MSTS
MISSION SUPPORT AND TEST SERVICES LLC

1.1.1

EXHIBIT B
STATEMENT OF WORK

Title: Master Agreement – Building Program Tilt-Up and Other A-E, and Construction Services

SOW Task Number: 0

Requisition Number: REQ-0025450

SOW Revision Number: 5

Prepared By: Jeff Moya

Requisition Date: 12/18/25

TABLE OF CONTENTS

LIST OF ACRONYMS

Acronym	Definition
ACM	Asbestos Containing Material
BAS	Building Automation System
BMS	Building Management System
BOR	Beneficial Occupancy Representative
CAP	CONTRACTOR Acquired Property
CM	Construction Manager
EPP	Environmentally Preferable Products
ES&H	Environmental Safety and Health
EVM	Earned Value Management
GFE	Government Furnished Equipment
GFP	Government Furnished Property
LAO	Los Alamos Operations at Los Alamos, NM
LO	Livermore Operations at Livermore, CA
MEL	Master Equipment List
M&O	Maintenance and Operation
NFO	Nevada Field Office
NLV	North Las Vegas Facility
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site
PULSE	Primary Underground Laboratory Subcritical Experimentation.
RCM	Radiological Control Manual
RGD	Radiation-Generating Devices
RPP	Radiation Protection Program
RSLA	Remote Sensing Lab at Andrews AFB, Maryland
RSLN	Remote Sensing Lab at Nellis AFB, North Las Vegas, NV
RWP	Radiological Work Permit
SME	Subject Matter Expert
SOW	Statement of Work

Acronym	Definition
SSSP	Site-Specific Safety Plan
STL	Special Technologies Lab at Santa Barbara, CA
STR	Subcontract Technical Representative

B-1 SCOPE AND BACKGROUND

1. Background

The Nevada National Security Site (NNSS) is a U.S. Department of Energy, National Nuclear Security Administration (NNSA) installation, operated by Mission Support and Test Services, LLC (MSTS or CONTRACTOR), comprising approximately 3,561 square kilometers (1,375 square miles) of federally owned land located in southeastern Nye County, Nevada. Located approximately 105 kilometers (65 miles) northwest of Las Vegas, Nevada, the NNSS is accessed from U.S. Highway 95, which roughly forms the southern boundary of the site.

The MSTS also operates the North Las Vegas Facility (NLV); the Remote Sensing Lab at Nellis AFB, North Las Vegas, NV (RSLN); the Remote Sensing Lab at Andrews AFB, Maryland (RSLA); Special Technologies Lab at Santa Barbara, CA (STL); Livermore Operations at Livermore, CA (LO); and Los Alamos Operations at Los Alamos, NM (LAO).

MSTS's Building Program is currently planning for an increase in modernization in the form of new building projects that will be performed under an accelerated schedule.

PROJECT BACKGROUND –This includes the following:

Master agreement will be awarded based on pricing of the first option and sub-options in the below list:

Contract Options:

- **Option:** New Mercury Materials Packaging and Surveillance Facility [23-474] – Design Only
  - **Sub - Option:** New Mercury Materials Packaging and Surveillance Facility [23-474] – Tilt-Up Construction
- **Option:** Forward Area Mission Complex (FAMC) 01-393 Design/Build
  - **Sub – Option**: FAMC Sewer Lift Station – Design/Build
  - **Sub – Option:** FAMC Site Improvement and Parking
- **Option:** Tilt Up Building 2 – Design/Build
- **Option:** Tilt Up Building 3 – Design/Build
- **Option:** Tilt Up Building 4 – Design/Build

The construction method will be defined in the respective Project Requirements and Specification (PRS) document. SUBCONTRACTOR shall possess the ability to perform Tilt-Up Design and Construction services as well as other building methods as defined in each task's PRS.

2. Objective

MSTS requires the services of an experienced SUBCONTRACTOR to provide a full range of Architect/Engineer (A/E) professional design services, and Construction Services as requested by MSTS. This Master Agreement Statement of Work (SOW) provides the framework of service options from which CONTRACTOR may issue individual Task Order Releases authorizing the SUBCONTRACTOR to perform work.

3. Description of Work

The SUBCONTRACTOR shall provide technically qualified resources that work as a part of a team under the direct oversight of MSTS. SUBCONTRACTOR resources shall be responsible for independently planning, organizing,

and performing a wide variety of non-hazardous specialized administrative/technical duties in support of the successful completion of goals and deliverables. Additionally, the SUBCONTRACTOR shall furnish all necessary labor, technical and professional services, supervision, materials, tools, equipment, consumables, and payment of any applicable taxes to perform all operations necessary and required to perform the scope as directed by MSTS.

Unless otherwise approved, the SUBCONTRACTOR shall work in accordance with MSTS subcontract requirements,

Specifically, SUBCONTRACTOR shall provide the following for MSTS:

- This scope of work includes the performance of A/E professional design services (Assessments, Title I, II, and III, including reviews and Project Management), preconstruction management services, procurement and management of construction execution services (including but not limited to civil, architectural, structural, mechanical, electrical, plumbing, building controls, quality control, testing and balancing, commissioning, tenant fit-out, and warranty work related to Building Projects). MSTS will define project specific information and requirements within each respective Task Order Release. The SUBCONTRACTOR shall adhere to MSTS code of record, functional and technical requirements documents, and any other special provisions specified in subsequent Task Orders.

Design and Construction Procedures & Requirements

The intent of this section is to outline the CONTRACTOR's expectations of SUBCONTRACTOR during the execution of the Contract. Beginning with Project Management, as the CONTRACTOR will be relying on the SUBCONTRACTOR's Project Manager to help guide CONTRACTOR through the process. The CONTRACTOR's Subcontract Technical Representative (STR) will serve as the technical point of contact to the SUBCONTRACTOR on all technical matters and all work performed shall be coordinated through the STR. The assigned CONTRACTOR's Task Manager will assist the STR in the oversight of the performance of the work. The SUBCONTRACTOR shall adhere to all requirements specified within the respective Project Requirements Specification (PRS) documents and/or Technical Requirements Documents (TRD) provided with each respective task order release.

Project Management

This anticipated partnership between the CONTRACTOR and SUBCONTRACTOR shall strive to develop a cooperative team drawing on the strengths of each team member, in an effort to achieve a quality project within budget and on schedule. As part of the partnering process, the CONTRACTOR and SUBCONTRACTOR are to further develop, establish, and agree to a comprehensive design process.

Communication Organization Structure

The SUBCONTRACTOR's primary contact with all CONTRACTOR Representatives will be through the Procurement Specialist and STR. The STR / Procurement Specialist will route the communication to either the CONTRACTOR's Project Manager, or appropriate CONTRACTOR Representative (to be determined by Project Manager)

Coordination with CONTRACTOR and NNSS Occupants

The SUBCONTRACTOR is required to perform the following coordination activities with the CONTRACTOR and any other stakeholders identified in Task Order releases prior to and during execution of the work:

- Existing buildings on the NNSS will continue to operate during the entire performance of this agreement. The SUBCONTRACTOR shall conduct all construction activities in a manner that will safeguard and assure that the CONTRACTOR's continued operations will not be disrupted.
- The SUBCONTRACTOR shall submit, for STR to facilitate review and approval, a detailed Mobilization and Work Plan, prior to proceeding with the work, including but not limited to, site access, traffic control and staging areas, and work time periods.
- The SUBCONTRACTOR's work shall be limited to areas of actual construction. The SUBCONTRACTOR and its work force are restricted from entering adjacent restricted areas and interacting with the CONTRACTOR's staff except through jobsite meetings or otherwise determined by the STR. The STR will

provide the SUBCONTRACTOR detailed job-site restrictions including any additional protocols and restrictions.

- The SUBCONTRACTOR, prior to the Post-Award Kick-Off Meeting, shall provide a list of principal staff assignments (as described in section B-4) including names, duties/responsibilities, addresses, emergency contact information, and telephone numbers.
- The SUBCONTRACTOR is responsible to request future calendar year holiday and site closure schedule(s) from the STR.
- The SUBCONTRACTOR schedules must take into account the CONTRACTOR's scheduled holidays. No planned non-operational days (typically Friday, Saturday, or Sunday), including scheduled holidays, are to reduce the minimum days for CONTRACTOR action in the SUBCONTRACTOR's schedule.
- The CONTRACTOR's working days are all days excluding Fridays, Saturdays, Sundays, scheduled holidays, and the last 2 weeks of December.
- If the SUBCONTRACTOR is requesting to work outside of the normal business days, the STR will need at least 4 business days' notice. The SUBCONTRACTOR shall provide a list of construction activities to be accomplished and the amount of personnel that will be on site.
- The SUBCONTRACTOR shall avoid scheduling review period(s) with a holiday occurring within the review period.
- The SUBCONTRACTOR shall not schedule meetings, CONTRACTOR reviews, or response due dates during the last 2 weeks of December.

Existing Utility, Life Safety, and Fire Safety System Elements:

- All activities that require interruption of existing services or operations (electrical power, gas, sewer, water, traffic, etc.) shall be scheduled with the STR at least 16 business days in advance at the NNSS.
- The SUBCONTRACTOR shall perform all data gathering to prevent accidental disruptions to facilities outside the project limits through investigation of existing utilities and protection of existing utilities during construction. The SUBCONTRACTOR shall remedy accidental disruptions at no cost to the CONTRACTOR.

Meetings

The SUBCONTRACTOR shall adhere to meeting requirements specified within the respective PRS documents and Technical Requirements Documents provided with each respective task order release.

Progress Documentation for CONTRACTOR's Information

During Preliminary Design, Schematic Design, Design Development, and Construction Documents Phases: The SUBCONTRACTOR will provide drawings and other documentation sufficiently detailed to identify each space's size and function, and in formats and scales per industry accepted standards. The SUBCONTRACTOR shall update the STR weekly throughout the duration of the contract through written progress reports and updates to Design Rolling Action Item Log (DRAIL). The reports shall highlight any critical action items that need to be resolved and assigned to a responsible party.

Design Rolling Action Item Log (DRAIL)

Throughout the design process, SUBCONTRACTOR shall identify, track resolution, maintain all comments and action items generated during the design process, and make this available as an item on the weekly report throughout design phases of the project. The list will be a single file that can be prepared as an excel file and have the following minimum columns per action item row: Item Number, Priority (1-urgent to 3-long-term), Task Description, Date Created, Initiated By, Action By, Date Due By, Resolution/Results/Comments, and Closed Date. Status category shall include at minimum ability to track whether items are being 'Researched,' 'Canceled,' 'On-Hold,' 'Overcome by Events,' or 'Completed.' The SUBCONTRACTOR is responsible for maintaining the DRAIL. The SUBCONTRACTOR should review recently closed action items and open action items that are due with each Design Progress Meeting minutes. Action items discussed in the meeting will be notated in the comments. The DRAIL shall be updated if the action item was closed during the meeting. The final resolution of each action item must be in the DRAIL. The completed DRAIL will be provided to the CONTRACTOR at the end of each design phase and end of the project. During the DRAIL process, any response that increases or reduces the scope of the project needs to be submitted by the SUBCONTRACTOR separately to be reviewed by the Program Manager,

Project Manager, STR, and Procurement Specialist to determine if it will be an incremental or deductive change order to the project. Feedback received by the MSTS Subject Matter Experts do not constitute a change in project scope.

CONTRACTOR's Right to Acceptance

The CONTRACTOR reserves the right to reject deliverables. All issues with the design deliverables must be resolved before the next design phase deliverables can be submitted including all comments made by the CONTRACTOR and the CONTRACTOR's Building Authority (BA). Both the CONTRACTOR and BA require a minimum of 8 business days review time for all deliverables, submissions, and other design and construction documents requiring review. Outright rejection of submission of a deliverable, as stated above, does not allow the SUBCONTRACTOR to charge for delay in schedule. If submission deficiencies result in the delay of schedule, the SUBCONTRACTOR may be liable for the CONTRACTOR's incurred costs.

Task Order Releases will describe specific acceptance criteria.

Designer of Record (DOR)

The DOR is responsible for identifying each of the following disciplines for CONTRACTOR approval – architecture, structural, civil, electrical, mechanical, plumbing, fire protection, etc. The DOR shall coordinate all disciplines and appropriately resolve conflicts. The SUBCONTRACTOR is to provide a contact list of all disciplines' DOR. DORs will be responsible for the following:

- Stamping, signing, and providing the date for each drawing and other deliverables under their responsible discipline at Issue for Construction (IFC).
- Maintaining the integrity of the design and compliance with the requirements outlined in the Construction Documents through construction.
- Documenting the as-built conditions through Record Drawings.
- Reviewing and approving extensions of design, material, equipment, and other construction submittals.
- Reviewing and providing their approval or disapproval of requested deviations to the accepted design before submitting to STR after the IFC.

CONTRACTOR will then provide final approval of all deviations. SUBCONTRACTOR should not contact the State of Nevada, Nye County or any Authority Having Jurisdiction (AHJ), directly.

Design Services Procedures and Requirements

Deliverables required under Scope of Work (SOW) are to be listed and maintained in a log. The SUBCONTRACTOR shall submit the SOW deliverable submittal log within 5 business days of the Contract award. The SUBCONTRACTOR is to submit for CONTRACTOR's approval a Critical Path Method Schedule where the critical path is easily identifiable. Schedules are to show relationships between activities, tasks, and milestones. Schedules provided by the SUBCONTRACTOR should reflect what portions of the design phase are the critical path with a Gantt chart format schedule. The schedule is to include Quality Control activities.

The SUBCONTRACTOR may be required to fast-track the design, and when possible, proceed working on other design phases prior to the CONTRACTOR's Notice to Proceed of a previous design phase's deliverable. The SUBCONTRACTOR is required to identify long lead items at the end of Design Development and provide the CONTRACTOR an opportunity to review and approve without an interruption to the schedule. Upon approval of the design, no changes shall be made without written approval from the M&O CONTRACTOR.

The design phases shall be planned and executed as follows:

- Preliminary Design (10%)
- Schematic Design (30%)
- Design Development (60%)
- Construction Documents
- Issue for Review (IFR), 90%
- Issue for Construction (IFC), 100%

Preliminary Design

Preliminary Design (~10% design completion), the process of gathering and finalizing the design criteria, preparing preliminary drawings, and preparing written descriptions to illustrate the proposed design of the work and demonstrate the understanding of the project work, site conditions, and programming to the CONTRACTOR. The SUBCONTRACTOR's DORs shall prepare an evaluation of CONTRACTOR's program, schedule, budget for the construction cost of the work, project site conditions, the proposed procurement or delivery method, and other initial information; each in terms of the other, to ascertain the requirements of the project. The SUBCONTRACTOR's DOR shall notify the CONTRACTOR of the following:

- Any inconsistencies discovered in the information

The SUBCONTRACTOR's DORs shall reach an understanding with CONTRACTOR regarding the requirements of the project.
CONTRACTOR will provide available documentation for existing conditions of the site to the SUBCONTRACTOR. The SUBCONTRACTOR shall review the available information and inform the CONTRACTOR if additional studies or reports are required to inform the design or conduct relevant project analysis. Based on the project's requirements agreed upon with CONTRACTOR, SUBCONTRACTOR's DORs shall prepare and present for CONTRACTOR's approval a preliminary design illustrating the scale and relationship of the project's components. During this phase, SUBCONTRACTOR works with the CONTRACTOR to gather information, analyze, and document the following information:

- Building programming requirements and functional adjacencies
- Applicable Building codes and Standards from the Code of Record (COR), Environmental regulations and NNSS standards
- Site characteristics, existing infrastructure, opportunities, and restrictions:
    - Determining sun, wind, and other weather patterns in relation to the site
    - Determining access and connectivity to and from site
    - Reviewing existing drainage patterns on site for new building's drainage tie in
    - Geotechnical: Bearing Capacity and stability of the soil
- Building context characteristics and material of surrounding buildings as well as site improvement elements, materiality, and layout logic.
- Building performance - Determine building envelope and building systems performance requirements and how these will impact the project based on the Code of Record (COR), and Building Performance Specifications provided in PRS and/or TRD associated with individual Task Order Releases.
- Design alternatives that will be presented and reviewed with the CONTRACTOR in Preliminary Design phase. Alternatives are meant to show adjacency, massing, and materiality iterations and shall be viable solutions for the project parameters and budget.

