste?
2. What plan is in place to reduce water waste in the future?

Packaging

1. What is your firm's plan to minimize packaging and/or describe your firm's packaging "Take Back" program?
2. What kind of reusable, recyclable, and/or compostable packaging materials does your firm use?
3. What does your firm do to encourage/require your suppliers to minimize packaging and/or use reusable, recyclable, or compostable packaging materials?

Sustainability Practices

1. What programs does your firm have to encourage your employees to use alternative transportation while commuting to work and travelling locally?
2. What sustainability guidelines or environmental statement does your firm have to guide the firm as a whole?
3. What are your firm's sustainable purchasing guidelines?
4. What kind of position(s) or team(s) does your firm have dedicated to overseeing sustainability initiatives?
5. List the sustainability related professional associations of which your firm is a member.

6. What kind of effort does your firm make to reduce the use of environmentally harmful materials?
7. Does your firm use Green Seal/EcoLogo certified or biodegradable/eco-friendly cleaning products?
8. Has your firm been cited for non-compliance of an environmental or safety issue in the past ten years?
9. Name any third party certifications your firm has in regards to sustainable business practices?
10. Describe any other initiatives your firm has taken to integrate sustainability practices principles into your operations.

Community

1. What charity, community development, educational programs, or environmental programs is your firm involved in within your local community?
2. What educational programs does your firm have to develop employees?

If your firm is just beginning the sustainability journey, or is looking for tools and resources, here are some suggestions:

Energy

Greenhouse Gas Protocol provides tools to calculate emissions that are industry specific:

- http://www.ghgprotocol.org/calculation-tools

Practice Green health provides basic information and tools for emissions as well:

- https://practicegreenhealth.org/topics/energy-water-and-climate/climate/tracking-and-measuring-greenhouse-gas-emissions

Solid Waste

The EPA's pre-built excel file to help measure and track your waste and recycling:

- http://www.epa.gov/smm/wastewise/measure-progress.htm

Greenbiz's comprehensive guide to reducing corporate waste:

- http://www.greenbiz.com/research/report/2004/03/09/business-guide-waste-reduction-and-recycling

Water Waste

BSR's guide on how to establish your water usage:

- http://www.bsr.org/reports/BSR_Water-Trends.pdf

EPA information about conserving water:

- http://water.epa.gov/polwaste/nps/chap3.cfm

Packaging

Links to get you started on sustainable packaging:

- http://www.epa.gov/oswer/international/factsheets/200610-packaging-directives.htm
- http://sustainablepackaging.org/uploads/Documents/Definition%20of%20Sustainable%20Packaging.pdf

Sustainability Practices

Ideas for alternative transportation programs:

- o http://www.ctaa.org/webmodules/webarticles/articlefiles/SuccessStoriesEmpTranspPrograms.pdf

The EPA environmentally preferable purchasing guidelines for suppliers:

- o http://www.epa.gov/epp/

EPA life cycle assessment information:

- o http://www.epa.gov/nrmrl/std/lca/lca.html

Green Seal green products & services:

- o http://www.greenseal.org/FindGreenSealProductsandServices.aspx?vid=ViewProductDetail&cid=16

Ecologo cleaning and janitorial products:

- o http://www.ecologo.org/en/certifiedgreenproducts/category.asp?category_id=21

EPA information on sustainable landscape management:

- o http://www.epa.gov/epawaste/conserve/tools/greenscapes/index.htm

SECTION XIII – SECURITY REVIEW PROCESS (REFERENCE DOCUMENT #1)

Form version: 2016-06-20

ASU Information Security Office
getprotected.asu.edu

Security Review Form

Form version: 2017-04-13

Expectations

This checklist is to be filled out by the ASU project team, because the ASU project team is responsible for designing and implementing security controls. Vendor provided documents and diagrams are not sufficient.

Please have your answers -- in this checklist and in your Security Architecture Worksheet (example here) -- completed and your Security Architecture Diagram available in your google project folder one week before your scheduled review. Projects with incomplete documentation will be asked to reschedule.

A preliminary review may be held, and is recommended, early in a project's lifecycle while there is still time to change course if design issues are identified. The final review should be held shortly before the project goes live, when the contemplated servers have been set up at least to the point where the required vulnerability scans can be done.

Overview

The ASU security review process is designed to guide each project team to implement solutions efficiently while minimizing security risks. At the beginning of a project, for most of the questions below the answer will probably be "Unknown". As design and development continues, you can start filling in the answers you know. When you are ready for a discussion with an Information Security Architect, please use ServiceNow to submit a request for a security review.

Where you see the checkbox "☐" symbol below, if that is your answer, delete the checkbox and replace it with an "X".

Projects do not always achieve a "perfect" score; however the goal is to reduce all risks to low or addressed. The purpose of this document is to allow management to get an evaluation of the risk in this project as compared to other projects and ASU standards.

Scope of Review

It is not practical to bring all existing systems up to current standards. Instead, our goal is "No new bad". So for each project we look at what changes are being made as part of that project. This includes:

- New hardware
- New software developed for the project: web sites or otherwise
- New software acquired, installed here, hosted elsewhere...
- New software in the form of a "cloud service" or similar
- New connections between new or existing systems
- New data flows between new or existing systems
- New data stores: added tables or columns, data files, network shares...

For our purposes "new" means new to ASU -- it has not been through an ASU Security Review before. So if ASU starts using an existing "cloud service" that service should be reviewed even if the service is not implementing any changes for ASU's project.

Also if an existing system is changed for the project, the change is "new" because it hasn't previously been reviewed.

Example: Existing system "A" regularly transfers a data file to existing system "B". The project will add software that runs on "B" and makes a new use of the data on "B". System "B" is in scope because it is being changed, but system "A" and the data file transfer are not in scope because they are not changing. System "A" can still be shown on your Security Architecture Diagram to clarify the workflow.

Project Information

What is the name of your project? Please use the same name that appears in project status systems.

If you are using Planview for project management, what is the Planview project ID number (usually 4 to 7 digits?

