**1.0 Data Rights**

The Government retains full and unlimited rights to all artifacts (code, documents, materials) produced under this contract. All artifacts are the property of the Government with all rights and privileges of ownership/copyright belonging exclusively to the Government.

**1.1 Project Repository**

To facilitate the management, reporting, collaboration, and continuity of access of all government artifacts and deliverables produced under this contract as a single logical unit, all artifacts and deliverables shall be developed, version-controlled, stored, and delivered in machine processable form on a single industry-standard public Github repository (“Project Repository”) with clearly designated and appropriate licenses. Upon commencement of the contract period, the contractor shall establish the Project Repository, and provide the publically accessible URL of the Project Repository to the project manager, contracting representative, and relevant government stakeholders.

The Project Repository shall contain the sole authoritative source of all artifacts produced under this contract. Developers shall have full read-write (push-pull) privileges and perform all development from this collaborative development repository. The government, all necessary stakeholders, and the public shall have contemporaneous read and download access all artifacts at all times throughout the lifecycle of the contract. This Project Repository and comprehensive access of all authoritative artifacts shall establish a collaborative, concurrent real-time development, testing, management, reporting, review, and oversight of all artifacts in one location for all stakeholders.

By default all artifacts of the Project Repository shall be hosted on a *public* Github Repository. Should a subset of content in the Project Repository contain proprietary, protected, or sensitive information or content, then contractor shall use a *private* Github repository *for only this subset of content*. Contractor shall document and maintain an always-up-to-date index (with descriptions and reasons for redaction) of all redacted artifacts on the public Project Repository. Based on this redaction index, the contractor shall provide a fully automated redaction script. This script shall be run on a continuous basis (at minimum nightly during the contract period ) such that the private (unredacted), public (redacted), and indexed description of redactions are always consistent, complete, and up-to-date. Contractor must demonstrate that the redaction process is reversible and nondestructive, such that the code works fully as intended and specified in its restored, de-redacted state. Contractor must provide a de-redaction script with necessary nonproprietary substitute data to restore full functionality of the software.

A private repository may be created and managed as either a private Github repository (a) within the primary public Github repository, or (b) within a secondary repository managed behind a government firewall on Github Enterprise. In all cases, government and all stakeholders shall have full access to (a) all repositories, private and public, at all times and (b) an index of all content, private and public, that correctly lists and describes all content.

For purposes of this contract, independent of whether segments of the Project Repository are hosted on separate public and private repositories, the Project Repository shall be managed and considered as a single, inclusive logical unit comprehensively spanning all repositories and artifacts, with shared licensing across all repositories as described below eliminate any ambiguity surrounding ownership of said content.

The artifacts in the Project Repository shall have the following properties and data rights:

**1.2 All data and metadata produced under this contract must be provided in nonproprietary industry-standard machine-processable, structured form on the Project Repository and carry a Creative Commons CC0 license.** All data must include its corresponding, complete, correct, current operational metadata (schemes, data dictionaries) in machine-processable form, such that fully automated machine interpretation, extraction, translation, loading, and migration of all data to any future data storage system may be accomplished by a third party using industry-standard tools with no loss of any information content or context. If the data is tabular, CSV is required; for all other data structures JSON-LD is required. For metadata JSON-LD is required.

**1.3 All code (software) produced under this contract shall be developed, version-controlled, and delivered in source code form with associated documentation in the Project Repository, such that real-time, contemporaneous third-party review and validation of all code in progress is possible.** The contractor shall clearly identify all source code as either original or derivative. All code that constitutes original works shall carry an AGPLv3 license. All code that constitutes derivative works must carry a consistent and [OSI-approved](https://opensource.org/licenses) free and open source license.

All source code, dependent code, libraries, or third-party code shall be in portable, industry-standard languages. If the source code requires compiling or assembling, these shall be either industry-standard open-source compilers or assemblers, or shall be provided with the software under a free and open source license that has been approved by the [Open Source Initiative](https://opensource.org/licenses) (OSI).

All code must have corresponding documentation, version-controlled in markdown in the same repository as the source code, and contain at minimum an Installation Guide and a User Guide for the final delivered source code such that a third party may download, install and make full functional use of the delivered code as specified and intended. The Installation Guide must list all required third-party code, libraries or other dependencies.

**1.4 All documentation and reports produced under this contract must be provided as machine-processable industry-standard markdown in version-controlled text files on the Project Repository and carry a Creative Commons CCO license.** From the most recent version of the markdown source, contractor shall use a documentation generator to produce all documentation in required formats. Contractor shall auto-generate all other formats of the documentation (at minimum HTML, Word, and PDF) exclusively from the markdown source. All edits, updates, and amendments to any documentation must be through changing the markdown source (not by editing the generated files), and then the documentation shall be regenerated in all required formats. All generated documentation shall reflect the most recent version of the markdown source. Approved markdown formats include Github Markdown and Docbook.