Deliverables for Preliminary Design

- Design narrative with identified opportunities and constraints (11x17 Portable Document Format [PDF])
- Site Analysis Diagram with proposed building orientation and scope of site work indicated - provide two (2) alternatives with reasoning behind each
- Preliminary design concepts in basic model form, site situated - provide two (2) alternatives with reasoning behind each
- Floor plan diagram showing departments relative to building program
- Construction type and proposed materiality of the building, for materiality provide two (2) alternatives

The SUBCONTRACTOR will present the CONTRACTOR with two (2) design alternatives and recommend the most favorable one based on their expertise and tabulated data. SUBCONTRACTOR may submit a third alternative if they assess that presenting three alternatives is beneficial to the design process. CONTRACTOR will conduct a review of the presented design alternatives from 10% design and provide the selection for SUBCONTRACTOR to analyze in 30%. At the end of the Preliminary Design phase, one site plan and massing design option will be selected for further refinement in Schematic Design. CONTRACTOR also may select one alternative or recommend what elements are favorable from other iterations for the SUBCONTRACTOR to include in the design. Design alternatives to be archived and available for future reference. The materiality and programmatic adjacencies may still be evaluated into the Schematic Design phase.

Schematic Design

Schematic Design (~30% design completion), the process of creating design iterations, by determining size, massing, organization, and site orientation. During this phase, the information and project goals are further evaluated in order to define the fundamental components of the project and their interrelations. In Schematic Design the following information is reviewed and solutions presented:

- Further review of COR and NNSS standards related to comprehensive building and site design
- Site layout with building footprints shown and circulation patterns indicated for two (2) design alternatives. Indicate strategies for civil work approach – cut / fill and grade change approach for each alternative.
- Building size and massing for the design alternative selected in Preliminary Design
- Floor plans with department color designations, circulation patterns, openings shown, and general areas tabulated for the design alternative selected in Preliminary Design
- Material boards for two (2) schemes including exterior and interior finishes
- Construction type and proposed materiality of the building.
- Preliminary selection and sizing of building systems - analyze the building's energy, water, and material use, review optimization strategies.
- Coordination with Physical Security Services (PSS) on preliminary access control design.

SUBCONTRACTOR shall revise the Schematic Design Package to incorporate the resolution of the comments generated after CONTRACTOR's review of the design to date, perform, and document a back-check review, and submit the final documents. The CONTRACTOR shall be provided adequate time to review submission(s). If submission(s) generates additional comments, the previous process will repeat. The SUBCONTRACTOR is responsible for scheduling an appropriate float in the schedule to accommodate the potential additional reviews. Upon Schematic Design document submission, an in-person page turn meeting shall be held between the CONTRACTOR and SUBCONTRACTOR, after the 8 business days of CONTRACTOR review, normally after DRAIL resolutions. SUBCONTRACTOR shall revise the Schematic Design Package to incorporate the resolution of the comments generated from CONTRACTOR's review of deliverables, perform and document a back-check review, and submit the final documents.

Deliverables for Schematic Design

All deliverables shall be provided in formats and drawing scales commensurate to industry standards and/or as outlined in Section, "Design Deliverable Format," and include but are not limited to:

- Applicable codes listed on general sheet, construction type, and occupancy identified
- Overall architectural Site Plan
- Civil Site plan with preliminary grading and identified points of existing utility connections
- Department color coordinated Floor Plan including analysis of net area/gross efficiency ratio
- Roof plan showing preliminary spot elevations and materiality
- Colored Elevations with preliminary material types called out
- Key Sections
- Massing 3D digital model of proposed design (axonometric drawing)
- Narrative describing proposed approach to structural design
- Narrative describing proposed selection and sizing of building systems
- Specification volume table of contents for all disciplines

Design Development

The SUBCONTRACTOR develops the design development (~60% design completion) form and will include within it the arrangement, size, and materials of the work or a portion of the work. The SUBCONTRACTOR will verify that the design reflects the strategies, goals, and concepts determined in the previous design phase and aligns with the COR and the NNSS standards. Design Development Documents will include a complete code analysis on General sheets. In design development, the following information is determined:

- Grading plan and profiles and a site utility plan with noted tie-in locations to existing infrastructure.
- Building drainage system to tie into overall existing site storm drainage.
- Building egress sidewalk design with required egress lighting (bollards). Sidewalks are to adhere to

Architectural Barrier Act standards, incorporate egress lighting design, and connect to existing walkways or access to parking.
- Parking lot plan for expansion of the existing lot on the corner of Sandstone Avenue and Buster Street
- Floor plan has been reviewed for programmatic accuracy, departmental adjacencies and NNSS standards, and prior comments have been addressed.
- Egress plans have been developed and fire separation locations identified. Appropriate floor space has been allocated to building systems equipment. Restrooms are sized for building's occupancy.
- Reflected ceiling plan is being developed and coordinated amongst disciplines.
- Selection, sizing, details, and schedules for openings are being developed and coordinated.
- Structural design approach has been defined, primary and secondary structural elements have been described, and typical conditions have been reviewed.
- Building systems have been determined and sized while coordination and clash prevention of systems and components is monitored.
- Massing and building height are efficiently designed and work with structural system and provide the required plenum space for building systems.
- Applicable Sustainable Strategies have been identified, and principles are incorporated into the development design.
- SUBCONTRACTOR shall confirm current version of NNSS standards
- Exterior and interior materials have been refined and scheduled.
- Envelope assembly has been determined and reviewed with applicable codes and COMcheck.
- Furnishing and equipment plans are being developed.
- PSS has been contacted, and coordination is established regarding access control.
- IT and Security departments have been contacted, and communications are established regarding technology design and building metering.
- Clash detection process is complete, and solutions are identified for conflict resolution.

Deliverables for Design Development

All deliverables shall be provided in formats and drawing scales commensurate to industry standards and/or as outlined in the respective PRS(s) provided with each task order which includes but is not limited to:

- Completed code analysis for all disciplines on general sheets
- Egress plan with occupancy calculations
- Architectural site plan
- Civil grading, drainage, and utility plans and sections as applicable
- Annotated floor plans
- Annotated slab plan, coordinated with structural design
- Annotated reflected ceiling plan, coordinated with mechanical and electrical systems
- Annotated roof plan
- Enlarged plans of key areas and restrooms with progress annotation
- Furniture and equipment plans and schedules, casework developed
- Floor finish plans tied to developing room finish schedule
- Door, window, louver, and awning schedules and details
- Exterior elevations with noted material and glazing tags, and related section callouts.
- Exterior elevations to include dimensioned locations of exterior/egress lighting, signage, any plumbing accessories
- Interior elevations of key locations with finishes being called out. Interior elevations to have all components visible and coordinated, such as light switches, fire alarms, power, signage, wall hung equipment with indicated backing. Furniture that is located at wall perimeter shown dashed, transparent
- Key Sections – overall building and exterior wall sections with annotated envelope assembly
- Typical envelope and foundation details
- Massing 3D digital model (axon drawing)
- Exterior and Interior Finish Board with materials keyed to the schedule (one physical and digital)
- Two exterior photorealistic renderings
- Preliminary structural plans and typical connection details – foundation and framing

- Preliminary electrical, mechanical, plumbing, communications, and fire protection drawings showing coordinated interior and exterior equipment locations, sizes of major components
- Progress version of Three Part Administrative and Technical Specifications/Project manual
- Accessibility, Architectural Barrier Act (ABA) calculations, drawings, general notes, and details
- Preliminary passive fire protection drawings for penetration seals and barriers to include at minimum: interior wall sections cuts; location of openings at fire-rated walls; schedules; identification of penetration type (duct, conduit, pipes, etc.); Underwriters Laboratories (UL) design number; and where required identification of Engineering Judgement (EJs). Where required, identification is also required for floor and ceilings penetrations and openings requiring passive fire protection.

The CONTRACTOR shall be provided adequate time to review submission(s). If submission(s) generates additional comments, the previous process will repeat. The SUBCONTRACTOR is responsible for scheduling an appropriate float in the schedule to accommodate the potential additional reviews.

Upon Design Development document submission, an in-person page turn meeting shall be held between the CONTRACTOR and SUBCONTRACTOR, after the 8 business days of CONTRACTOR review, normally after DRAIL resolutions. SUBCONTRACTOR shall revise the Design Development Package to incorporate the resolution of the comments generated from CONTRACTOR's review of deliverables, perform and document a back-check review, and submit the final documents.

Construction Documents

Construction Documents (up to 100% design completion): The process of preparing drawings (including substantiating analysis), administrative and technical specifications, and other documents describing the work or a portion of the work in sufficient detail to allow accurate and complete construction.

Issue for Review (IFR)

IFR shall occur when the majority of the design deliverables are complete – approximately ninety percent (90%). During this phase, the Construction Documents are further refined, developed, and detailed for construction. This effort includes, but is not limited to the following actions:

- Plans, sections, elevations, and details are fully annotated and coordinated.
- Exterior and interior building systems and equipment are coordinated and tied into existing infrastructure as applicable. Building systems' access points and equipment are to be designed with ease of maintenance in mind.
- Schedules are cross-checked and completed (equipment, hardware, materials etc.).
- Material tags are crosschecked and aligned with material schedules.
- Crosschecking interior and exterior signage plans, schedules, and typical details. Each sign shall be keyed to a quantitative schedule indicating size, quantity of each type, and signage text. Non-typical and exterior signage to include elevations showing the signage location, dimensions, methods of attachment and finish. Interior signage to be visible on Interior elevations. CONTRACTOR will provide font information.
- Cross-checking floor finish plan, transition details and Interior Room Finish Schedule:
- Schedule to list room number, room name, floor finish, wall finish, wall base, corner guards, ceiling material and finish, and a notes column for additional information.
- Furniture and equipment plans being finalized, schedules shown and coordinated with the casework fully detailed.
- All passive fire protection drawings, details, and schedules are finalized and completed.
- Coordination and final approval from PSS on access control design.
- Clash detection process complete and verification of all conflicts resolved in design.
- Upon IFR document submission, an in-person page turn meeting shall be held between the CONTRACTOR and SUBCONTRACTOR, after the 8 business days of CONTRACTOR review, normally after DRAIL resolutions. SUBCONTRACTOR shall revise the IFR Package to incorporate the resolution of the comments generated from CONTRACTOR's review of deliverables, perform and document a back-check review, and submit the final documents.

Deliverables for IFR

- Previously developed renderings reflecting any relevant updates
- 90% complete Construction Documents drawings
- 90% complete administrative and technical specifications (Project Manual)
- 90% for all calculations and substantiations

Construction Document Drawings

Construction Document drawings are to include but not be limited to:

Architectural drawings

- Site which includes the vicinity map, annotated plan with material legend, site details as required as well as egress sidewalk design with slopes and control joints
- General Sheets with code analysis, accessibility details, plumbing count, International Energy Conservation Code (IECC) report, UL details, Building Owners and Managers Association (BOMA) analysis
- Life Safety/Egress Plan that includes fire extinguisher locations, rated walls, travel distance, occupancy and exiting analysis
- Floor Plan and enlarged area plans with related tags and callouts
- Slab Plan that includes note depressions (coordinate with structural), floor drains/slope to drain, floor boxes, control/expansion joints, etc.
- Dimension/partition type plans and partition details
- Enlarged Restroom Plans/Elevations that includes the toilet accessories schedule (toilet accessories confirmed with the Custodial Department)
- Other enlarged area or room plans and elevations
- Floor Finish Plan that includes patterns and legends, floor boxes, corner guard locations, along with transition details completed and called out
- Furniture, casework, and equipment plans and schedules as well as casework details completed and called out
- Signage plans, exterior elevations, schedule, and details
- Material Schedule/Room Finish Schedule
- Door schedule/door and frame types that indicate size, hardware, and relevant details. Coordination with floor plan annotations and tags is required
- Window/Storefront Schedule and frame types that indicate size, hardware, glazing types and relevant details. Coordination with floor plan annotations and tags is required
- Louver/awning plans, schedule, and details completed and called out
- Partition types that include UL callouts
- Reflected Ceiling Plan (RCP) and Area RCPs coordinated with all disciplines
- Roof Plan that includes spot elevations, roof access, walk-off pads as applicable, cricketing, slopes, penetrations, roof details completed and called out
- Interior elevations that are tagged and coordinated with all disciplines
- Passive fire protection drawings for penetration seals and barriers for all fire-rated walls, ceiling, and roofs requiring protection. Minimum information to include the following:
    - interior wall sections cuts; location of openings at fire-rated walls; schedules; identification of penetration type (duct, conduit, pipes, etc.); UL design number; and where required identification of EJs. Exterior elevations that include levels/heights, materials for all elevations indicated with total square footage of the façade and the material percentage for that elevation show in material schedule (=Material Elevation square feet [SF]/Total Elevation SF).
- Building Sections, wall sections, and details are completed and called out
- Miscellaneous/specialty component details as required

Civil Drawings

- Existing condition and demolition plan (if applicable)
- Grading plans and site profiles
- Utility plans and profiles, domestic water and sewer points of connection, inverts coordinated with plumbing,

storm drainage, power and communications
- Site improvement plans inclusive of the adjacent parking lot
- Traffic/fire truck access plans
- Relevant typical and project specific details

Landscaping Drawings

- Site plan showing extent of landscaping work with materials and decorative metal planting objects scheduled
- Relevant typical and project specific details

Structural Drawings

- Foundation plan with details called out
- Framing plans with final beam/column sizes, shear walls, expansion/seismic joints, equipment pads, floor depressions and applicable details called out
- Where required, fire protection details for structural members to include but not be limited to columns, beams, and girders

Mechanical Drawings

- IECC Requirements compliance/COMCheck
- Heating, ventilating, and air conditioning (HVAC) plans that include equipment and clearances, duct runs, diffusers/registers, coordinated duct runs with plenum space, structure and other systems running in the same space. Coordinated access points/panels. Checked diffuser/louver information for finishes, etc.
- Diagrams
- Equipment schedules and relevant details

Plumbing Drawings

- Supply, waste and vent plans that include finalized roof drains/chases, and applicable details shown
- Diagrams
- Equipment schedules and relevant details

Electrical Drawings

- IECC Requirements compliance/COMCheck
- Lighting plans that include a finalized light fixture layout, coordinated with other equipment in the RCP
- Power plans that include coordinated power locations with furniture and equipment, enlarged electrical room plans, and applicable details
- Single line diagrams, equipment schedules, and relevant details

Technology

- Technology plans that include data, access control and security card readers/camera locations, public announcement, fire alarm, Audio/Visual (A/V) equipment types and locations coordinated with power and furniture, cabling and tray paths, and building monitoring system
- Technology details that include typical connections and rack configurations
- Security/access control and alarm requirements and details

Issue for Construction (IFC)

IFC is the time at which all portions of the construction documents are complete. At this time all DRAIL items should be resolved and closed. CONTRACTOR shall be provided at minimum 8 business days to review the final submission. If the final submission generates additional comments, the IFR process repeats. SUBCONTRACTOR is responsible to schedule appropriate float in the schedule to accommodate the potential of additional reviews. Upon IFC document submission, an in-person page turn meeting shall be held between the CONTRACTOR and SUBCONTRACTOR. SUBCONTRACTOR shall revise the IFC Package to incorporate the resolution of the comments generated from CONTRACTOR's review of deliverables, perform and document a backcheck review, and submit the final documents.