□ This project is not using Planview.

What is the purpose of your project? Briefly describe the business problem you are trying to solve.

Who is the Steward for the project (the ASU employee who decided we should do this, the sponsor from a business perspective)?
Name:
Title:
Department:

Who is the Technical Administrator for this system (the ASU employee who will manage ongoing system maintenance, enhancement and patching or manage the vendor who will perform this function)?
Name:
Title:
Department:
(For separation of duties reasons, the Steward and the Technical Administrator should not be the same person. Technical people implement business requirements. Technical people should not unilaterally create systems for which there is no business requirement or sponsor.)

Responsibility for Secure Design

Security practitioners have found that to be effective, security measures must be "baked in from the beginning" rather than "pasted on at the end". This is one of the reasons for using a **System Development Life Cycle** (mentioned elsewhere in this checklist) that includes security checkpoints as the project progresses.

Attackers usually take advantage of mistakes. These flaws frequently arise at the boundaries between independent components, due to misunderstandings or weaknesses in how the parts are put together. This means you can have a collection of "secure" ***parts***, but yet not have a secure ***whole***. Someone must create a holistic design that ensures all the parts fit together in a way that complies with regulations and ASU standards.

Who is responsible for the secure design of the entire system?

□	**High**	We don't know who is responsible for the security design of the entire system.
□	**High**	Although certain parts may be designed for security, nobody is responsible for the security design and ASU standards compliance of the entire system including users and their devices.
□	**Medium**	A vendor claims to be responsible for the security design and ASU standards compliance of the entire system, but the vendor has not signed ISO language, or the scope of the vendor's contracted responsibility does not cover the entire system including users and their devices.
□	**Low**	A single vendor has accepted responsibility for all of the security design and ASU standards compliance, has signed ISO language, and the scope of the vendor's contracted responsibility covers the entire system including users and their devices. If the vendor has signed or has intent to sign the ISO contract language ensure you provide a copy of the following documents from the vendor: ● SOC2 Report ● System Development Life Cycle (SDLC)
□	**Addressed**	One or more ASU employees have designed the system with a holistic security perspective from the beginning, selecting components and/or vendors that meet regulatory requirements and ASU standards. The ASU employee(s) responsible for the security design and ASU standards compliance are: ______________________________________ ______________________________________

Additional information (optional)

Sensitive Data

The expectations for the project's security measures depend on how much harm could occur when things go wrong. For definitions of the following data classifications please see the Data Handling Standard at http://links.asu.edu/datahandlingstandard

What is the most sensitive data in this project? (Check all that apply.)

Regulated Data

☐ PCI regulated (credit card data)

☐ FERPA regulated (student data)

□ HIPAA regulated (health data)

□ ITAR (import, export, defense-related technical data or foreign students)

ASU Data Classifications

□ Highly Sensitive - disclosure endangers human life health or safety

□ Sensitive - regulated data (including regulations above) or Personally Identifiable Information

□ Internal - a login is required

□ Public - anyone can see it without logging in

Additional information (optional) - examples of sensitive data elements etc.

Note: If you checked *any* of the highlighted boxes above, ASU's Data Handling Standard calls for this data to be encrypted for all new systems, and an encryption transition plan for existing systems. In addition, encryption is recommended for all data classifications on all systems. If you can, encrypt everything everywhere.

One reason for encryption in transit is to prevent other computers on the network from reading sensitive data as it goes by.

How will sensitive data be protected in transit, as it travels across the network? (Check all that apply.)

□	**High**	Sensitive data will be traveling across one or more external connections outside of the ASU data Center without any protection.
□	**High**	All systems and connections storing or processing sensitive data are within the ASU data center, but sensitive data is not encrypted as it moves from system to system.
□	**High**	Firewalls, network segmentation, and/or other techniques limit sensitive traffic to only those systems that are intended to receive it. Other systems are prevented from connecting, or listening to sensitive traffic. However, sensitive data is not encrypted in transit.
□	**Addressed**	All sensitive data is encrypted as it travels over each network connection.
□	**Addressed**	All* web sites are using https encryption. Servers have valid https certificates. (The certificates are correctly configured and installed so that no warnings are seen.)
□	**Addressed**	This project has no sensitive data.
□	**Addressed**	This question is not applicable for this project because all of the following are true: ● No ASU equipment or network connections will be used to transmit

		sensitive data. ● If a vendor is transmitting or receiving sensitive data, the vendor has accepted responsibility for protecting the data by signing a contract that includes ISO language.

Additional information (optional)

* Note: ASU Information Security recommends https encryption for all web pages, whether there is sensitive data or not. Here are some reasons:

- Some Internet Service Providers have started altering page content so you don't see what you requested, you see what they want you to see. Thus even the simplest public static web page can be abused. The http protocol cannot detect this; https can.
- An increasing variety of entities are interested in eavesdropping on your Internet use, which also becomes much harder under https.
- Google gives preference to https pages in its search results: see http://googleonlinesecurity.blogspot.in/2014/08/https-as-ranking-signal_6.html

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Encryption at rest is a defense against the possibility that media might be misplaced, stolen, or not disposed of properly. Sensitive data should be protected wherever it goes -- on servers, desktops, laptops, mobile devices, and backups of these systems.

How will sensitive data be protected at rest, wherever it is stored? (Check all that apply.)

□	**High**	Sensitive data will be stored without any protection, on devices available to the general public without logging in.
□	**High**	Sensitive data will be stored without encryption at rest, even though PCI or other applicable regulations require it.
□	**Medium**	Sensitive data will be stored without encryption, but the devices require a login, and there is no applicable regulation requiring encryption at rest.
□	**Medium**	All systems storing or processing sensitive data are within the ASU data center, but sensitive data is not encrypted on disk. There is no applicable regulation requiring encryption at rest.
□	**Low**	Sensitive data is encrypted on disk, but not on backups. There is no applicable regulation requiring encryption at rest.
□	**Addressed**	All sensitive data is encrypted at every location where it is stored, including user devices and backups.
□	**Addressed**	This project has no sensitive data.
□	**Addressed**	This question is not applicable for this project because all of the following are true:

	🟩	● No ASU equipment will be used to store sensitive data. ● If a vendor is storing sensitive data, the vendor has accepted responsibility for protecting the data by signing a contract that includes ISO language.

Additional information (optional)

Security Architecture Diagram

For instructions on how to create a security architecture diagram, please see How to Create a Security Architecture Diagram. Note: this is a detailed technical diagram specific to your implementation at ASU. Vendor diagrams are usually NOT security architecture diagrams suitable as the roadmap for your review.

Include administrative interfaces. Although they may not be intended for users, they are still a potential point of attack and, given the privileged access they provide, are even more valuable to attackers.

A Security Architecture Worksheet (example here) is also required. It can help you gather the information needed for your diagram. You should find a blank worksheet in your security review folder. The information in your worksheet should match your diagram and vice versa.

Has a complete security architecture diagram been submitted?

□	**Unknown**	***RESEVED FOR SECURITY ARCHITECT SELECTION ONLY.*** There are one or more diagrams, but they are incomplete, inconsistent, or do not provide the necessary information (all endpoints with fully qualified DNS hostname or IP address, all connections with protocol, encryption type, and listening port). The rating is "Unknown" because there may be systems or connections that are not reviewed because they are not detailed on the diagram.
□	**Unknown**	***RESEVED FOR SECURITY ARCHITECT SELECTION ONLY.*** A diagram has been submitted, but it is a vendor's generic diagram and does not show ASU specific systems, hostnames, IP addresses, connections, or other details. The rating is "Unknown" because there may be systems or connections that are not reviewed because they are not detailed on the diagram.
□	**Addressed**	The security architecture diagram includes every endpoint that will be part of the project, and every connection between endpoints. Every endpoint that listens for connections is identified with its fully qualified DNS hostname and/or IP address. Every connection is labeled with protocol, encryption type if any, and port number on the listening device.

□	**Addressed**	The security architecture diagram includes every ASU specific endpoint and connection, but not vendor internal architecture. However all connections from ASU to the vendor's border are shown, and the vendor has signed a contract including ISO language accepting responsibility for adequately protecting ASU's sensitive data. Every ASU endpoint that listens for connections is identified with its fully qualified DNS hostname and/or IP address. Every ASU connection is labeled with protocol, encryption type if any, and port number on the listening device.

If you checked one of the answers saying there is a diagram, please upload a copy of it to your google Security Review folder and fill in its document name here:

Additional information (optional)

☐ Has this project been to the Architecture Review Board? (Suggestion: share this document with ARB to provide advance answers to many possible ARB questions.)

Servers

As you look at your Security Architecture Diagram you will most likely see two types of endpoints: clients and servers. A server is any device that listens on a defined port for incoming connections.

Each server used by your project should be shown on the diagram (unless all connections to the server occur inside a vendor's "cloud", the vendor has signed ISO language, and ASU cannot make any changes to the server's software or configuration). If the server is new for your project, or is being changed for your project, the server should be scanned for vulnerabilities that may be introduced by your changes.

List each server's fully qualified **DNS hostnames** and/or IP addresses in the boxes below. (Note: **A DNS name is not a URL**. URLs for web servers are requested in a different question.)

Your Security Architecture Worksheet (example here) should already have this information on the first tab (endpoints) under the Servers heading.

Production (intended for normal use)

QA (should be virtually identical to production)

Development (for unfinished work, programmer testing etc.)

Additional information (optional)

Have the above servers been scanned or penetration tested for security vulnerabilities? What was the outcome? **Note**: ASU managed only - to request a server scan send email to scanrequest@asu.edu

□	**Unknown**	Some new or changed servers have not yet been scanned or penetration tested.
□	**High**	A scan or penetration test reported one or more high severity issues that have not yet been addressed.
□	**Medium**	A scan or penetration test reported one or more medium severity issues that have not yet been addressed (but no highs).
□	**Low**	A vendor says the server(s) have been scanned or penetration tested and issues have been addressed but we do not have evidence (e.g. a copy of the report).
□	**Addressed**	All new servers have been scanned or penetration tested. No high or medium severity security issues were reported, or all issues have been addressed. Any fixes have been rescanned to confirm the fix. We have evidence of the scan (e.g. a copy of the report).
□	**Addressed**	This project has no new servers and no changes to existing servers (other than servers inside a vendor's "cloud" and the vendor has signed ISO language).

Additional information (optional)

Web Servers

Each device that accepts connections using the http (or https) protocol is a web server. In addition to the server vulnerability scan above, each web site on a web server should be scanned.

A "web site" is anything that responds to the Hypertext Transfer Protocol (HTTP) whether or not a traditional web browser is used. The term includes, for example, Web Services and device control interfaces, in addition to human-oriented "web applications".

To facilitate automated vulnerability discovery (scanning) a web site should have an entry point that provides links, directly or indirectly through intermediate pages, to all of the URLs offered by that site. For example, some web services use a WSDL to allow automated enumeration of the available calls and parameters. Any URLs that are not found by automated testing should be manually tested for potential security vulnerabilities.

The web site may offer more than one entry point, for example to support different user roles. In this case each entry point should be listed. Your Security Architecture Worksheet (example here) should already have some of this information on the third tab (web sites).

If your project includes new web sites or changes to existing web sites show their entry point URLs here:

Production (intended for normal use)

QA (should be virtually identical to production)

Development (for unfinished work, programmer testing etc.)

Additional information (optional)

Based on the above URLs, do the web sites have adequate test environments?

□	**Unknown**	At present we don't know if there will be development or QA instances of the web site(s).
□	**Medium**	Only a production instance exists. There is no place to test code or changes without impacting live systems and data.
□	**Low**	A QA or development instance exists, but it is different from production to the extent that there could be flaws in one environment that do not exist in the other.
□	**Addressed**	All sites have QA instances that are sufficiently identical to production that the results of tests in QA can be relied on to evaluate the production instance.