Once all comments have been addressed and no additional comments are generated, CONTRACTOR will provide a written release for construction; this is synonymous with CONTRACTOR providing Status Code 1. The following is a description of "Status Codes." Upon each phase of submittal, the CONTRACTOR shall "status" the submittal with the following designations:

Status Code Notation

1 Work may proceed
2 Revise and resubmit – work may proceed subject to resolution
3 Revise and resubmit – work may not proceed
4 Review not required – work may proceed

Although work may proceed on receipt of a design submittal with a Status Code 2 notation, SUBCONTRACTOR must resolve the comments indicated, resubmit, and obtain a Status Code 1 notation before acceptance of the completed work.

Deliverables for IFC

- Stamped Construction Documents Drawing Set
- Stamped Construction Documents Administrative and Technical Specifications Project Manual
- Stamped Construction Documents analysis, calculations, and substantiations

Quality Assurance and Quality Control

SUBCONTRACTOR shall develop and maintain effective and acceptable Design Quality Control (DQC) procedures to control and track all revisions to the design documents after the Contract is awarded.

Design items and processes are to:

- Adhere to the professional Standard of Care, use industry standard engineering/scientific principles.
- Incorporate applicable requirements in all documents and throughout the design.
- Identify and control design interfaces.
- Verify or validate the adequacy of design products using individuals or groups other than those who performed the work.
- Verify or validate work before approval and implementation of the design.

Late Deliverable and Reviews

If the SUBCONTRACTOR cannot meet its scheduled deliverable date, the SUBCONTRACTOR shall advise the CONTRACTOR in writing of the reason of the delay, when the proposed new deliverables date will be, and how the delay will be mitigated to meet subsequent delivery dates. The CONTRACTOR review period begins once the deliverable is received.

Design Deliverable Format

The design deliverables format described below define CONTRACTOR expectations. SUBCONTRACTOR determines how to best execute within the minimum parameters.

Drawings

All drawings are required to comply with detailed requirements as outlined in attached exhibit including:

- A graphic scale (if applicable)
- A north arrow (if applicable)
- Logically organized and easily referenced

Computer Aided Drafting and Design (CADD) System

The CONTRACTOR requires all drawings to be submitted per the CONTRACTOR's Drafting Standards, Revision 2, April 2024 (version to be provided by the STR after award). Files submitted should be in an editable CADD format and Adobe Acrobat PDF. The files should be saved in the 2024 version or earlier. Each file shall represent one complete drawing from the drawing set, including the date, submittal phase, and border.

Each drawing file shall be completely independent of any data in any other file, including fonts and shapes not included with the basic CADD software program utilized. Drawing files with external references, images, or special fonts are not acceptable.

All drawings shall be delivered to CONTRACTOR in a condition with no additional work necessary to integrate into the CONTRACTOR's Master Set.

Building Information Modeling (BIM)

The design will be modeled in BIM. The SUBCONTRACTOR will use Autodesk Revit for the CONTRACTOR's projects as the native CADD file. All disciplines are required to model their designs in 3D. Overlay 2D drawings or inserted images will not be accepted as a complete design package. Model to level of detail 400 per the General Services Administration (GSA) standard Level of Detail Guide.

At a minimum, all construction drawings shall be sheets in SUBCONTRACTORs provided Revit file. Models are to be submitted as Revit 2024 or earlier versions.

Interoperability

SUBCONTRACTOR shall adhere to requirements for interoperability detailed in each respective task's PRS and/or TRD provided with each respective task order release.

Drawings

SUBCONTRACTOR shall adhere to requirements for drawings detailed in each respective task's PRS and/or TRD provided with each respective task order release.

Hard Copies

SUBCONTRACTOR shall adhere to requirements for hard copies detailed in each respective task's PRS and/or TRD provided with each respective task order release.

Drawing Index

SUBCONTRACTOR shall adhere to requirements for drawing indexes detailed in each respective task's PRS and/or TRD provided with each respective task order release.

Sheet Discipline Organization

SUBCONTRACTOR shall adhere to requirements for sheet discipline organization detailed in each respective task's PRS and/or TRD provided with each respective task order release.

Acceptable Drawing Sizes

SUBCONTRACTOR shall adhere to requirements for acceptable drawing sizes detailed in each respective task's PRS and/or TRD provided with each respective task order release.

Specifications

SUBCONTRACTOR shall adhere to requirements for construction specifications detailed in each respective task's PRS and/or TRD provided with each respective task order release.

Substantiation

SUBCONTRACTOR shall adhere to requirements for substantiation detailed in each respective task's PRS and/or TRD provided with each respective task order release.

Construction Procedures & Requirements

The construction phase will begin once the CONTRACTOR provides Status Code 1 to the IFC Package. During the construction phase, the SUBCONTRACTOR will be responsible for the means and methods, as well as execution of the contract documents, including all administrative requirements outlined in this document. Upon construction NTP, the SUBCONTRACTOR's DOR is responsible for providing construction administration services through the duration of construction and post construction.

The process of Construction Administration will follow:

- Construction begins when the CONTRACTOR issues a Task Order Release followed by NTP to SUBCONTRACTOR.
- A Beneficial Occupancy Inspection (BOI) is required upon substantial completion. All BOI findings must be corrected prior to issuance of the certificate of occupancy.
- Acceptance of Building:
    - The SUBCONTRACTOR shall provide completed Record Drawings (As Builts) and native files (Computer Aided Design [CAD] and Revit) to the CONTRACTOR prior to BOI.
    - The SUBCONTRACTOR shall provide documentation required for sustainable design requirements, as specified in each task's respective PRS and/or TRD.
    - Warranty work shall begin after building acceptance is specified in writing by the CONTRACTOR.
    - PSS, the NNSS' security protective force consultant, will observe and provide input to the construction process. The SUBCONTRACTOR will provide a schedule in construction to have hold points to ensure the observation can occur. Failure to provide hold points for any construction occurring that has not been observed will require the SUBCONTRACTOR to expose construction such that observation can occur at no additional cost to CONTRACTOR. PSS will procure and install their own access control hardware. SUBCONTRACTOR will install all conduits, boxes, and wiring associated with the system.

Closeout is the process of completing all details of both construction and commissioning.

- SUBCONTRACTOR shall provide the required close out documentation including but not limited to Delegated Design Submittal As-builts, O&M Manuals, and Warranty Manuals in the format required by the Project Manual.
- Closeout Period is the time from the date of Substantial Completion until Final Completion. Refer to PRS and/or TRD provided with each respective task order for commissioning requirements.
- Before and during the Closeout period, the CONTRACTOR shall ascertain whether the completed project complies with the Contract and Construction Documents.

SUBCONTRACTOR's DOR Administration Requirements During Construction

The SUBCONTRACTOR's DOR is required to provide response support and in-person meeting support during Construction Administration. The SUBCONTRACTOR's DOR and SUBCONTRACTOR's lower-tier DOR(s)' responsibilities during construction administration are:

- Conduct on-site walkthroughs and observations throughout the construction process as required to provide compliance with their industry's standards of care. SUBCONTRACTOR's DORs are required to proactively visit the site at intervals appropriate to the stage of construction to be compliant with their discipline's standard of care. DORs shall notify the STR of the dates of their site visits and follow up with a Site Visit report.
- Record and maintain drawing or specification clarifications in the form of bulletins. Refer to Design and Specification Clarifications during construction.
- Attend and participate in meetings, in person or by phone.
- Review, substantiate, and approve submittals prior to submission for CONTRACTOR's approval.
- SUBCONTRACTOR is required to track the received submittals during construction. The SUBCONTRACTOR must provide submittal log to the CONTRACTOR no later than 4 business days from the M&O CONTRACTOR's request to review the submittal log.
- Review, substantiate, and approve Substitution Requests prior to submission for CONTRACTOR's approval.
- Attend, observe, and report inspections for Substantial Completion and Building Occupancy Inspection including preparation and deposition of "punch list(s)."

Design and Specification Clarifications During Construction

SUBCONTRACTOR will issue clarifications to drawings and specifications through bulletins. Bulletins are to clearly indicate the coordinated and reviewed clarifications to design with use of clouds and bulletin deltas. All bulletin issue instances are to be recorded with their name, delta number and date of issue in the drawing title block or

footer of a specification section. The SUBCONTRACTOR will accompany the bulletin issue with a narrative of clarification indicating sheet number, discipline, and description of clarification. As built drawings are to have all of the previous bulletins coordinated into the set. The SUBCONTRACTOR shall coordinate with the CONTRACTOR on appropriate dates or milestones for issuing bulletins.

Installing SUBCONTRACTOR's Administration Requirements During Construction

Installing SUBCONTRACTOR's responsibilities during construction administration are:

- Submission of a Request for Substitution for the SUBCONTRACTOR's DOR and CONTRACTOR's approval if the SUBCONTRACTOR desires to substitute manufacturer or model of products, materials, or assemblies as called for in the construction documents.
- In submitting such Request for Substitution, the SUBCONTRACTOR shall, at a minimum, include documentation and provide information to support a Request for Substitution. Information and activities required are:
    - The SUBCONTRACTOR shall be required to do a side-by-side evaluation between the specified product including, but not limited to, the product's performance in relation to the specifications and contextual design.
    - The SUBCONTRACTOR shall be responsible for providing sufficient information for the CONTRACTOR to, at its sole discretion, determine whether the substitute product is equal to, or better, than that proposed in the completed construction documents.
    - The SUBCONTRACTOR's DOR should confer with the CONTRACTOR's SUBCONTRACTOR Administrator for advice and interpretation of those requirements, as necessary.
- Submittals, shop drawings, product data, and samples are to be submitted for review and approval in accordance with the contract documents. The submittal shall include substantiation, identifying information, and the DOR's approval. For submittals that require a review, allow 8 business days - excluding holidays, the day of receipt and the day of forwarding/return of the Submittal.

CONTRACTOR concurrence and DOR approval is required before the SUBCONTRACTOR should proceed with any proposed deviation from the CONTRACTOR's approved design.

Request for Substitution

Substitutions are changes in products, materials, equipment, and method of construction from those required by the contract documents. The SUBCONTRACTOR is to submit a Request for Substitution, for CONTRACTOR approval, should the SUBCONTRACTOR feel the need to make a substitution due to unavailability of product, regularity changes, unavailability of warranty items, or may offer advantages to the CONTRACTOR and SUBCONTRACTOR.

The following procedures and information shall be met for substitution consideration:

- Request for Substitution was submitted with substantiating data, including list of similar projects using the product, an itemized comparison of proposed substitution and specified project, a quality and performance comparison between proposed substitutions and specified product, a list of maintenance services and replacement materials, a cost impact analysis, and a schedule impact analysis
- Specification Section number, manufacturer's name, and information, as well as name and model number of products proposed for substitutions
- Request for Substitution was reviewed and approved by DOR

The SUBCONTRACTOR shall be responsible for changes to the contract documents and coordination with other trades if the substitution is accepted. The SUBCONTRACTOR shall not order or install substitute products without written acceptance by SUBCONTRACTOR's DOR(s) and the CONTRACTOR. If the Request for Substitution is rejected, then the SUBCONTRACTOR shall provide and install as specified in the contract documents at no additional cost.

Construction Submittals - CONTRACTOR Conformance Review of Design

CONTRACTOR shall review SUBCONTRACTOR's submittals for conformance with the technical requirements of the Subcontract. These submittals include information regarding product data, samples, shop drawings and calculations, delegated design submittals, etc.

SUBCONTRACTOR to confirm with PM which submittals are required for the CONTRACTOR's review. The CONTRACTOR retains the right to request a submittal for review at any time during the construction process and should be provided the submittal promptly. Only complete submittals shall be shared with the CONTRACTOR. All submittals shared with the CONTRACTOR must be previously reviewed and stamped by the DOR, except for "Delegated Design" submittals, which can be reviewed concurrently. The SUBCONTRACTOR is responsible for reviewing and ensuring that the submittal is in conformance with the applicable codes, standards, and requirements. Permission to proceed or approval does not constitute acceptance or approval of design, calculations, analysis, test methods or materials developed or selected by the SUBCONTRACTOR. Permission to proceed or approval does not relieve SUBCONTRACTOR from full compliance with contractual obligations.

The following is a partial list of known submittals the CONTRACTOR will review but should not be considered a complete list. The CONTRACTOR will provide a complete list after the completion of the Design Phase and review of the SUBCONTRACTOR's submittal list.:

- Structural metal framing - shop drawings and calculations
- Fire suppression - product data, shop drawings, calculations
- Building management systems (BMS) - shop drawings, product data
- Transformers; Generators, Uninterruptible Power Supply (UPS) and batteries – product data, shop drawings
- Public address system (PAS) - product data, shop drawings
- Fire alarm - product data, shop drawings, and calculations

Construction Submittals - For Record/Information Only

All construction submittals, including the final versions of the submittals the CONTRACTOR has provided their review for should be sent to CONTRACTOR for their record and information. The SUBCONTRACTOR should provide a copy of all DOR reviewed and approved submittals within 8 business days of DOR stamped approval as an informational submittal. SUBCONTRACTOR submittals not requiring the SUBCONTRACTOR's DOR or CONTRACTOR approval shall be for information only. The SUBCONTRACTOR shall provide the CONTRACTOR "For Record/Information Only" copies of all submittals not requiring the CONTRACTOR's approval or concurrence, after the SUBCONTRACTOR's DOR has taken the appropriate action.

For "Delegated Design" such as those related to fire alarm and fire suppression systems, including shop drawings, a record set of as-built drawings and final versions of the construction submittals from the SUBCONTRACTOR shall be in both PDF and CADD formats.

Submittal Procedures

SUBCONTRACTOR shall develop a complete list of construction submittals. The DOR shall identify required submittals in the specifications and prepare a Submittal Log listing all items requiring submittals. The CONTRACTOR shall further discuss detailed submittal procedures with the SUBCONTRACTOR at the Construction Kick-Off Meeting. All submittals shared with the CONTRACTOR must be complete and previously reviewed and stamped by the DOR.