□	**Addressed**	This project has no web sites.

Additional information (optional)

Have these new web sites or changes to existing web sites been scanned or penetration tested for security vulnerabilities? What was the outcome? Note: For best results, we recommend scanning QA first, then after any issues are resolved and migrated to production, scan production to verify the fixes.

NOTE: ASU managed websites only - To request a web scan submit a web application scan through the MyASU Service tab (or here: http://links.asu.edu/requestascan).

□	**Unknown**	Some web sites have not yet been scanned or penetration tested.
□	**High**	A scan or penetration test reported one or more high severity issues that have not yet been addressed.
□	**Medium**	A scan or penetration test reported one or more medium severity issues that have not yet been addressed (but no highs).
□	**Low**	A vendor says the site has been scanned or penetration tested and issues have been addressed but we do not have evidence (e.g. a copy of the report).
□	**Low**	All sites have been scanned or penetration tested, but the tests were not run against the production site or against a QA site that is essentially identical to production. No high or medium severity security issues were reported, or all issues have been addressed. Any fixes have been rescanned to confirm the fix.
□	**Addressed**	All sites have been scanned or penetration tested against the latest version of code that has gone live or will go live. Tests were run against the production site or against a QA site that is essentially identical to what is or will be in production. ASU has received evidence of the scan (e.g. a copy of the report.) No high or medium severity security issues were reported, or all issues have been addressed. Any fixes have been rescanned to confirm the fix.
□	**Addressed**	This project has no web sites.

Additional information (optional)

Based on the project's access to sensitive data, what is the proposed criticality rating of your web site(s)?
For a definition of "criticality" see the Web Application Security Standard at http://links.asu.edu/webapplicationsecuritystandard.

☐High	The web site will have access to modify the authoritative source of sensitive data. (To request that an application be considered for ASU's High Criticality list, submit a request to your Security Review Architect.)
☐Medium	The web site has access to sensitive data, but is not rated High.
☐Medium-Low	The web site has confidential data, but not sensitive data. (Most web sites with a password fall in this category, unless they have sensitive data, which would be Medium or High.)
☐Low	The web site only has public information. Web sites in this category do not use a password.

Additional information (optional)

Database Servers

Servers that have databases containing sensitive data should be protected from various types of attacks. A database server directly connected to the Internet has no defenses except the ID and password that may be required. A database server directly connected to a web server may lose *even that ID/password defense* if the web server is compromised.

What database protections are in place?

☐	**High**	There are one or more databases with access to sensitive data. The database servers have publicly routable IP addresses and there is no firewall limiting connections to the database. People from anywhere in the world can connect directly to the database server.
☐	**Medium**	A database containing sensitive data is directly accessible by a web server, but the database only accepts requests from the web server. Other devices cannot make connections to the database.
☐	**Low**	Web servers can connect to database servers directly, but alternate protections are in place to defend the database from a web server compromise, such as a Web Application Firewall in front of the web server. (Describe in the notes how the protective technology protects the database from a web server compromise.)
☐	**Addressed**	Web servers cannot connect directly to database servers due to network segmentation, firewall rules, etc. Web servers interact with database servers through an application server that only permits a white list of known good

		transactions (a three tier architecture). Web servers also have defenses against typical attacks (such as SQL injection) via parameterized queries, stored procedures, or other techniques that do not pass arbitrary strings to the SQL command interpreter.
□	**Addressed**	None of the systems in this project have access to a database containing sensitive data.
□	**Addressed**	This question is not applicable for this project because all of the following are true: ● No ASU equipment will be used to store a database with sensitive data. ● If a vendor has a database with sensitive data, the vendor has accepted responsibility for protecting the data by signing a contract that includes ISO language.

Additional information (optional)

User Authentication

How do the project's systems verify user identity and access rights?

□	**High**	When a user logs in, their password is sent across the network without encryption. For example, users log in from a web page that does not use https encryption. Or as another example, users have client software on their computers which logs in to a server, but the connection to the server is not encrypted.
□	**High**	Passwords are stored in a way that if obtained by a hacker, the hacker could use them to log in. For example (1) the plain text of the password is stored, or (2) the password is encrypted at rest but the encryption could be reversed to obtain the plain text of the password.
□	**High**	One or more systems maintain an independent user authentication technique instead of standard ASU enterprise "single-sign-on" authentication systems such as WebAuth or CAS.
□	**Medium**	The login page uses https encryption and standard ASU enterprise "single-sign-on" authentication systems such as WebAuth or CAS, but subsequent pages revert back to http.
□	**Low**	Ordinary users are authenticated using standard ASU enterprise "single-sign-on" systems, but privileged users, such as site owners or administrators, are authenticated using a separate mechanism.
□	**Addressed**	All systems that require users to identify themselves use standard ASU enterprise "single-sign-on" authentication systems such as WebAuth or CAS.
□	**Addressed**	Access is in compliance with the ASU Privileged account standard: https://docs.google.com/file/d/0B7bqVGx3GJQbaC10bEl0ZndjVVE/

□	**Addressed**	Because all data is public, no user authentication is needed. Administrator access is controlled through existing mechanisms outside the scope of this project.

Additional information (optional)

Servers Authentication

When one server connects to another server, both ends of the connection should have a way to verify that the other server is the correct one and not an impostor.

How do the project's servers authenticate each other?