The following must be satisfied regarding submittals:

- Perform no portion of the work requiring submittal and review of shop drawings, product data, or samples until the respective submittal has been reviewed and approved by the CONTRACTOR. Such work shall be in accordance with approved submittals.
- For deviations, set forth in writing the reason for any deviations and annotate such deviations with the submittal.
- For control of submittals, carefully control procurement operations to ensure that each individual submittal is made on or before SUBCONTRACTOR's scheduled submittal date shown on the submittal log.
- For CONTRACTOR Approved Submittals, upon completion of review of submittals requiring

CONTRACTOR approval or concurrence, identify the submittals as having received approval by being stamped and dated.

- For submittals containing a material sample, provide one copy/sample, clearly labeled, to the Project manager/Project engineer. Submittals containing samples that were not approved by the DOR should not be sent to the Project manager/Project engineer, only the corrected, satisfactory submittals with samples reviewed and approved by the DOR. The samples should not be larger than 6”x6”, excluding paint chips.
- Do not return submittals designated “For Record/Information Only.” These do not need approval by the CONTRACTOR’s Subcontract Administrator. The CONTRACTOR reserves the right to require SUBCONTRACTOR to resubmit any item found not to comply with the contract. Resubmission does not relieve SUBCONTRACTOR from the obligation to furnish material conforming to the Construction Documents. Resubmission does not prevent CONTRACTOR from requiring removal and replacement of nonconforming material incorporated in the work and does not relieve SUBCONTRACTOR of the requirement to furnish samples.
- Shop Drawing/Submittal Review Stamps: Stamps used by SUBCONTRACTOR on the submittal data shall certify that the submittal meets contract requirements.

Submittal Log

The SUBCONTRACTOR shall submit the initial submittal log within 4 business days after issuance of IFC Drawings.

The SUBCONTRACTOR shall update and complete the Submittal Log through to Final Completion. The SUBCONTRACTOR shall submit the log to CONTRACTOR’s STR.

The Submittal Log shall serve as a tracking document for submittals and indicate submittal action status throughout the contract period. The Submittal Log shall contain the following information:

- “Submit Dates” and “Need Dates” - These dates are to be coordinated with dates in SUBCONTRACTOR’s prepared progress construction schedule. When the progress construction schedule is revised, the submittal log shall also be revised and submitted
- The SUBCONTRACTOR’s “Action Dates and “Actual Dates”, as well as CONTRACTOR’s “Action Dates” and “Actual Dates”
- The status of the submittal in the log - DOR approval status of the submittal and the CONTRACTOR approval status for those to be approved by CONTRACTOR The Submittal Log is to be submitted weekly or until all submittals have been satisfactorily completed.

Third Party Construction Inspections

SUBCONTRACTOR is tasked to hire a qualified Third-Party Construction Inspector. The SUBCONTRACTOR’s Third-Party Inspector is to provide the services that a typical building department would provide. The qualifications of the third-party inspector shall be submitted to the CONTRACTOR for review, prior to any work inspection work is being conducted on the site.

The SUBCONTRACTOR shall provide a list of inspections to be performed along with their schedule which is to be incorporated with the project construction schedule. The CONTRACTOR will advise on any required inspections not listed on the schedule provided by the SUBCONTRACTOR.

For Special Inspections required based on material and design of the building, refer to International Building Code (IBC) Chapter 17 - Special Inspections and Tests.

The SUBCONTRACTOR shall coordinate with the CONTRACTOR’s project manager and STR on the scheduled dates of inspections. The STR and the CONTRACTOR’s project manager should be notified of the scheduled inspection at least 4 business days ahead so that they can be available to attend. In case the STR is not available for the inspection, the SUBCONTRACTOR shall reschedule and/or rerun the test. The SUBCONTRACTOR will provide an electronic copy of each inspection report to the CONTRACTOR’s project manager and STR as soon as they receive it along with keeping them in the construction trailer.

The SUBCONTRACTOR will provide a schedule/log of the inspections to be completed that shows the inspection type, inspection company, expected date of inspection, and actual date of inspection. An updated copy will be provided to the STR and CONTRACTOR’s project manager weekly.

The Third-Party Construction Inspector will provide quality assurance for the construction on the project, including comprehensive inspections for all types of construction to optimize compliance with the approved plans, all building codes having jurisdiction, and accepted industry standards. The Third-Party Construction Inspector is responsible for independent evaluations and verification for systems and components as listed below.

The inspection reports should include the date, subject, any findings, and the inspector's name/signature. Company Directive CD-0000.008, "Building Authority Program," and CD-5400.003, "Beneficial Occupancy Process," note the timeframes that the BA needs to have a copy of the inspection submitted. If a non-compliant condition is found or the inspection notes that something is being constructed incorrectly and not as-per the design documents, an RFI should be submitted to the STR and the CONTRACTOR's project manager to recommend issue resolution.

During project closeout period, the Third-Party Inspector is to provide a Quality Assurance Associate (QAA) report that has been reviewed and approved by the STR and CONTRACTOR's project manager. The Third-Party Construction Inspector to deliver to the CONTRACTOR a complete report that includes results for all independent evaluations and verifications performed.

The Third-Party Construction Inspector is to review the minimum categories specified in each task's respective PRS and/or TRD.

Total Building Commissioning

Commissioning (Cx) is the systematic process of determining that all site and building components, equipment, systems, and interfaces among systems perform in accordance with the design intent and contract documents. Total Building Commissioning (TBCx) and Cx are used interchangeably in this section.

Objectives of Commissioning:

- Determine that applicable equipment, systems, and components are properly installed and adequately checked out according to the manufacturer's recommendations, industry-accepted standards, and the contract documents prior to startup.
- Determine that applicable equipment, systems, and components are started up, calibrated, operationally tested (statically and dynamically), adjusted and balanced, and functionally tested per the contract documents prior to initiating operation and maintenance training and final acceptance testing.
- Determine that operation and maintenance manuals, systems manuals, as-built drawings, and other required documentation are developed, updated, and submitted in accordance with the design intent and contract documents.
- Determine that operation and maintenance personnel are adequately trained, to provide routine operation and maintenance, prior to Substantial Completion of the work.

Performance Statement

The SUBCONTRACTOR will hire a Third-Party Commissioning Agent. The Commissioning agent is responsible for developing the commissioning plan and overseeing the commissioning process. The SUBCONTRACTOR is responsible for implementing the commissioning process and engage the services of the SUBCONTRACTOR's lower tiers to execute and document the commissioning work specific herein and as outlined in the commissioning plan.

Commissioned site and building components, equipment, systems, and interfaces in the TBCx must demonstrate to the CONTRACTOR and BA that the design, installation, and functional characteristics of the commissioned equipment, systems, and interrelationships between systems achieve the goals set by SUBCONTRACTOR's DOR(s) *and* requirements described in Section 2.5, "Sustainability." The commissioning effort is to create a valid record of inspection, test preparation, final test demonstrations, and training that ensures that project requirements are met by the facility's physical and operational standards.

The TBCx process is to be completed using quality-based sampling for verification of each task and test determined to be submitted to the CONTRACTOR's STR. The TBCx is specific to the systems indicated but also reviews the impacts of these systems on the total building and vice versa. It evaluates the building as 1 functioning assembly instead of just its discrete parts.

Commissioning Agent (CxA) shall be responsible for developing the commissioning documentation outlined in the Subcontract and BCx Plan. The TBCx Plan shall be provided to the CONTRACTOR for review and approval within 8 business days from issue of IFC Drawings. Documentation shall meet the requirements set forth in; Section 5.0, "Building Performance Specifications" of this TRD, American Society of Heating and Refrigeration and Air-Conditioning (ASHRAE) Guideline 0, ASHRAE Guideline 1, and all other M&O Contract documents.

Reference Publications

The TBCx shall be provided in accordance with the referenced ASHRAE/National Institute of Building Science (NIBS) commissioning documents. Forms used shall conform to the recommendations in the referenced commissioning guidelines.

Commissioning Agent (CxA)

The CxA shall independently function and employ a strict communication protocol that directs all reporting to the STR, as the first party to receive the commissioning report. This protocol is intended to provide unbiased information to the M&O CONTRACTOR and eliminate potential conflicts of interest.CxA responsibilities include:

- Extract all initial commissioning requirements from Section 5.0, "Building Performance Specifications," and other contract documents. Submit the commissioning requirements to the CONTRACTOR and SUBCONTRACTOR for review and comment.
- Provide commissioning to meet the intent of the Building Performance Specifications and Substantiation.
- Further develop commissioning requirements as design is completed, to include responsibilities for labs and specialized services.
- Coordinate and schedule all Cx activities with STR and SUBCONTRACTOR and perform review of completed work.
- Organize and manage the Cx work of the Cx Team.
- Prepare, issue, and maintain the Cx Plan, which includes, but not limited to, checks, pre-verification test, and functional performance testing requirements.
- Maintain the current Cx roster.
- Prepare and maintain the Cx schedule.
- Manage, review, and comment on submittals for all equipment and systems to be commissioned. Reviews submittals per the requirements of described in Section, "Sustainability."
- Notify the team of any plan changes, schedule changes, submittals, change and variation requests, or field conditions that affect commissioning.
- Perform periodic on-site inspection to witness construction progress for the purpose of visually inspecting construction activities, report on construction status, and identify any potential issues and observe conditions that may impact building commissioning.
- Perform on-site inspections to witness startup of major pieces of equipment with factory trained personnel (as applicable).
- Clearly outline all commissioning related inspections in the SUBCONTRACTORs construction schedule.
- Establish a sampling protocol and at the time of testing select a sample of equipment locations for identical pieces.
- Document the commissioning process in a Systems Manual and commissioning report.
- Collect, organize, and issue the training syllabi.
- Communicate with the STR, keeping the STR informed of activities that affect Cx.
- Provide documentation required by sustainable design, as described in Section, "Sustainability," and fill out templates, as necessary.

Commissioning Agent's Scope of Work

The CxA is to demonstrate that the total building, with respect to commissioned equipment, subsystems, systems, and to interrelationships between commissioned systems, is designed, installed, and operating to specified conditions, status, and performance.

The CxA shall conduct all TBCx activities throughout design and construction, providing review and comments on the design submittals and develop a log to track issues or concerns as they arise. During the construction phase,

commissioning field activities shall be recognized through proper documentation and reporting to the STR having oversight of the project.

CxA is to provide a final commissioning report to the STR and the NNSS BA. The report shall include an executive summary, list of participants and roles, brief building description, overview of commissioning and testing scope, and a general description of testing and verification methods.

Reports shall contain sections that are specified in each task's respective PRS and/or TRD.

Systems commissioning to be coordinated with the STR. STR shall advise if NNSS BA or another CONTRACTOR's representative will need to be present for a particular system commissioning. Systems to be commissioned are specified in each task's respective PRS and/or TRD.

SUBCONTRACTOR's DOR(s)'s Scope of Work

The following is the responsibility of SUBCONTRACTOR's DOR(s) to clarify the Cx process:

- Review and periodically comment on commissioning process, progress reports, and issue lists
- Provide a final punch list for installed systems and equipment
- Review and provide comment on the commissioning report
- Provide comment on the Systems Manual, when applicable or suspected that a calibration is needed
- Participate in the resolution of potential design concerns as discovered during the Cx process

Installing SUBCONTRACTOR's Scope of Work

Installing SUBCONTRACTORs include the Mechanical SUBCONTRACTOR, Plumbing SUBCONTRACTOR, Electrical SUBCONTRACTOR, Controls SUBCONTRACTOR, Fire Protection SUBCONTRACTOR, Fire Alarm SUBCONTRACTOR, Safety and Security SUBCONTRACTOR.

The Installing SUBCONTRACTOR shall assign representatives with expertise and authority to act on its behalf and shall schedule them to participate in and perform commissioning process activities as detailed in each respective task order's PRS and/or TRD.

Repeated Work, Testing, and Review

The SUBCONTRACTOR, at no additional cost to CONTRACTOR, shall repeat the complete verification test procedures for each test for which acceptable results are not achieved. Test shall be repeated until acceptable results are achieved.

Commissioning Schedule

CxA is to prepare and maintain the Cx Schedule. The schedule shall be submitted at Construction Kick-off meeting for STR's review and approval.

Cx activities must be included in the SUBCONTRACTOR's schedule. The intent of the Cx Schedule is to maintain an orderly and logical progression of the commission activities so that they are coordinated with design and construction.

Cx Schedule shall include enough detail to establish the coordination of commissioning with other activities, and those required to participate in commissioning activity, in the project process. The CONTRACTOR shall be present to witness all testing, in which activities shall be scheduled accordingly.

Training Lesson Plan

The training lesson plan shall indicate specifics of the various training sessions required for commissioned equipment. The lesson plan shall include enough information that the CxA and CONTRACTOR can ascertain that the training sessions are adequately staffed, supported, and have adequate content. The following lesson plan requirements described herein do not modify requirements of any non-commissioned system:

- Name and qualifications of the trainer
- Course outline and written training materials to be used
- Recommended attendees

- Approximate apportionment of classroom time and “hands on” time working on
- the equipment
- Estimated time required for completion of course
- Example of the training completion statement

The training completion statement is a document that states that the required training session was conducted. It identifies the trainer, trainer’s contact information, the title of the training, the specification section that the training satisfies, an accounting of the time devoted to classroom and field exercises, a description of the training materials used, and includes signatures of trainees attesting that the training was conducted satisfactorily.

Systems Manual

The SUBCONTRACTOR and SUBCONTRACTOR’s lower tier shall prepare a document that contains the following pieces of information:

- Construction record documents and specifications
- Approved submittals
- As-built drawings
- As-built sequence of operation
- Original setpoints for all systems commissioned
- Recommended schedule for sensor recalibration
- Equipment O&M manuals
- Equipment preventive maintenance schedules
- Confirmation of completed training for the CONTRACTOR
- Sequence of operation for all mechanical equipment

Commissioning Plan/Final Report

CxA shall be required to provide the final Commissioning Plan/Final Report 30 calendar days after the TBCx is complete, excluding the warranty period re-commissioning. The Commissioning Plan/Final Report is to contain the following requirements:

- CxA’s resume.
- A roster of commissioning team members who represented CONTRACTOR in TBCx.
- A detailed, project-specific Commissioned Equipment List.
- Completed start up reports for all equipment commissioned.
- Completed commissioning checklists for each commissioned item or system.
- Completed Functional Performance Test (FPT) procedure forms for each commissioned item or system.
- Updated Commissioning Schedule, capturing actual dates, used to complete the Cx process.
- A list of system components or subsystems requiring interim, seasonal, or follow-up commissioning.
- Training completion statements for all commissioned equipment or systems.
- Written narrative reports analyzing the proceedings of TBCx, including separate reports on each “Global” FPT, a summary report including each equipment and system FPT, and an Executive Summary report on the overall effects of the Cx process.
- Re-Commissioning manual for Warranty period testing.

Project Closeout

Substantial Completion is the stage in the progress of work when the work, or designated portion thereof, meets the following criteria:

- The work, or portion in question, is 95% complete as determined by the CONTRACTOR, when measured against the dollar value of the entire work, or portion in question.
- All networkable devices are to be functional and operational as intended per design with the support of the CONTRACTOR’s IT department.
- All major systems, including safety systems, are complete, functional, and able to operate in all operational modes.
- The work, or portion in question, can be occupied and used for its intended purpose as determined by

CONTRACTOR.
- Compliance with requirements of governing authorities, for submittals, inspections, and permits.
- Compliance with all occupancy and life safety requirements.
- The remaining items of the work, contained on the punch list for the entire work, can be completed within 60 calendar days from the Substantial Completion Date.
- The entire work, or portion in question, has received a Certificate of Occupancy from the governing authority. Refer to the Beneficial Occupancy Inspection for more information.

The SUBCONTRACTOR is to submit and complete the following items, in order for the CONTRACTOR to issue Substantial Completion:

- Resolution to SUBCONTRACTOR deficiencies found during BOI, see CD-5400.003
- Written notice to the CONTRACTOR requesting Substantial Completion
- SUBCONTRACTOR's punch list
- Systems Startup reports and TAB reports
- Third-Party sustainable design commissioning reports
- QAA Reports
- O&M Manuals, in English
- Warranty matrix
- Product warranties
- Completed training of the CONTRACTOR's personnel
- Final cleaning
- Removal of temporary protection
- Maintenance materials and tools, including spare parts and extra materials
- Project Record Documents, SUBCONTRACTOR will provide Record Drawings documenting any changes from the issued IFC design documents for the CONTRACTOR
- Maintenance plan is complete
- Keys are provided to the CONTRACTOR, and the keying schedule is complete

The date of approval of Substantial Completion will establish the official Substantial Completion Date and initiate the preparation of the project punch list, for final and corrective work to be accomplished by SUBCONTRACTOR. At this time, the SUBCONTRACTOR is responsible for scheduling a Pre-Final Inspection.

Pre-Final Inspection is a meeting in which the CONTRACTOR and SUBCONTRACTOR's DOR(s) review and inspect the work to determine if the work, or portion in question, qualifies for Substantial Completion. At this meeting, the CONTRACTOR and SUBCONTRACTOR's DOR(s) will review the SUBCONTRACTOR's punch list and extend or create their own punch list, in which all items will be combined for one project punch list. For this meeting, the SUBCONTRACTOR must have representatives who are able to certify the work was completed and complies with the construction documents provided.

The SUBCONTRACTOR's DOR shall prepare the punch list required to be addressed by the SUBCONTRACTOR prior to CONTRACTOR's acceptance for facility for occupancy. The SUBCONTRACTOR will create and manage a punch list for all work not compliant during the Pre-Final Inspection and will substantiate with a statement stating that all work not on punch list complies with the Construction Documents.

When the work, or designated portion thereof, is substantially complete, as determined by the CONTRACTOR, the CONTRACTOR will prepare a Certificate of Substantial Completion and submit it to SUBCONTRACTOR for written acceptance, which:

- Indicates the date of Substantial Completion
- Establishes responsibilities of the M&O Contactor and SUBCONTRACTOR for security, maintenance, HVAC, utilities, damage to the work, and insurances
- Determines the time within which the SUBCONTRACTOR shall finish all items on the punch list accompanying the certificate

Final Completion is the stage in which the work is complete as determined by the CONTRACTOR. The date of final acceptance of the project by the CONTRACTOR shall be the date upon which the CONTRACTOR issues a Notice of Final Completion.

The SUBCONTRACTOR shall submit and complete the following required items in order for the CONTRACTOR to issue the Notice of Final Completion:

- All items required for Substantial Completion must have been received by the CONTRACTOR
- Final commissioning report
- Completed punch list
- Proof of paid temporary utilities
- Approved submittals and submittal log indicating Status Code 1 for the submittals
- Field survey
- Consent of surety
- Return all badges, per security requirements

Closeout Submittals

The following information are requirements the CONTRACTOR is requiring of the SUBCONTRACTOR during the Closeout Period. The SUBCONTRACTOR is to incorporate the following information into the deliverables SUBCONTRACTOR is preparing.

Beneficial Occupancy Inspection (BOI)

The NNSS BA will perform a BOI after Substantial Completion as part of the requirements for issuing a Certificate of Occupancy. The SUBCONTRACTOR shall coordinate with the PM to confirm all closeout submittals required for review by the BA per CD-5400.003, are submitted in timely manner.

Operations and Maintenance (O&M) Manuals

The SUBCONTRACTOR shall assemble system design information, approved equipment shop drawings, submittals, operation and maintenance data, and copies of warranties into manuals, organized by the functional system (e.g., plumbing, HVAC), or the material type (e.g., flooring, wall finishes), using specification numbers where applicable. The product data for all functional systems requiring maintenance shall be furnished to the CONTRACTOR no later than 60 days prior to substantial completion. O&M Manuals are to only contain information in English language and to include:

- An electronic PDF document – bookmarked and searchable using Optical Character Recognition (OCR) with cross-referenced figures and tables.
- A directory containing names, addresses, telephone numbers, of all design and construction entities, including SUBCONTRACTOR's lower-tiers and suppliers - with names of products supplied.
- A software-operated systems and equipment list detailing program documentation, a general review of the programming approach, description of use on this project, and description of possible user modifications.
- A product listing containing the manufacturer's brand name for each major product actually installed, in alphabetical order by generic product name, cross-referenced to specification numbers and Table of Contents of manuals.
- Warranty matrix and warranties including originals & photocopies of originals.
- Sustainable design checklist, refer to Section 2.5, "Sustainability."
- All training session materials.
- Shop drawings and product data (product data, mark each sheet to clearly identify specific products and component parts and data applicable to installation and delete inapplicable information).
- Air and water balance reports.
- Certificates of Compliance.
- Copy of consent of surety.
- Copy of permit card with final inspection.
- Certification of Occupancy from NNSS BA.

Project Record Documents

During construction, the SUBCONTRACTOR is to maintain one set of all Construction Documents per the contract onsite, including drawings, administrative/technical specifications, authorized changes to the Construction Documents and copies of approved submittals. The SUBCONTRACTOR is to use the on-site set of documents to

record actual conditions and changes during the course of the work. All changes made by amendment, by formal modifications, and in performing the work are to be recorded for the CONTRACTOR's future reference.

All marks and comments to the onsite set of drawings are to be copied to a clean set of drawings and other documents. Record documents are to be submitted to the CONTRACTOR as a notice file and in PDF format. Changes shall be phased in Revit and clearly distinguish between the original and changed conditions (refer to "Design and Specification Clarifications during construction"). The SUBCONTRACTOR is to stamp the Record Drawings, stating that they observed construction of the project satisfying the professional's standard of care.

For "Delegated Design" such as those related to fire alarm and fire suppression systems, including shop drawings, a record set of as-built drawings and final versions of the construction submittals from the SUBCONTRACTOR shall be in both PDF and CADD formats.

Changes to be recorded include, but not limited to:

- Actual measured locations (horizontal and vertical) of foundations and concealed utilities and appurtenances, referenced to visible permanent appurtenances.
- Field changes of dimension(s) and detail(s).
- Actual products used, in specification, with the manufacturer's name and product model number.
- Show number of all air handling units, Variable Air Volume (VAV) boxes, and fan coil units, etc.
- Documents identified as "RECORD DRAWINGS" in the Title Block.

Final Site Survey

The SUBCONTRACTOR is responsible for updating the CONTRACTOR's pre-construction survey. Before Substantial Completion, the SUBCONTRACTOR shall have a professional land surveyor prepare a final property survey showing significant features of the real property improvements that have resulted from construction of the project.

Survey is to include, but not limited to:

- After completion of foundations, verifying location and level of permanent benchmarks and control points, utility access points, and principal improvements
- Certification, signed by surveyor
- Underground and concealed wet/dry utilities, accurately positioned

The SUBCONTRACTOR will submit the final property survey drawings signed and certified by professional land surveyor to CONTRACTOR in PDF and CAD format.

Maintenance Supplies and Tools, Spare Parts, and Extra Materials

The SUBCONTRACTOR's DOR, after consultation with the CONTRACTOR, will specify requirements for spare parts and extra materials in individual sections of the PRS document.

The SUBCONTRACTOR is to provide an inventory sheet with extra stock, clearly labeled with project name, material identification, location for intended use identified on a floor plan, and corresponding item number on the inventory sheet. The SUBCONTRACTOR is to log delivery of maintenance supplies and tools, spare parts, and extra materials to the required location. Record delivery with date, name of CONTRACTOR assigned as on-site receiver, and the receiver's signature. The SUBCONTRACTOR's DOR is to review the SUBCONTRACTOR's log with Construction Documents for compliance.

Demonstration and Training

The SUBCONTRACTOR is to coordinate all activities with the CxA.

Demonstration

The SUBCONTRACTOR, for each equipment item and system, is to demonstrate all operational modes to the CONTRACTOR at a time acceptable to the CONTRACTOR. If defects occur during demonstration, demonstration must be rescheduled for a time acceptable to the CONTRACTOR.

Training

The SUBCONTRACTOR is to provide knowledgeable and manufacturer trained professionals to perform training to the CONTRACTOR's personnel in operation and maintenance of equipment. Training location to be coordinated with the CONTRACTOR. Training requirements are as follows:

- Training is required for all software-operated systems, HVAC systems and equipment, plumbing equipment, electrical systems and equipment, and other electrically operated equipment. In addition to roofing, waterproofing, other weather-exposed or moisture protection products, finishes (including flooring), fixtures and fittings, and other items as specified in other sections.
- Instruction to personnel is to cover operation, control, adjustment, shut-down, servicing, troubleshooting, and maintenance, for each equipment item for which training is specified.
- Instruction in care, cleaning, maintenance, and repair of materials, for each item for which training is specified.

Major Software-Operated Systems

The SUBCONTRACTOR is to provide training by the software manufacturer at CONTRACTOR's facility for the minimum of one CONTRACTOR staff member, with take-home training materials.

Sustainability

Sustainable building design strategies shall conform to those specified in Technical Requirements Document associated with respective task order.

Other Requirements

General Design Requirements

- Design packages shall provide all necessary design details and data necessary to execute the design intent needed for a complete building system and include design construction drawings which illustrate the construction scope of work and support the required American Association of Cost Engineers (AACE) estimate class. Where applicable, design packages shall include preliminary design criteria, alternative construction solutions available, and recommendations for construction. Design packages shall also include relevant performance standards, construction specifications, layouts, drawings, commissioning and other documents.
- Design documents shall indicate the design basis for each project. The design basis shall include the functional and technical requirements, project requirement specifications, commissioning requirements, and alternative construction solutions available.
- Design documents shall comply with Task Order Release requirements and the review recommendations made by MSTS. The SUBCONTRACTOR shall refer to technical and functional requirements, including but not limited to: Codes and Standards, Substitutions, Submittals, and Environmental, Safety and Health (ES&H) specifications.
- Deviations from requirements, regulations, codes, standards, and guidelines shall require advance authorization from MSTS in writing.

Construction Management

- During the performance of Task Order Release(s), the SUBCONTRACTOR shall have created designs, specifications and estimates in accordance with A/E requirements in order to support follow-on construction management and build activities. During the Construction Management Task Order Release(s), the SUBCONTRACTOR shall provide construction management support to complete the work summarized below. Refer to Special Provisions in subsequent Task Order Release(s) for minimum codes, standards and other requirements to be applied to this work.
- Provide daily construction supervision on a full-time basis on the construction site and oversee and assure compliance with MSTS ES&H requirements

Construction Phase: The following are potential Construction activities which may be requested under a subsequent Task Order Release(s):

- Site Work and Preparation

- Geotechnical Investigation, Utility Locates, Ground Penetrating Radar
- Topographic Surveying
- Tree, shrub removal, other landscaping preparation
- Shoring and underpinning
- Excavation support system
- Earthwork: grading, excavating, backfilling and compaction, base course, soil stabilization, vibro-flotation, slope protection, soil treatment
- Paving and Surfacing: Walk, road, and parking paving, curbs, surfacing, pavement repair, pavement marking
- Site preparation activities for Piped Utility: trenching for conduit installation, cabling, removal of old conduit and utility lines, water distribution, or Fuel and Gas Distribution
- Site preparation for Sewage, Drainage, Stormwater systems, including land clearing, excavation, grading, and soil treatment
- Installation of transmission and distribution lines
- Substructure: Concrete Work, Foundation pouring, structural bases, basement construction, roads, concrete pipes, and other relevant applications.
- Shell: Structural element or framing work, any work requiring carpentry, metallurgy, welding, and pertaining to any external or internal load-bearing component that is essential to the stability of a building, facility, or structure, including, but not limited to, foundations, subfloors, floors, walls, roofs, columns, beams, or any external and internal component that forms part of external walls or roof.
- Utility Infrastructure Installation and Connection of Gas (including process gas and vacuum), Water (including chilled water and deionized water), Sewage/Waste, Electrical system: Work includes layout of basic lines, rough-in installation stage, ductwork installation, utility inspection support, endpoint device installation.
- HVAC: Installation of energy supply delivery systems, heat generating systems, cooling generating systems, distribution systems, terminal and package units, controls and instrumentation, systems testing and balancing, other HVAC systems and equipment (including exhaust and HEPA filtration systems).
- Masonry: brick or stone masonry for external and internal building structures
- Insulation, weatherproofing, sound-proofing material installation.
- Interiors: Interior construction, final drywall installation, trim, stairs, and interior painting.
- Fire Protection: Installation of fire alarm and detection systems, fire suppressions water supply and equipment, standpipe systems, sprinklers, and fire protection systems.
- SUBCONTRACTOR shall provide construction documents, redlines, as-builts, and shop drawings, and design calculations for fire alarm, life safety, and fire suppression systems
- Electrical: Installation of electrical service and distribution, lighting and branch wiring, communications and security, and other electrical systems.
- SUBCONTRACTOR shall provide electrical design calculations and one-line diagrams showing locations of instrumentation and controls for integration with site BAS/BMS system
- Equipment & Furnishings: Installation of equipment and furnishings. (including tenant fit out)
- SUBCONTRACTOR shall provide spare parts and materials as specified by individual task order.

- Fuel for SUBCONTRACTOR equipment provided at SUBCONTRATOR'S cost.
- SUBCONTRACTOR shall protect the materials, equipment, and work at all times during its performance of construction work. Additionally, CONTRACTOR may task SUBCONTRACTOR to warehouse materials and equipment. SUBCONTRACTOR shall store materials and equipment in accordance with all MSTS warehousing and storage requirements.