□	**High**	One or more servers initiate or accept connections with their peers, but do not verify or otherwise restrict which servers can connect.
□	**High**	When a server logs in to another server, a password or other secret is transmitted across a network connection without encryption.
□	**Medium**	Firewalls, network segmentation, or other controls make it impossible for connections to be opened between anything other than the intended servers. Connections are limited by a "black list" identifying which addresses are not allowed to connect.
□	**Low**	Firewalls, network segmentation, or other controls make it impossible for connections to be opened between anything other than the intended servers. Connections are limited by a "white list" specifically identifying which addresses are allowed to connect, and denying all others by default.
□	**Low**	Servers use credentials to identify each other, but there are weaknesses (explain in the notes). For example: (A) the credentials are not unique to one application (B) the credentials are not safely stored, or (C) it is difficult to change the credentials.
□	**Addressed**	Each server uses a standard mechanism, such as https, to verify the other server's identity when initiating a connection to another server. If using https, servers have valid https certificates, and clients verify certificate validity. (The certificates are correctly configured and installed so that no warnings are seen.) The listening server authenticates the requesting server using credentials that are unique to this application. The credentials are not stored where they can be accessed without authorization. Credentials are periodically updated, and can be quickly updated if a compromise is suspected.
□	**Addressed**	The project does not have more than one server, so there is no need for servers to authenticate each other.
□	**Addressed**	The changes being made as part of this project will not affect a situation where two or more servers are communicating with each other, so the question does not apply.

Additional information (optional)

Vendor Involvement

☐ This project is being done entirely by ASU employees, including development and hosting of all components.

If you did not check the box above, list the companies or people contributing to this project who are not ASU employees, and indicate when (if) the vendor agreed to ISO Contract Language:

Any vendor that provides hosting services, physical or virtual, has access to the data stored or processed there. Thus even hosting providers should be included in your list of vendors.

However if you contract with Vendor A and they subcontract with Vendor B, ASU may not require a contract directly with Vendor B. Vendor A may be responsible for Vendor B.

Vendor	**Date vendor signed contract with ISO language**

Additional information (optional)

Is there a contract with each vendor, and does the contract include ISO language?
Note: ISO's standard contract language can be found here and is essential for contracts involving sensitive or highly sensitive data.

☐	**Unknown**	Status of vendor contract(s) or inclusion of ISO language is presently unknown.
☐	**High**	There are one or more vendors with whom we do not yet have a contract.
☐	**Medium**	There is a contract with each vendor, but one or more contracts do not include current ISO language. The vendor is not willing to change the contract to include ISO language.

□	**Low**	There is a contract with each vendor, but one or more contracts do not include current ISO language. The vendor is willing to change the contract to include current ISO language.
□	**Addressed**	There is a contract with each vendor, and each contract includes current ISO language.
□	**Addressed**	This project has no vendor involvement.

Additional information (optional)

Backup, Disaster Recovery, and Business Continuity Strategy

Systems should be able to recover from damaging events such as hardware failures or accidental or malicious data or software corruption.

What is the backup strategy?

□	**High**	There are no backups of some or all systems that are relied upon to store data.
□	**Medium**	Backups are being made, but the ability to fully restore after a total data loss has not been tested.
□	**Low**	All essential systems are regularly backed up. Restore capability is tested at least once a year. If data or software damage or loss were to occur, restoring the latest backup or reinstalling the software would be sufficient; the loss of updates since the last backup would be tolerable.
□	**Addressed**	All essential systems are frequently and automatically backed up to a separate physical location. Restore capability is tested at least once a year. Audit logs or other mechanisms are in place that can back out accidental or malicious changes.
□	**Addressed**	Not applicable. The systems involved in this project are not the authoritative store of any data. It could be recreated from elsewhere if lost, so no backups are needed. Original software install media and ASU-specific install instructions will be kept in a safe place so that the system can be rebuilt in the event of hardware failure or system corruption.

Additional information (optional)

For the following question, your project has "Mission Critical" components if any of the following are true:

- Any web site associated with this project has a "Tier 1" rating. (The Web Application Security Standard at http://links.asu.edu/webapplicationsecuritystandard defines these ratings.)
- There are regulatory requirements that mandate Disaster Recovery and/or Business Continuity planning.
- Your project sponsor wants this considered a "Mission Critical" system for some other reason (by whatever definition is meaningful to the sponsor).

A plan is recommended whether your project includes Mission Critical elements or not. However, expectations are higher for Mission Critical components.

☐ This project has no Mission Critical components.

Have you documented and tested your disaster recovery and business continuity plan?

☐	**Unknown**	We do not currently know the status of Disaster Recovery and Business Continuity plans.
☐	**High**	This is a Mission Critical project but it doesn't currently have Disaster Recovery and Business Continuity plans.
☐	**Medium**	Disaster Recovery and Business Continuity plans don't exist at this time, however, the project is not Mission Critical.
☐	**Medium**	The Disaster Recovery and/or Business Continuity plans have been drafted, but key elements are missing, for example: redundant systems are not in place, contracts with vendors are not finalized, or the plan has not been tested.
☐	**Low**	All mission critical components have geographically-dispersed redundancy with enough capacity to sustain mission critical operations during an extended loss of the primary systems. Disaster Recovery and Business Continuity plans are in place, complete with any contracts for vendor services during an adverse event. However, these are not regularly tested by staging mock disaster scenarios.
☐	**Addressed**	All mission critical components have geographically-dispersed redundancy with enough capacity to sustain mission critical operations during an extended loss of the primary systems. Disaster Recovery and Business Continuity plans are in place, complete with any contracts for vendor services during an adverse event. Systems, plans, and recovery-critical personnel are tested annually by staging mock disaster scenarios.
☐	**Addressed**	The Disaster Recovery and/or Business Continuity plan has been documented and tested, and there are no Mission Critical components. (Projects with Mission Critical components should choose one of the other answers.)

Additional information (optional)

If this project is "Mission Critical", please upload a copy of your plans to your google Security Review folder and fill in the document name(s) here:

Logging and Alerting

Please see ASU System Audit Requirements Standard http://links.asu.edu/systemauditrequirementsstandard for information about what is required to be logged.

Systems should be designed to recognize and alert on typical attacks. For example, authentication or authorization systems should watch for brute force password attempts or other unauthorized access. Web servers, or protective appliances, should watch for the OWASP Top Ten Vulnerabilities and similar attacks.

Do systems watch for undesirable or unexpected activity and log these events? Do logged events trigger alerts? What happens then?