Disciplines/Construction/Specialty Trades

- The SUBCONTRACTOR shall appoint a Task Order Manager as the primary interface to MSTS Procurement Specialist and STR for each Task Order Release.
- The SUBCONTRACTOR and/or its Lower-Tier SUBCONTRACTORs shall have available personnel with applicable state license or apprenticeship requirements covering the full range of technical disciplines and specialties to perform construction services to include but not limited to the following:
    - Project/Task Order Manager
    - Construction Manager
    - Superintendent
    - Project Manager
    - Project Controls Specialist
    - Quality Control Manager
    - Safety Representative
    - Construction Trades – (Subject to Davis Bacon Act (DBA) and Project Labor Agreement (PLA))
    - Boilermaker
    - Carpenter - (Includes Drywall Finishing/Taping, Drywall Hanging, and Metal Stud Installation (Excludes Form Work)
    - Carpenter – (Form Work)
    - Electrician
    - Elevator Mechanic
    - Ironworker – Structural
    - Laborer (Mason Tender - Cement/Concrete)
    - Plasterer
    - Pipefitter
    - Sprinkler Fitter (Fire Protection Equipment/Sprinklers)
    - Sheet Metal Worker (Including HVAC Duct and Unit Installation)
    - Cement Mason / Concrete Finisher / Bricklayer
    - Plasterer
    - Glazier
    - Laborer (Common or General)
    - Heavy Equipment Operator
    - Painter (Brush and Roller)

- Painter (Spray Paint)
- Roofer
- Welder

Required Construction Aggregates

SUBCONTRACTOR shall utilize the following NNSS aggregate and cementitious materials for items to include but not limited to: Civil Underground Cast-in-Place Structures, Cast-in-Place Vehicular, Pedestrian, and Ornamental Paving, Cast-in-Place Structural Foundations, Cast-in-Place Structural Slabs, Columns, Beams, Masonry Grout:

- Aggregate
  - 6" Minus Pit Run Aggregate
  - 3" Minus Pit Run Aggregate
  - Rip Rap
  - NDOT NNSS Type II Aggregate
  - ¾" Washed Aggregate
  - 3/8" Washed Aggregate
  - Washed Sand
- Concrete
  - Cast-in-Place Concrete
    - Contractor to utilize pre-approved and tested mix designs available from the NNSS Concrete Batch Plant
      - If specified and approved mix design is not available, contractor is required to submit new mix designs utilizing NNSS aggregate for testing, sampling, and approval minimum 45 calendar days prior to use.
- Concrete Masonry Units
  - TBD

CONTRACTOR will provide material. SUBCONTRACTOR's estimate shall include trucking and transportation from Shaker Plant in Area 6 to the respective construction site(s). SUBCONTRACTOR shall provide estimated quantities of material needed to CONTRACTOR.

3.1. Task(s) and Options

The following are anticipated to be issued under the Master Agreement via Task Order Release:

Contract Options:

- **Option:** New Mercury Materials Packaging and Surveillance Facility [23-474] – Design Only
  - **Sub - Option:** New Mercury Materials Packaging and Surveillance Facility [23-474] – Tilt-Up Construction
- **Option:** Forward Area Mission Complex (FAMC) 01-393 Design/Build
  - **Sub – Option**: FAMC Sewer Lift Station – Design/Build
  - **Sub – Option:** FAMC Site Improvement and Parking
- **Option:** Tilt Up Building 2 – Design/Build
- **Option:** Tilt Up Building 3 – Design/Build
- **Option:** Tilt Up Building 4 – Design/Build

3.2. Sequencing

It is anticipated that the tasks/options will be awarded in the following order	Estimated Award

• Master Agreement – Building Program Tilt-Up and Other A-E, and Construction Services (New Mercury Materials Packaging and Surveillance Facility option and sub-option pricing)
 	
• **Option:** Forward Area Mission Complex (FAMC) 01-393 Design/Build
  ○ **Sub – Option**: FAMC Sewer Lift Station – Design/Build
  ○ **Sub – Option:** FAMC Site Improvement and Parking
 	
• **Option:** New Mercury Materials Packaging and Surveillance Facility [23-474] – Design Only
  ○ **Sub - Option:** New Mercury Materials Packaging and Surveillance Facility [23-474] – Tilt-Up Construction
	May 2026 – subject to change based on efforts to accelerate schedules

3.3. Required Points of Contact or Key Personnel Qualifications

The identified SUBCONTRACTOR's personnel will have site-dedicated key personnel for specific positions, including, but not limited to: Construction Managers, Project Managers, Superintendents, Quality Representative, and Safety Representative. Such personnel shall be responsible for the management and execution of the Master Agreement and Task Order Release(s).

If required by the individual Task Order Release(s), SUBCONTRACTOR shall assign additional personnel as required for CONTRACTOR specific projects.

The SUBCONTRACTOR's key personnel shall remain assigned to the project through completion unless they leave the SUBCONTRACTOR's employment, in which case the SUBCONTRACTOR shall submit the qualifications of its replacement personnel for CONTRACTOR review and approval prior to proceeding with such replacement.

Project Manager (PjM)/Task Order Manager (TOM)

- Minimum of five (5) years of experience in project management activities associated with large scale construction work, similar in type, scope, and complexity as will be requested under the Agreement
- Serves as the primary point of contact to the CONTRACTOR throughout the lifecycle of the task order and is responsible for reporting on task order milestones and deliverables.

Construction Manager

- Minimum of ten (10) years of experience managing large scale construction work, similar in type, scope, and complexity as will be requested under the Agreement.
- Serves as the primary point of contact to sub-tier SUBCONTRACTORs, and CONTRACTOR. This position is responsible for pre-construction, mobilization, construction, and closeout activities and primarily oversees the site superintendent and sub-tier SUBCONTRACTORs.

Engineering Disciplines

- Minimum of five (5) years of experience in design work associated with large scale construction work, similar in type, scope, and complexity as will be requested under the Agreement.

Site Superintendent

- Minimum of five (5) years of experience in construction supervision activities associated with large scale construction work, similar in type, scope, and complexity as will be requested under the Agreement
- The construction superintendent shall be in residence at the jobsite, including overtime hours and shift work hours, when work is being performed by the SUBCONTRACTOR or its lower-tier SUBCONTRACTORs. If the SUBCONTRACTOR's superintendent leaves the jobsite while work is being performed, MSTS Representative reserves the right to stop all work. Any costs that the SUBCONTRACTOR might incur due to said stoppage will be solely at the SUBCONTRACTOR’s expense. The construction superintendent shall be responsible for assuring work is performed in accordance with all Task Order Release requirements and effectively directing and coordinating all trades to assure safe and efficient progress of the work. The construction superintendent shall be knowledgeable of the project's requirements and hazards and have full authority to act on behalf of the SUBCONTRACTOR. The construction superintendent shall make frequent and regular inspections of the construction jobsite to identify and correct any instances of noncompliance with requirements. During the periodic absences of the Safety Officer, the Construction Superintendent may serve as the Safety Officer, provided he or she does not perform construction work during the same timeframe.
- At all times during performance of this Subcontract and until the work is completed and accepted, the SUBCONTRACTOR’S superintendent shall directly supervise and oversee the Work at the worksite or assign and have at the worksite another qualified representative of the SUBCONTRACTOR (in the superintendent’s temporary absence) who is satisfactory to the Procurement Specialist and who has authority to act for the SUBCONTRACTOR.

Quality Representative

- Minimum of five (5) years of experience in quality management activities associated with large scale construction work, similar in type, scope, and complexity as will be requested under the Agreement
- The quality representative can be a corporate resource that oversees work on this project on a part-time basis and can delegate full-time responsibility to other individuals.

Safety Representative

- Minimum of five (5) years of experience with construction safety activities associated with large scale construction work, similar in type, scope, and complexity as will be requested under the Agreement.
- SUBCONTRACTOR shall provide full-time Safety Representative, overseeing safety program implementation and reporting while physical work is in progress. Safety Representative shall liaise with CONTRACTOR subcontract technical representative (STR) and CONTRACTOR Project Manager (PjM) while engaged with the project.
- SUBCONTRACTOR Safety Representative, or delegated personnel, must submit daily report to CONTRACTOR STR and PjM.
- SUBCONTRACTOR Safety Representative must develop and sign all Job Hazard Analysis (JHAs) as part of Site-Specific Safety Plan (SSSP). SSSP is prerequisite formal submittal required for each Task Order.

3.4. Lower-Tier Subcontracts

The SUBCONTRACTOR shall ensure that LOWER-TIER SUBCONTRACTORS performing elements of the Subcontracted Scope of Work at sites controlled/managed by the CONTRACTOR or NNSA adhere to the SUBCONTRACTOR'S Site-Specific Safety Plan (SSSP). The SUBCONTRACTOR is responsible for ensuring that its LOWER-TIER SUBCONTRACTORS are included in the SUBCONTRACTOR'S SSSP and that they comply with all the requirements of this Subcontract.

If, after award, the SUBCONTRACTOR proposes to use any new LOWER-TIER SUBCONTRACTORS not listed in initial subcontract, the SUBCONTRACTOR shall notify the MSTS's Procurement Specialist at least 10 business days before the proposed start date of the new LOWER-TIER SUBCONTRACTOR. The SUBCONTRACTOR will submit any required LOWER-TIER SUBCONTRACTOR'S, forms and documentation including "Safety and Health History" for CONTRACTOR review and acceptance. LOWER-TIER SUBCONTRACTORS shall not perform any work prior to the CONTRACTOR'S approval in writing provided by the Procurement Specialist.

3.5. Acceptance Criteria

- The SUBCONTRACTOR shall complete work in accordance with the requirements, drawings, and specifications as stated in Task Order Release(s). Work shall be consistent with sound industry practices and meet the code requirements specified.
- The SUBCONTRACTOR is responsible for selecting qualified personnel to perform the required services, overseeing performance, and assuring the quality meets the CONTRACTOR expectations.
- The SUBCONTRACTOR shall maintain professional working relationships with CONTRACTOR personnel, client agency personnel, other CONTRACTORS and their personnel, and other stakeholders associated with work performed on the transactions. The SUBCONTRACTOR shall not perform in a manner that provides an appearance it is directing other entities or taking actions that have an appearance to bind or make commitments on behalf of a CONTRACTOR.
- The SUBCONTRACTOR is responsible for the safe and secure accomplishment of services, whether performed by its own personnel or team members, including its LOWER-TIER SUBCONTRACTORS.
- The SUBCONTRACTOR shall provide sound advice from the perspective of what's in the best interest and/or offers the optimal value for the CONTRACTOR.
- The SUBCONTRACTOR shall be required to provide and maintain bonding requirements as specified in the Master Agreement and each respective Task order Release.
- The SUBCONTRACTOR shall maintain insurance coverage as identified within the terms of the Master Agreement.

- The SUBCONTRACTOR shall provide all management, administrative, clerical, and supervisory functions required for the effective and efficient performance of transactions.
- The SUBCONTRACTOR shall adhere to the same professional and ethical standards of conduct required of CONTRACTOR personnel. The SUBCONTRACTOR shall not:
    - Discuss with unauthorized persons information obtained in the performance of work under a Task Order Release(s);
    - Conduct business not directly related to the work;
    - Use computer systems and/or other CONTRACTOR facilities for company or personal business; or
    - Recruit on a CONTRACTOR site or otherwise act to disrupt CONTRACTOR business.
- The SUBCONTRACTOR shall be responsible for protecting all Unclassified Controlled Nuclear Information (UCNI) and Controlled Unclassified Information (CUI), and materials in connection with the performance of the work under this Master Agreement. UCNI and CUI will be protected in accordance with the DOE/NNSA directives.
- Submittals shall be accurate, legible, and reproducible. Before delivery, the SUBCONTRACTOR shall review its work products, as applicable, for technical adequacy, completeness, and appropriate content. All submittals and formal documents provided to the CONTRACTOR must be accompanied by required transmittal documentation.
- Further specific Acceptance Criteria applicable to the scope will be addressed in each Task Order Release.

3.6. Site Coordination Requirements

3.6.1. Building Occupancy Inspection Requirements

Construction trailers are required to meet the relocatable structure requirements of International Building Code (IBC-2024) and will need to have a Beneficial Occupancy Inspection (BOI) performed in order to receive a Certificate of Occupancy per CD-5400.003. The BOI will use a graded approach for the inspection itself but documentation for the structures themselves, a full site plan, and structural anchorage/support will be required. The plan shall be reviewed by the Building Authority (BA) and other appropriate SMEs before a BOI can be requested.

Facilities including manufactured structures, mobile homes, trailers, semi-trailers, modular-type structures, factory-assembled structures, cargo containers, hazardous materials or flammable liquid storage containers, air supported/inflated structures, tent/membrane, and cloth/rib structures. This term does not apply to trailers and cargo containers that are being used in the transportation mode for conveying materials while on site, or to prefabricated buildings that are permanently located, such as “Butler" or “Strand Steel" buildings.

Engineering Programs - BA-Relocatable Structures provides a breakout of what is required for relocatable structures at the site. Note that since these meet the International Building Code (IBC) and Architectural Barriers Act (ABA) definition of construction trailers, they are accepted from meeting the accessibility requirements therein, but not other requirements. Most municipalities have some kind of permitting requirement for construction trailers therefore SUBCONTRACTOR shall be familiar with these and shall have the required manufacturer and tie down information readily available. SUBCONTRACTOR shall contact Fire & Rescue for their specific requirements for these structures since they may need the building numbers (provided by Facilities Information Management System (FIMS)) installed on the exterior of the trailers based on a previous walkdown.

Note that all applicable Environmental, Emergency Planning, and ES&H requirements for construction trailers will need to be met and these departments shall be contacted for those if they have not already. An NNSS Construction Office and Equipment Trailer Permit Application must be submitted for each trailer over 120sf at least 28 days before the trailer is planned to be on site (see Appendix A).

3.7. Site Conditions and Known Hazards (Facility Specific)

Site facility specific conditions/requirements and known hazards are as incorporated in this SOW.

3.7.1. Asbestos	
☒	It is **NOT** expected.
☐	It **IS** expected that asbestos-bearing materials will be encountered during the performance of this work. a. The SUBCONTRACTOR shall submit an Asbestos Abatement Plan for STR approval prior to start of work, which meets all the criteria of OSHA 29 CFR 1926.1101, "Asbestos." The Asbestos Abatement Plan shall identify the procedures that will be used to remove and dispose of all asbestos-containing materials that may be encountered during work performed under this Subcontract. These items include, but are not limited to, piping insulation, floor tiles, ceiling tiles, and boilers. b. Supervision of the asbestos abatement work shall be performed by a federal, state, or local accredited/licensed competent person (as defined by OSHA 29 CFR 1926.1101) employed by the SUBCONTRACTOR and who will be at the worksite(s) at all times. c. Installation of asbestos containing material (ACM) in newly constructed facilities is prohibited. For all new facilities, certify that no ACM was used for building construction.
3.7.2. Silica	
☐	It is **NOT** expected.
☒	It **IS** expected that silica-bearing materials will be encountered during the performance of this work and all activities that may potentially generate respirable silica. a. A SUBCONTRACTOR with employees potentially exposed to respirable crystalline silica (RCS) above 25 micrograms per cubic meter of air (25 ug/m3) as an 8-hour time-weighted average under any foreseeable conditions shall comply with the 29 CF 1910.1053, "Respirable Crystalline Silica," and/or 29 CFR 1926.1153, "Respirable Crystalline Silica." b. The SUBCONTRACTOR shall submit a Written Silica Exposure Control Plan (if applicable) to the CONTRACTOR for review and approval as part of the SSSP. *NOTE: The CONTRACTOR's RCS Occupational Exposure Limit is 25 ug/m^3 as opposed to OSHA PEL of 50 ug/m^3.*
3.7.3. Toxic Metals (Lead, Cadmium, Mercury)	
☒	It is **NOT** expected. However, since painted surfaces typically contain lead chromates, and many metals contain hexavalent chromium, the SUBCONTRACTOR is required to notify the STR prior to cutting, burning, welding or polishing of metal or painted surfaces.
☐	It **IS** expected. a. A SUBCONTRACTOR with employees working in toxic metals contaminated areas shall submit a Written Toxic Metals Exposure Control Plan in accordance to the appropriate section of 29 CFR 1910 to the STR for review and approval as part of the SSSP. b. All SUBCONTRACTOR employees working under the accepted Written Toxic Metals Exposure Control Plan shall have been trained in accordance with the plan. Training records shall be submitted to the STR prior to the start of work.
3.7.4. Hoisting and Rigging	
☐	It is **NOT** anticipated that Hoisting and Rigging will occur during performance of the work. However, if the SUBCONTRACTOR's chosen means and methods include hoisting and rigging activities then all applicable requirements shall apply.
☒	It **IS** anticipated that Hoisting and Rigging will occur during performance of this work. a. The SUBCONTRACTOR shall provide the resources necessary for inspection, certification, and maintenance of rigging and lifting equipment as well as monitor all lifts to ensure that regulatory

	lifting practices are followed by the MSTS Lifting SME. b. The SUBCONTRACTOR shall submit its 29 CFR 1926.1400, Subpart CC, “Cranes and Derricks in Construction” compliant program as part of the ES&H program. c. The SUBCONTRACTOR shall designate a qualified supervisor to determine the methods and develop plans for rigging operations to ensure safe lifts. d. The SUBCONTRACTOR shall ensure all crane operations maintain minimum safe distances from all high voltage lines, as determined by the CONTRACTOR. Twenty feet is required for voltages up to 350 kV. At voltages greater than 350 kV, the distance shall increase as required. e. Cranes (Mobile) - The SUBCONTRACTOR shall provide the resources necessary for inspection, certification, and maintenance of rigging and lifting equipment and shall monitor all lifts to ensure that acceptable lifting practices are followed. f. Lift Plan requirements i) Lift plans are required to be submitted to the CONTRACTOR for concurrence. The SUBCONTRACTOR shall submit a detailed rigging plan with all applicable supporting calculations to the CONTRACTOR for review and acceptance prior to the lift. A Formal Lift Plan will be required for the following activities: • Excess of 5 tons • Lift classified as critical (exceeding 75% of crane capacity chart) • Any two-crane lift or any lift over operating or occupied facilities, process pipe racks or near power lines) • High value or long lead time item ii) The SUBCONTRACTOR shall designate a qualified supervisor to determine the methods and develop plans for rigging operations to ensure safe lifts. iii) The SUBCONTRACTOR is required to meet DOE Standard DOE-STD-1090-2020, “Hoisting and Rigging” for lift classification and lift plan requirements.
3.7.5. Radiological Contamination	
☒	It is **NOT** expected.
☐	It **IS** anticipated that work may be performed in radiological areas. a. The SUBCONTRACTOR shall abide by the requirements of the current version of the NNSS Radiation Protection Program (NNSS RPP) as implemented with the NNSS Radiological Control Manual (NNSS RCM). • The NNSS RPP can be downloaded from the following web address: https://www.osti.gov/servlets/purl/1435448 • The NNSS RCM can be downloaded from the following: https://www.osti.gov/servlets/purl/1895616 b. The SUBCONTRACTOR shall abide by the CONTRACTOR’S radiological postings. c. The SUBCONTRACTOR shall make arrangements with the CONTRACTOR’S Radiological Control Division to develop adequate controls, prescribe protective measures, and generate required Radiological Work Permit (RWP) necessary to demonstrate compliance with the NNSS RPP. d. The SUBCONTRACTOR shall comply with all RWPs approved by the CONTRACTOR controlling the work performed by the SUBCONTRACTOR. e. The SUBCONTRACTOR shall provide a list of all equipment and materials expected to be utilized in areas controlled for radiological purposes and shall additionally disclose all heavy equipment to be brought on NNSA/NFO-managed property to the CONTRACTOR’S STR (to be provided to the Radiological Control Division), prior to arrival on NNSA/NFO property. f. All SUBCONTRACTOR-owned/rented equipment and vehicles brought onto NNSA/NFO property are subject to radiological survey at any time during the contract period. • All SUBCONTRACTOR-owned/rented heavy equipment utilized for soil disturbing or building

demolition activities are required to undergo baseline and re-entry radiological surveys upon arrival at NNSA/NFO property or prior to use at the work site, as directed by the CONTRACTOR'S Radiological Control Division.

- All SUBCONTRACTOR-owned/rented equipment and vehicles are required to undergo radiological evaluation prior to removal from the work site and/or NNSA/NFO property.
- All SUBCONTRACTOR-owned/rented equipment and vehicles brought onto NNSA/NFO property that cannot meet established radiological release requirements shall not be removed from NNSA/NFO property.

g. SUBCONTRACTOR shall require dosimeters, if used at the worksite, are exchanged by CONTRACTOR, as required, by the CONTRACTOR's Radiological Control Division.

h. Upon completion of work, the SUBCONTRACTOR returns the dosimeters to the CONTRACTOR.

i. When required, the SUBCONTRACTOR shall ensure radiobioassay samples from their employees are submitted to the CONTRACTOR'S Radiological Control Division and/or RWP.

j. If the SUBCONTRACTOR is expecting to bring radioactive material/radioactive sources (including those contained within equipment) or radiation-generating devices (RGDs) onto NNSA/NFO property:

i) The SUBCONTRACTOR shall maintain radioactive material/radioactive sources per the CONTRACTOR'S direction.

ii) The SUBCONTRACTOR shall provide a planned schedule of moves or advise the CONTRACTOR'S STR (to be provided to the Radiological Control Division), in writing, prior to moving any radioactive source to, around, or away from CONTRACTOR-managed property. Prior approval to move such radioactive sources onto or from CONTRACTOR-managed property must be received from the CONTRACTOR'S Radiological Control Division.

(1) The SUBCONTRACTOR shall notify the CONTRACTOR'S Radiological Control Division immediately after they bring radioactive material/radioactive sources onto CONTRACTOR-managed property so a pre-use radiological survey can be performed by the CONTRACTOR.

(2) The SUBCONTRACTOR shall notify the CONTRACTOR'S STR prior to removing radioactive material/radioactive sources from CONTRACTOR-managed property so a post-use radiological survey can be performed by the CONTRACTOR.

iii) The SUBCONTRACTOR shall provide to the CONTRACTOR'S STR (to be provided to the Radiological Control Division) prior to arriving onsite, a copy of the current applicable radioactive material license (Nuclear Regulatory Commission or applicable state reciprocity) or other approval to the CONTRACTOR'S STR (to be provided to the Radiological Control Division) that gives the SUBCONTRACTOR authority to possess and operate the radioactive source/radioactive material or RGD (copy of current License for Industrial Radiography per 10 CFR 34, "Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations,") along with procedures for operating the device.

(1) The SUBCONTRACTOR shall have adequate controls, protective measures, and work control documents/procedures/permits as required under their approved radioactive material license (Nuclear Regulatory Commission or applicable state reciprocity) or other approval for all operations associated with SUBCONTRACTOR-owned radioactive material/radioactive sources or RGDs.

(2) The SUBCONTRACTOR shall provide current leak test results, training records for RGD Operations, and source certificate/nominal activity sheets to the CONTRACTOR'S STR (to be provided to the Radiological Control Division) prior to the radioactive source arriving on NNSA/NFO-managed property.

(3) The SUBCONTRACTOR shall provide special form certificates, Department of Transportation shipping papers, and radioactive source container certifications, to the

	CONTRACTOR'S STR (to be provided to the Radiological Control Division) upon entry to NNSA/NFO-managed property. (4) The SUBCONTRACTOR shall provide or make arrangements for transportation of radioactive source/radioactive materials in compliance with Department of Transportation regulations. (5) The SUBCONTRACTOR shall have a worker radiation safety plan as specified in 10 CFR 39, "Licenses and Radiation Safety Requirements for Well Logging," including Operating and Emergency procedures and Incident Reporting procedures.

B-2 TECHNICAL SPECIFICATIONS

SPEC NUMBER	TITLE	REV	PAGES
TRD-793-000	New Mercury Materials Packaging and Surveillance Facility 23-474 Technical Requirements Document	0	285
FRD-793-000	New Mercury Materials Packaging and Surveillance Facility 23-474 Functional Requirements Document	0	47

Additional Technical Specifications will be defined in each Task Order Release Statement of Work, as applicable.

B-3 DRAWINGS

Drawings will be defined in each Task Order Release Statement of Work, as applicable.

DRAWING NUMBER	TITLE	REV	PAGES
NA			

B-4 PLACE OF PERFORMANCE

1. Delivery Location

Delivery location will be Nevada National Security Site Receiving Warehouse 160 Mercury, NV 89023.

2. Work Location:

Work will be performed at the locations specified in each respective Task Order Release. For any work performed on the NNTS site or in an MSTS controlled facility, the provision of the On-Site services shall apply to this subcontract.

3. Site Access and Work Hours

The standard work week for this SUBCONTRACT will be Monday – Thursday 6 am – 4:30 pm with one-half hour designated for unpaid period for lunch.

Access to a specific facility, if applicable, will be identified in the Task Order Release.

Work performed outside normal operating hours shall be coordinated and/or approved through the STR and/or the Procurement Specialist prior to performing work.

4. Badging

Any on-site work will be coordinated with the STR in accordance with the SOW and site-specific training requirements. The SUBCONTRACTOR shall wear a MSTS issued security badge identifying themselves. A minimum of fourteen (14) working days advanced notice is needed for site badging. SUBCONTRACTOR employees shall be required to submit to vehicle searches and not personally carry or transport certain prohibited articles.

B-5 CLEARANCE REQUIREMENTS

The following access authorization or clearance requirements are required.

1) Check all that apply:

☒ No security clearance; unclassified work

☐ DOE L

☐ DOE Q

☐ HSPD-12 PIV Credential

2) If applicable, add any or all parts of the following statement security qualifications:

☐ The SUBCONTRACTOR shall have the ability to obtain a U.S. Department of Energy (DOE) facility security clearance and have personnel capable of obtaining a Q-type or L-type security clearance.

☐ Q- or L-type security clearance is required for all SUBCONTRACTOR personnel having access to classified information or special nuclear material when performing such work.

☐ A corresponding level of security clearance from another federal agency may be applicable if approved by the MSTS and DOE.

☒ N/A

B-6 SPECIAL REQUIREMENTS

1. Qualifications, Licensing, Certifications

In order to determine the SUBCONTRACTOR qualified to perform the scope of work as outlined, the SUBCONTRACTOR must have the following qualifications:

1. Experience - SUBCONTRACTOR shall have the following job experience

1.1. SUBCONTRACTOR shall possess a minimum of ten (10) years in performing A/E design, turn-key construction services (including construction management), training and warranty repair for projects similar in size, scope and complexity as contemplated under the Agreement. In addition, SUBCONTRACTOR'S key personnel shall possess the following:

1.1.1. Construction Manager: Minimum of ten (10) years of experience managing large scale construction work, similar in type, scope, and complexity as will be requested under the Agreement.

1.1.2. Project/Task Order Manager: Minimum of five (5) years of experience in project management activities associated with large scale construction work, similar in type, scope, and complexity as will be requested under the Agreement.

1.1.3. Superintendent: Minimum of five (5) years of experience managing large scale construction work, similar in type, scope, and complexity as will be requested under the Agreement.

1.1.4. Quality Control Manager (QCM): Minimum of seven (7) years of experience in Quality Assurance / Quality Control. Quality Control Manager shall have minimum ACI Concrete Field Testing Technician - Grade 1 certification and Certified Quality Inspector (CQI) certification,

USACE QAQC certification (or equivalent). QCM must be familiar with United States Gypsum (USG) five levels of finish and use of a hygrometer for moisture testing prior to installation of wall and floor finishes. Quality Control Manager must have good vision acuity (20/40 or better) and properly perceive color (or pass color perception testing). Inspection disciplines required may include Civil/Structural; Geometric Dimensioning & Tolerancing; Instrumentation; Material; Mechanical; Pressure Testing; or Welding and Nondestructive Examination.

1.1.5. Safety Representative: Shall possess one of the following listed Requirement I and meet the criteria listed in Requirement II and Requirement III:

- Requirement I
  - A degree in Occupational Safety OR
  - Hold the designation of a Certified Safety Professional OR
  - Hold the designation of an Associate Safety Professional with a minimum of 1-year documented safety experience AND
- Requirement II: Occupational Health and Safety Technician or Construction Safety and Health Technician certification in addition to three (3) years of experience in the field providing safety duties.
- Requirement III: Documented five (5) years full-time safety experience (100% safety work). A list of projects and description of duties where person was a full-time safety professional will be provided by the Offeror.

2. Licenses – SUBCONTRACTOR shall have the following job-specific licenses:

2.1. SUBCONTRACTOR shall be in full compliance and adhere to all licensing requirements for A/E and construction in the State of Nevada.

3. Certifications – SUBCONTRACTOR shall have the following job-specific certifications:

3.1. SUBCONTRACTOR shall adhere to all certification requirements as driven by final Issue for Construction design and specifications.

In addition to the above, the SUBCONTRACTOR shall provide qualified personnel throughout the period of performance of the Subcontract. SUBCONTRACTOR shall be responsible for ensuring its personnel meet and/or maintain current and valid training requirements, certifications and are fully capable to complete the duties described through the entirety of the Subcontract period of performance.

2. MSTS Provided Training

The SUBCONTRACTOR and its personnel will be required to attend the following site-specific training in the course of this work scope. NOTE site access may be delayed until training is complete or renewed. The SUBCONTRACTOR shall contact the STR to coordinate scheduling of training. See Section B-4, paragraph 4 Badging. Task Order releases may specify additional training requirements.

DESCRIPTION	DURATION	FREQUENCY
CONTRACTOR's Lockout/Tagout/Tagging Authority Process (1E00W448)	1.0 Hours	730 days
CONTRACTORS Excavation Penetration Process (Briefing 1E00W752)	0.5 Hours	One time only
NNSS Site Access Safety Orientation (1E00W102)	0.5 Hours	One time only
Protective actions (WBT 1REMPAW1)	0.5 Hours	365 days
Work Location Emergency Response Plan, Including Evacuation Alarms and Accountability (1REM050000)	3.0 Hours	One time only
Initial Security Briefing. DOE O 470.4B, "Safeguards and Security	1 Hours	One time only

DESCRIPTION	DURATION	FREQUENCY
Program" (1S000110) as well as DOE O 470.4B Chg. 3 (Ltd.Chg.)		

3. Government Assets

3.1. Use of Government Vehicles	
☒	There is **NO** anticipated need for any SUBCONTRACTOR employees to use a Government-furnished vehicle in the performance of this SOW. The SUBCONTRACTOR's employees, therefore, are specifically prohibited from driving any Government-furnished vehicles under the performance of this SOW unless this SOW is formally so modified by the parties and the employee(s) will present a valid driver's license to the STR for review.
☐	One or more SUBCONTRACTOR employees will have access to Government-furnished vehicles while performing this SOW.
3.2. Government Property	
☒	Government Property **NOT** anticipated to be furnished to or acquired by the SUBCONTRACTOR under this SOW.
☐	Pursuant to Federal Acquisition Regulation (FAR) 52.245.1 – Government Property, the following Government-owned property will be furnished to the SUBCONTRACTOR. The SUBCONTRACTOR shall be responsible for managing the Government-Furnished Property (GFP) below and/or CONTRACTOR-Acquired Property (CAP) as required in accordance with FAR 52.245-1. A list of the property to be furnished to the SUBCONTRACTOR can be found in Appendix Choose an item, along with any special technical and/or handling instructions.