□	**HIGH**	No logging is performed on any system
□	**High**	Some systems do not recognize and log typical attacks, or other unexpected or undesired events.
□	**Medium**	Potential security events are logged, but there is no human or automated review of those logs to alert on possible problems.
□	**Medium**	Potential security events are logged, but the logs do not fully comply with the ASU System Audit Requirements Standard http://links.asu.edu/systemauditrequirementsstandard.
□	**Low**	Logs are maintained in compliance with the ASU System Audit Requirements Standard http://links.asu.edu/systemauditrequirementsstandard, alerts are raised when appropriate, but staff may not be available to respond to the alerts.
□	**Addressed**	Logs are maintained in compliance with the ASU System Audit Requirements Standard http://links.asu.edu/systemauditrequirementsstandard, events are raised when appropriate, and staff will be available to respond to the alerts throughout the lifecycle of the application.

Additional information (optional)

Software Integrity

Whoever writes your software gains control of your computer, sensitive data, and identity. Thus it is important to be sure the software comes from sources you trust. Verify the origin of software before installing it, and keep it up to date if security fixes have been released.

Current versions should be originally installed, upgrades should be applied when available, and security patches should be applied promptly. During original installation or subsequent updates, controls should be in place to ensure that all software comes from trustworthy authors, and has not been tampered with along the way.

Are current versions of software being deployed? Will upgrades and patches be promptly applied?

□	**High**	Some systems run outdated versions of their operating system, utilities, or installed applications. Or, systems are initially deployed with current software, but nothing will be in place to keep them current in the future.
□	**Medium**	There is a capability in place to distribute the most recent software version or updates, but it does not have controls to protect against fake (malicious) updates.
□	**Low**	Initial install files and/or updates carry a signature (e.g. a hash or checksum) to verify file integrity, but the file must be (and will be) manually checked against a trusted list of valid signatures.
□	**Addressed**	Software, including operating system, utilities, applications, and any other executable code, is only obtained from trusted sources. It is distributed using mechanisms that automatically ensure it is not altered, for example, files are cryptographically signed or delivered over a channel that ensures end-to-end file integrity. Current versions of software are initially installed. Patching and upgrades are performed regularly and as needed. Patches are automatically verified so that administrators and users cannot be tricked into installing a malicious update.
□	**Addressed**	This project does not include any new software. Nothing new is installed on user computers or on servers used by this system. There are no new web pages with code that runs on the server (for example, receiving form input) and no new web pages with code that runs on the browser (such as media players, Java, Active X, JavaScript etc.)

Additional information (optional)

ASU's Software Development Life Cycle (SDLC) standard (http://links.asu.edu/softwaredevelopmentlifecycle) calls for all software development to occur within an SDLC that includes information security controls and separation of duties to help ensure the controls are effective.

Is the software included in this project developed under a written Software Development Life Cycle?

□	Unknown	We do not know if software (including vendor software, ASU developed software, or software obtained from other sources such as libraries or frameworks) is or was developed under the control of a written SDLC.
□	High	One or more software components used within this project have no SDLC.
□	Medium	An SDLC exists, but it is not written, it is not routinely followed, or it does not include security controls.
□	Low	We have evidence that a written SDLC with security controls is routinely followed, however the development organization does not have enough people to implement full separation of duties.
□	Addressed	All software (including vendor software, ASU developed software, and software libraries imported from other sources) is or was developed under the control of a written SDLC which includes security checkpoints and separation of duties to control the advancement of software past those checkpoints.
□	Addressed	This project does not include any new software. Nothing new has to be installed on user computers or on servers used by this system. There are no new web pages with code that runs on the server (for example, receiving form input) and no new web pages with code that runs on the browser (such as media players, Java, Active X, JavaScript etc.)

If you checked one of the answers saying there is a written SDLC, please upload a copy of it to your google Security Review folder and fill in its document name here:

Additional information (optional)

Has the new software developed or purchased in this project undergone vulnerability scanning or penetration testing by an entity other than the developer?

□	High	No vulnerbility scanning or penetration testing has been conducted
□	High	One or more components of new software (other than web sites) have not been vulnerability scanned or penetration tested.
□	Medium	Vulnerability scanning or penetration testing has been performed, but by a member or close affiliate of the development team or vendor, such that its independence is not assured.
□	Low	New software (other than web sites) has been vulnerability scanned or penetration tested by a party independent from the developer or vendor, however some issues remain unaddressed. The project team has evaluated the open issues and does not consider them a risk to ASU (explain in notes below).

□	**Addressed**	New software (other than web sites) has been vulnerability scanned or penetration tested by a party independent from the developer or vendor, and any issues found have been addressed.
□	**Addressed**	Vulnerability scanning or penetration testing is not required for this project because there is no new software other than web sites, and the web sites have been scanned for security vulnerabilities.
□	**Addressed**	This project does not include any new software. Nothing new has to be installed on user computers or on servers used by this system. There are no new web pages with code that runs on the server (for example, receiving form input) and no new web pages with code that runs on the browser (such as media players, Java, Active X, JavaScript etc.)

Additional information (optional)

Deprecated or Dangerous Technologies

Frequently an exciting new technical capability is rapidly adopted without due consideration for the security consequences. Hackers begin taking advantage of weaknesses, so some technologies carry added risk. Users can defend themselves by disallowing unwanted technologies, but then some web sites refuse to serve those users until they place themselves at risk again.

Many of these techniques include automatically or manually downloading software from unknown or untrusted authors. Also see the **Software Integrity** section for additional questions that pertain to any executable code that is downloaded or installed such as a plug-in or media player.

Does the project require any of the following technologies in order to make full use of the system?

□	**Medium**	Users are required to enable Java in their web browsers. (Due to a history of many vulnerabilities that go unpatched for months or years, Java has become one of the top malware distribution mechanisms.)
□	**Medium**	Users are required to permit Active-X controls. (Active-X controls give a web site more control of a user's computer, making it easier for attackers to exploit defects in the operating system, browser, or Active-X control itself. Also, dependence on Active-X locks out users of operating systems and browsers that may be more secure.)
□	**Medium**	A password protected web site imports JavaScript code or other client-executed code from another web site that is beyond ASU's control. (This makes it possible for the other site's script to perform identity theft against ASU users.) Users are not allowed to use essential features of the site if they protect themselves by disabling JavaScript.
□	**Medium**	A password protected web site imports JavaScript code or other client-executed code over an http (unencrypted) connection. (This makes it possible for a man-

		in-the-middle to inject a script to perform identity theft against ASU users.) Users are not allowed to use essential features of the site if they protect themselves by disabling JavaScript.
□	**Low**	Users are required to enable Flash in their web browsers. (Due to a history of many vulnerabilities that go unpatched for months or years, Flash has become a common malware distribution mechanism.)
□	**Low**	Users are required to allow pop-up windows in their browsers. (Several popular web browsers now disable pop-ups by default because they have been abused by advertisers and malware.)
□	**Low**	The web site only allows certain browsers, and refuses service to users of other browsers. (Such web sites frequently lock out users of operating systems and browsers that may be more secure.)
□	**Low**	Users are required to enable or install other plug-ins or media players not listed above. (Please describe in notes below.)
□	**Addressed**	The project uses one or more of the above technologies, but they are entirely optional. Users can still accomplish all the functions of the system even if the user shuts off the deprecated technologies.
□	**Addressed**	The project will not use any of the technologies listed in this section.

Additional information (optional)

Other Risks

If you are aware of other risks you would like to document, describe them here and assign what you think is the appropriate risk rating, considering the classification of the data involved. (Copy and paste a table cell containing the rating you want to apply.)

□		
□		
□		

Additional information (optional)

Risk Score

Total up the boxes checked above. Each question should have at least one box checked.

Risk Rating	**Unknown**	**High**	**Medium**	**Low**	**Addressed**
Count of boxes checked					

Risk Acceptance

After your documents are complete and the review discussion has been held, someone will be asked to accept any remaining risk. Please be aware that if your Risk Score includes any **Red** items, the ASU Provost or CFO will be asked to accept the risk. **Orange** items go to the sponsoring business unit's Dean or comparable leadership for risk acceptance. **Low** risks may be accepted in writing by a member of the project team.

Upon award, the successful Proposer(s) is expected to submit a Security Architecture Diagram.

How to Create a Security Architecture Diagram
Revised 2016-05-27

This describes how to make a Security Architecture Diagram for a security review.

Here is the information you will need to gather to create a Security Architecture Diagram:

- Identify each role your new system will support. A role is a group of users who can all do pretty much the same things. For example your system may offer one collection of services to *students* and other services to *faculty*. These are two roles. Roles may also depend on the type of device being used. For example if mobile devices use an "app" instead of using the web site provided for desktop users, you probably have a *mobile users* role and a *desktop users* role, although different descriptions may be more applicable.
    - Don't leave out the administrators. The *administrator* role is an important part of system maintenance, and privileged roles are an attractive hacker target.
- Identify each endpoint in the system. Each role will be an endpoint, and each type of server is also an endpoint. Endpoints include any device that sends or receives data. But if there are multiple devices that perform the same operation, they can be represented as a single endpoint. For example, we don’t need to distinguish each end user computer when they all do the same thing. Similarly, if there is a cluster of identical servers doing the same thing, that’s one endpoint.
- Identify each connection between endpoints. If data is moving, there must be a connection to carry it. But unlike a data flow diagram, what matters here is not *which way* the data flows (it might be both ways) but *which endpoint* initiates the connection. Usually a connection is requested by a client (for example, your web browser) and accepted by a server (the web site). The server is listening for connections, usually on a predefined port.
- If you make backups, that is yet another data flow from one endpoint to another. How does the data get there? Show the connection if it is network based, or describe the physical security if sensitive data is moved by hand (e.g. backup tapes to a vault).
- For each server, determine what IP address and/or Fully Qualified DNS hostname will be used by the server, and on what port(s) it will be listening. What protocol is being used to communicate over each connection? Is the data protected in transit? How do the endpoints of the connection authenticate each other? (How do they verify that they have connected to the correct endpoint?)

You are now ready to start making your drawing.

- Choose a symbol to represent the endpoints. Typically this is a box, but it could be something else. Draw a box (if that’s your choice) for each endpoint. Again, that would be one box to represent all the users who share a single role, and another box for each server (or group of identical servers). If different users connect to different servers, that would be a distinct endpoint. Don't forget the users! The system can't work without them.

- Label endpoints that are permanent (e.g. servers) with their IP address and/or Fully Qualified DNS hostname*. Users, of course, come and go all the time, and their IP address or name doesn't matter.

- Choose a symbol to represent the connections. Typically this is a line, but it could be something else. Draw a line (or whatever) from each endpoint to each other endpoint with which it communicates.

- Choose a symbol to identify which end of the connection is the client and which end is the server. Remember that the server is passively listening on a port for requests, and the client is initiating those requests. You could represent this, for example, by an arrowhead on the server end of the line, indicating that the client sends a connection request to the server.

- Near the server end of the connection, identify the port number on which the server is listening.

- Indicate the communication protocol used by the connection. For example, a web site may use the http or https protocol. Even for public sites, https is preferred.

- Describe, on the diagram or elsewhere, what type of data is flowing along each connection. Is it confidential? Regulated? If the data is sensitive, describe how it is protected in transit. For example, is it encrypted? Using what type of encryption? Describe any controls to limit who or what can connect and fetch the information.

- If there is confidential or sensitive data, describe how it is protected at each endpoint of the connection. Is it encrypted at rest? If so, how? Is the endpoint protected by a firewall? If so, what does the firewall block or allow? Is the data viewed but not stored (e.g. by a client) so that secure storage is a non-issue?

*See https://en.wikipedia.org/wiki/Fully_qualified_domain_name

Summary

So for each server (anything that accepts connections) you should have:

- Fully Qualified DNS name and/or IP address

- Description of what it is or what it does (web server? database?)