4. Permits

Except for permits furnished by the MSTS the SUBCONTRACTOR shall, without additional expense to the MSTS be responsible for obtaining any and all necessary licenses and permits.

The MSTS will without cost to the SUBCONTRACTOR, furnish the permits listed below. All such MSTS-furnished permits are available for examination at the project office of MSTS during regular business hours.

[When applicable, each Task Order Release will identify the permits to be furnished by MSTS. Such MSTS furnished permits will be provided without cost to the SUBCONTRACTOR. All such MSTS-furnished permits are available for examination at the project office of MSTS during regular business hours.

The SUBCONTRACTOR shall also be responsible and liable for all materials delivered and Work performed until completion and acceptance of the entire Work, except for any completed unit of Work which may have been accepted under the SUBCONTRACTOR.

5. Quality Assurance (QA)

The work as described has been identified to be.	
☐	**SAFETY CLASS/SAFETY SIGNIFICANT SERVICES AND/OR COMMODITIES (NUCLEAR/RADIOLOGICAL)** This PO is related to items or services used in support of the nuclear and/or radiological mission(s) of the Nevada National Security Site, therefore: The SUBCONTRACTOR shall implement and maintain a Quality Assurance (QA) program in accordance with at least one the following quality assurance criteria and requirements: • ASME NQA-1 (2015) quality assurance requirements for nuclear facility applications

	• ASME NQA-1 (2008 with 2009 addenda) quality assurance requirements for nuclear facility applications • Equivalent program authorized in writing by the CONTRACTOR's quality assurance organization In addition, the SUBCONTRACTOR shall be responsible for: Price Anderson Amendments Act (PAAA) The item or service identified in the purchase order agreement is being procured by a CONTRACTOR to the Department of Energy (DOE)/National Nuclear Security Administration (NNSA). This item or service is intended to be used in the performance of activities that (1) prevent or mitigate radiological or harm to the worker, the public or the environment or (2) provide a healthful and safe workplace for DOE/NNSA CONTRACTOR personnel. Therefore, the SUBCONTRACTOR is responsible for assuring that the items or services provided under this purchase agreement meet the stated requirements. **SUSPECT/COUNTERFEIT ITEMS** The SUBCONTRACTOR will take positive measures to ensure that only new, unused equipment/material from acceptable sources is provided under this subcontract. Notwithstanding, any other provisions of this subcontract, should any suspect/counterfeit items or components be found within or on this equipment during CONTRACTOR receipt inspection, SUBCONTRACTOR shall, at its expense, promptly replace such items or components.
☒	**GENERAL SERVICES AND/OR COMMODITIES** This PO is for items or services that support the mission(s) of the Nevada National Security Site, therefore: **SUSPECT/COUNTERFEIT ITEMS REQUIREMENTS**: The SUBCONTRACTOR will take positive measures to ensure that only new, unused equipment/material from acceptable sources is provided under this subcontract. Notwithstanding any other provisions of this subcontract, should any suspect/counterfeit items or components be found within or on this equipment during CONTRACTOR receipt inspection, SUBCONTRACTOR shall, at its expense, promptly replace such items or components. These requirements shall be flowed down to all levels of SUBCONTRACTORs as it pertains to this procurement activity.

B-7 ENVIRONMENTALLY PREFERABLE PRODUCTS

MSTS is required by the U.S. Department of Energy to purchase Environmentally Preferable Products (EPP) (also known as green or sustainable purchasing) and are also required to flow those procurement requirements to their SUBCONTRACTOR. When designing materials and/or supplying materials to be used onsite as part of a subcontract SOW, those materials must meet these same requirements.

The following is a list of EPP types that must be used if they are available:

- **Products with Recycled Content.** MSTS supports efforts that reduce or eliminate environmental hazards, conserve environmental resources, minimize life-cycle cost and liabilities. Towards the end, the acquisition cycle is viewed as an important key in understanding what is brought onto the Site as well as identifying what can be reused/recycled. Focus is directed on recycled-content, biobased-content, ozone-depleting substances, and other environmental impacts. Specific additional clauses are included in this solicitation that address potential requirements and preferences based on the nature of the item being considered for purchase.
- **Water Efficient Plumbing Products**. When purchasing commercially available, off-the-shelf water consuming products, products must meet EPA's WaterSense standards (http://www.epa.gov/watersense).

- **Non-Toxic or Less Toxic Alternatives**
- **Green Certified Products**. (e.g., Design for Environment, Green Seal)
- **Bio-Based Products**. MSTS will give preference to acquiring Department of Agriculture designated biobased products. For more information to this program, see www.biopreferred.gov.
- **Energy Efficient Products**.
  - EPA Energy Star® When purchasing commercially available, off-the-shelf energy-consuming products, products must be Energy Star rated (www.energystar.gov).
  - Federal Energy Management Program designated products When purchasing commercially available, off-the-shelf energy-consuming products, products must use no more than one watt of standby power as defined and measured by International Electrotechnical Commission (IEC) code 62301 or otherwise met FEMP specifications for low standby power consumption. If FEMP has not specified a standby power level for a product category, the item shall be the lowest standby power consumption available.
- **Energy Efficient Electronics**. When purchasing the following products, EPEAT ratings will apply:
  - Desktop and Notebook Computers – must meet the EPEAT silver rating or higher
  - Displays, Monitors, Integrated Desktop Computers, Workstation Desktops, Thin Client, Workstation Notebooks, and/or Tablet Notebooks – must meet the EPEAT silver rating or higher
  - Fax Machines, Multifunction Devices, and Printers – must meet the EPEAT bronze rating or higher
  - Copiers and Digital Duplicators – must meet the EPEAT silver rating or higher
- **Reuse of Leased IT Electronic Equipment** In accordance with DOE Order 436.1, Departmental Sustainability, MSTS is striving to reduce or eliminate environmental hazards, conserve environmental resources, minimize life-cycle cost and maximize operational sustainability through the incorporation of electronics stewardship practices thereby minimizing the economic and environmental impacts of managing toxic by-products and hazardous wastes generated in the conduct of site activities. Therefore, MSTS requires that at the end of the lease period, the equipment is to be reused, refurbished, donated, or recycled using environmentally sound management practices.

B-8 MEETINGS

After subcontract award, a Subcontract Kickoff Meeting, is requested, which may be a conference call, an internet meeting, or a meeting to be held at MSTS. The time, date, and agenda for the meeting will be provided to the SUBCONTRACTOR by MSTS.

The SUBCONTRACTOR shall interface with various MSTS (and other) organizations through MSTS' Procurement Specialist (or STR for in-scope work), as required, or at points and frequency determined by the Procurement Specialist.

MSTS will issue meeting notices and prepare an agenda and minutes for each meeting addressed in this Section. When applicable, minutes will identify action items, assigned actioner, and due dates. The purpose of the meetings is the exchange of work-related information. The person or persons designated by the SUBCONTRACTOR to attend all meetings shall have all required authority to make decisions and commit SUBCONTRACTOR to technical decisions made during meetings.

Subsequent Task Order Releases may specify additional meeting requirements as needed.

FREQUENCY	DURRATION	TITLE	DESCRIPTION / PURPOSE
Once	1 Hour	Master Agreement Kickoff Meeting	After Master Agreement award, a Subcontract Kickoff Meeting is requested, which may be a conference call, an internet meeting, or a meeting to be held at MSTS. The time, date, and agenda for the

FREQUENCY	DURRATION	TITLE	DESCRIPTION / PURPOSE
			meeting will be provided to the SUBCONTRACTOR by MSTS.
Once for each task order	1 Hour	Task Order Kickoff Meeting	Kickoff meeting upon receiving task order release for each task.
Weekly	30 Minutes	Weekly Design Status Meeting	Microsoft Teams meeting to update MSTS on design status, action items, and deliverables
Weekly	30 Minutes	Weekly Construction Status Meeting	Microsoft Teams meeting to provide construction status update, review RFI's, Change Orders, 3-week look a head, etc.

B-9 SUBMITTALS

Appendix See B-10 , *Submittal Register*, identifies deliverables due during the execution of this subcontract and the recipient.

B-10 APPENDIX

The SUBCONTRACTOR shall be responsible for completion of specific design and construction milestones in accordance with each project schedule or preparation and delivery of documents and reports required by each Task Order Release. In addition to the below the Submittals required per Appendix A, each Task Order Release will identify the applicable Submittal requirements, format for delivery, delivery schedule and points of contact for receipt.

The CONTRACTOR shall include review times and response to review comments for Submittals specified in each respective Task Order Release. Unless otherwise stipulated, the SUBCONTRACTOR shall provide the submittals for inspection and acceptance to the Procurement Specialist and Subcontract Technical Representative (STR) or their designee.

Specific Task Orders may require submittals and will be specified at that time. Each Task Order will contain a submittal register listing required submittals

Submittals and associated documents generated under this Master Agreement and each Task Order Release are deemed to be the property of the CONTRACTOR and therefore, the CONTRACTOR will have unlimited rights. The SUBCONTRACTOR shall neither retain nor reproduce for private or commercial use any deliverables without prior consent of the CONTRACTOR'S authorized representative identified under the Task Order Release. The SUBCONTRACTOR agrees not to assert any rights at common law or in equity or establish any claim to statutory copyright in such data. These rights are not exclusive and are in addition to any other rights and remedies to which the CONTRACTOR is otherwise entitled. The SUBCONTRACTOR is responsible for obtaining from its LOWER-TIER SUBCONTRACTORS all data and rights necessary to fulfill its obligations to the CONTRACTOR under each respective Task Order Release.

.

In addition to the below, each Task Order Release will identify the required schedule and submittal requirements for the documents to be provided in support of the Work. The SUBCONTRACTOR shall meet the required schedule and provide the documents specified in accordance with the following submittals.

APPENDIX *A*
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information			
SUBCONTRACTOR Name:	*TBD*	Project SOW	Master Agreement - New Mercury Essential Services Complex A-E, and Construction Services
Purchase Order and Release Number:	*TBD*	Requisition Number:	*REQ-0019949*

Section B: Submittal Delivery Requirement
Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; Shawna Ham HAMSL@nv.doe.gov and Project Manager; Jeff Moya; MOYAJA@nv.doe.gov*

Section C: Submittal Requirement Details					
NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
001.	Subcontract Schedule	*Section 3.2*	No later than 10 calendar days from date of award, update *insert SOW required frequency*	Procurement Specialist STR	Prior to the start of work
002.	Service Contract Reporting Requirements	*Master Agreement*	*Annually by October 15*	Procurement Specialist STR	As specified in special condition titled, "Service Contract Reporting Requirements" of the Master Agreement
003.	Certified Payroll Reporting - Davis Bacon Reporting Requirements	*Master Agreement*	Weekly	Procurement Specialist STR	As specified in "Wage Requirements (Construction) Statute" of the Master Agreement
004.	Subcontract Hours, FRM-1253	*Master Agreement*	On or prior to the 28th of the month	STR	
005.	Monthly Total Recordable Incident Rate (TRIR) and Days Away, Restricted or Transfer Case Rate (DART):	*Master Agreement*	On or prior to the 28th of the month	STR	

APPENDIX *A*
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information			
SUBCONTRACTOR Name:	*TBD*	Project SOW	Master Agreement - New Mercury Essential Services Complex A-E, and Construction Services
Purchase Order and Release Number:	*TBD*	Requisition Number:	*REQ-0019949*

Section B: Submittal Delivery Requirement
Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; Shawna Ham HAMSL@nv.doe.gov and Project Manager; Jeff Moya; MOYAJA@nv.doe.gov*

Section C: Submittal Requirement Details					
NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
006.	Injury/Illness Infraction Report, FRM-0018	*Master Agreement*	Immediately	STR	The SUBCONTRACTOR is required to report all job-related injuries and illnesses, regardless of severity,
007.	Meeting Minutes	*Section B-8*	*Weekly.Monthy as required by the Task Order Release*	Procurement Specialist STR	*any comments*
008.	An NNSS Construction Office and Equipment Trailer Permit Application for Each Trailer over 120sf	Section 3.6	at least 28 days before the trailer is planned to be on site		
009.	Design Packages	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
010.	Cost Estimates	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
011.	Drawings, Calculations and Modeling	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
012.	Construction Schedules	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
013.	Commissioning Plans	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
014.	Master Equipment List and Instrumentation and Controls Table	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
015.	Commissioning Schedule	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
016.	Specifications	Section 3	As stated in the Task Order Release	Procurement Specialist STR	

APPENDIX *A*
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information			
SUBCONTRACTOR Name:	*TBD*	Project SOW	Master Agreement - New Mercury Essential Services Complex A-E, and Construction Services
Purchase Order and Release Number:	*TBD*	Requisition Number:	*REQ-0019949*

Section B: Submittal Delivery Requirement
Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; Shawna Ham HAMSL@nv.doe.gov and Project Manager; Jeff Moya; MOYAJA@nv.doe.gov*

Section C: Submittal Requirement Details					
NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
017.	Start-Up and Commissioning Procedures	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
018.	O&M Manuals	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
019.	Warranties for Installed Systems	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
020.	Training Records, Manuals, Videos and Data Sheets	Section 3	As stated in the Task Order Release	Procurement Specialist STR	
021.	Site Specific Safety Plan (SSSP)	Exhibit E	30 days prior to the start of fieldwork	Procurement Specialist STR	
022.	Subcontractor Release FRM-2206	FRM-2206	As stated in the Task Order Release	Procurement Specialist STR	
023.	Workplace Substance Abuse Program	NA	As stated in the Task Order Release	Procurement Specialist STR	
024.	Collective Bargaining Agreement, Letter of Assent	NA	As stated in the Task Order Release	Procurement Specialist STR	
025.	P&P Bonds & Insurance Certificates	NA	As stated in the Task Order Release	Procurement Specialist STR	

NLT = No Later Than
NTP = Notice to Proceed
TLO = Transmittal Letter Only

APPENDIX B
TECHNICAL REQUIREMENTS DOCUMENT (TRD)

Appendix B, New Mercury Materials Packaging and Surveillance Facility 23-474 Project Requirements Specification (PRS) No. PRS-793-000, Rev. 0 dated 09/21/2025 shall be used for Task 1

Appendix B, New Mercury Materials Packaging and Surveillance Facility 23-474 Functional Requirements Document (FRD) No. FRD-793-000, Rev 0 dated 08/18/2025 shall be used for Task 1

Respective Project Requirement Specifications (PRS), Functional Requirements Documents, and Technical Requirements Documents must be adhered to for each respective task order. Each task order will specify appropriate PRS / TRD / FRD to be followed for each task order.

In resolving conflicts, discrepancies, errors or omissions Appendix B shall take precedence over Exhibit B – Statement of Work.