For each connection you should have:

- Port number where the server is listening

- Protocol (http, ssh...)

- Sensitivity of data flowing across that connection
- Protection of data flowing across that connection, if it is not public (encryption? what type?)
- If the server authenticates the client, how? (User ID and password?)
- If the client authenticates the server, how? (For example https uses a server certificate signed by a known certificate authority, which the client can verify.)

Additional Info

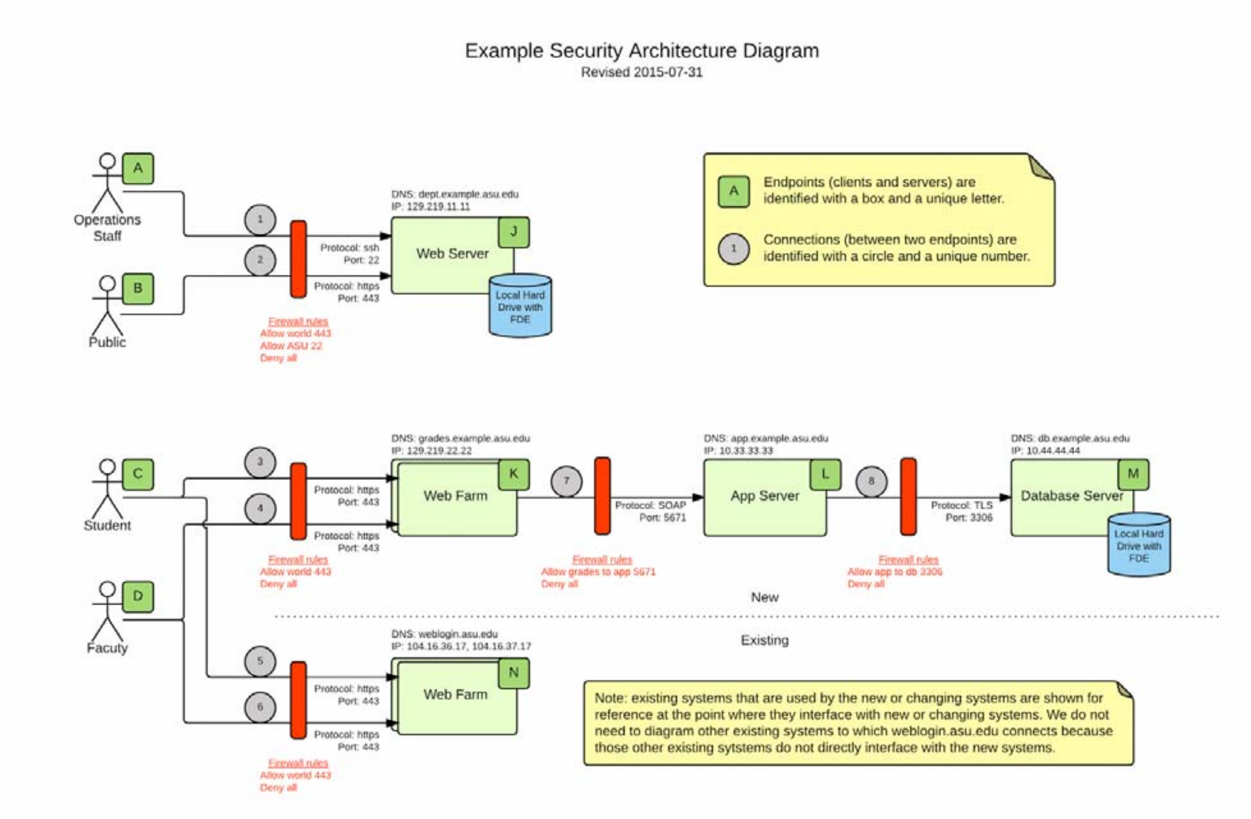
It may also help to distinguish existing endpoints, to which you will merely connect, from new endpoints that will be created as part of your project.

It may also help, if it is not obvious, to briefly describe the role or purpose of certain endpoints. For example: web server, database server, normal user, administrative user -- don’t forget to show them too if they use different connections! Use consistent and unique names throughout; don’t call it the “data server” here and “MySQL server” somewhere else and “repository” a third place.

It is not necessary to show disk drives that are physically within a single server. However network shares are most likely part of a file server, and the file server should also be shown as a distinct endpoint.

When you are done, save your diagram in a format that will open on other types of computers (e.g. pdf) for people who may not have your software.

EXAMPLES



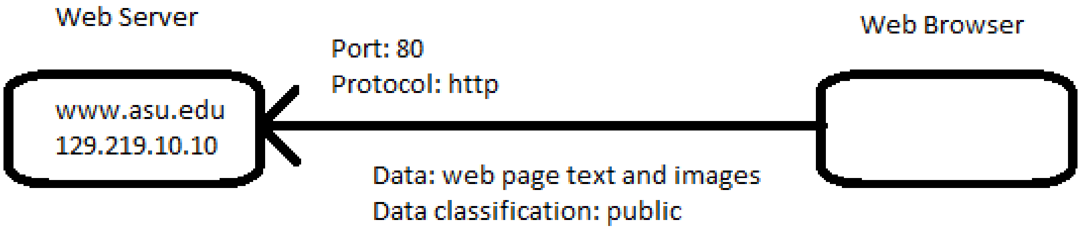
Example Security Architecture Diagram
Revised 2015-07-31

A Endpoints (clients and servers) are identified with a box and a unique letter.

1 Connections (between two endpoints) are identified with a circle and a unique number.

Note: existing systems that are used by the new or changing systems are shown for reference at the point where they interface with new or changing systems. We do not need to diagram other existing systems to which weblogin.asu.edu connects because those other existing sytstems do not directly interface with the new systems.

The diagram need not be colorful. Although this diagram (below) is very simple, it conveys all the requested information. Visual appeal can be beneficial, but the factual information is what really matters.



Web Server
www.asu.edu
129.219.10.10
Port: 80
Protocol: http
Data: web page text and images
Data classification: public
Web Browser