

SECTION 01 00 00
GENERAL REQUIREMENTS

1.1 GENERAL INTENTION

- A. Contractor shall completely prepare site for building operations, including demolition and removal of existing structures, and furnish labor and materials and perform work for Building 1A Seismic Corrections at VA Sierra Nevada Health Care System as required by drawings and specifications. Contractor shall refer to Appendix C "Rules of the Facility for Construction Contractors".
- B. Visits to the site by Bidders may be made only by appointment with the Medical Center Engineering Officer.
- C. Offices of RBB Architects Inc, as Architect-Engineers, will render certain technical services during construction. Such services shall be considered as advisory to the Government and shall not be construed as expressing or implying a contractual act of the Government without affirmations by Contracting Officer or his duly authorized representative.
- D. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.
- E. Prior to commencing work, general contractor shall provide proof that a OSHA certified "competent person" (CP) (29 CFR 1926.20(b)(2)) will maintain a presence at the work site whenever the general or subcontractors are present.
- F. Training:
 - 1. All employees of general contractor or subcontractors shall have the 30-hour OSHA certified Construction Safety course and /or other relevant competency training, as determined by VA CP with input from the ICRA team.
 - 2. Submit training records of all such employees for approval before the start of work.
- G. Permit Required Confined Space:
 - 1. Contractor must implement a permit required confined space program for any entry in the crawl space of Bldg 1. Written program must conform to OSHA requirements and be submitted for approval. Evidence of successful training for entrants, entry attendant, and entry supervisor must be included with the written program.
- H. Asbestos Permit: A permit from the Washoe County Health District must be obtained for any significant renovation/demolition whether or not there is asbestos present.
- I. Contractor shall complete the necessary procedures, documentation, and product selections for the project to achieve LEED Silver Certification. The Project shall target at least 55 LEED points for Silver certification, a certain number of points are expected from Design Phase credits. Contractor shall be responsible for achieving the Construction Phase prerequisites as well as at least 14 points through Construction Phase credits. See Figure Attachment D for the LEED Project Checklist. Credits marked "Y" are required. Credits marked as "?" are at the discretion of the Contractor, provided that the sum of Construction Phase points achieved is at least 14. It is the responsibility of the Contractor to submit to the LEED Consultant the list of Construction Phase credits that are to be pursued by the Project. The LEED requirements and submittals in these specifications only apply for those credits which are being pursued. For specific

LEED requirements refer to Section 01 81 11 Sustainable Design Requirements.

1.2 STATEMENT OF BID ITEM(S)

- A. ITEM I, GENERAL CONSTRUCTION: Work includes general construction, alterations, roads, walks, grading, drainage, mechanical and electrical work, laboratory equipment, utility systems, water storage facilities, necessary removal of existing structures and construction and certain other items.

1.3 SOLICITATION AUTHORITY

- A. This is solicitation Request for Proposals (RFP) conducted under Far Part 15 contracting by negotiation where firms are offerors and shall submit offers. References to IFBS, bids, or bidders, in technical specification sections and technical drawings are strictly coincidental and strictly for purposes of administrative convenience and efficiency. specifications and drawings for contractor.

1.4 SOLICITATION CLAUSES AND PROVISIONS

Please note that RFP, and any resultant contract, Part I, Schedule, and all clauses and provisions located there, supersede and contain final authority. Those clauses and provisions that may be referenced in these technical specification sections and technical drawings are strictly coincidental and for purposes of administrative convenience and efficiency.

1.5 SOLICITATION DEFINITIONS

Throughout this RFP, and any resultant contract, the terms Contracting Officer's Technical Representative (COTR), Contracting Officer's Representative (COR), Project Engineer (PE), Resident Engineer (RE), and Project Manager (PM), all denote the same engineering official and may be used equally and interchangeably as described by the Contracting Officer (CO).

- A. AFTER AWARD OF CONTRACT, 15 sets of specifications and drawings will be furnished. These drawings and specifications will consist of those returned by prospective bidders.
- B. Additional sets of drawings may be made by the Contractor, at Contractor's expense, from reproducible prints furnished by Issuing Office. Such prints shall be returned to the Issuing Office immediately after printing is completed.

1.6 CONSTRUCTION SECURITY REQUIREMENTS

- A. Security Plan:
1. The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.
 2. The General Contractor is responsible for assuring that all sub-contractors working on the project and their employees also comply with these regulations.
- B. Security Procedures:
1. General Contractor's employees shall not enter the project site without appropriate badge. They may also be subject to inspection of their personal effects when entering or leaving the project site.
 2. For working outside the "regular hours" as defined in the contract, The General Contractor shall give 3 days notice to the Contracting Officer so that security arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
 3. No photography of VA premises is allowed without written permission of the Contracting Officer.

4. VA reserves the right to close down or shut down the project site and order General Contractor's employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.
- C. Authority for visits to project location:
Visits to the project site by Offerors, Subcontractors, Suppliers and other interested parties may be made only by appointment with the Contracting Officer or his dully authorized Project Manager / COTR.
- D. Key Control:
 1. The General Contractor shall provide duplicate keys and lock combinations to the Resident Engineer for the purpose of security inspections of every area of project including tool boxes and parked machines and take any emergency action.
 2. The General Contractor shall turn over all permanent lock cylinders to the VA locksmith for permanent installation. See Section 08 71 00, DOOR HARDWARE and coordinate.
- E. Document Control:
 1. Before starting any work, the General Contractor/Sub Contractors shall submit an electronic security memorandum describing the approach to following goals and maintaining confidentiality of "sensitive information".
 2. The General Contractor is responsible for safekeeping of all drawings, project manual and other project information. This information shall be shared only with those with a specific need to accomplish the project.
 4. Certain documents, sketches, videos or photographs and drawings may be marked "Law Enforcement Sensitive" or "Sensitive Unclassified". Secure such information in separate containers and limit the access to only those who will need it for the project. Return the information to the Contracting Officer upon request.
 5. These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer.
 6. All paper waste or electronic media such as CD's and diskettes shall be shredded and destroyed in a manner acceptable to the VA.
 7. Notify Contracting Officer and Site Security Officer immediately when there is a loss or compromise of "sensitive information".
 8. All electronic information shall be stored in specified location following VA standards and procedures using an Engineering Document Management Software (EDMS).
 - a. Security, access and maintenance of all project drawings, both scanned and electronic shall be performed and tracked through the EDMS system.
 - b. "Sensitive information" including drawings and other documents may be attached to e-mail provided all VA encryption procedures are followed.

1.7 FIRE SAFETY

- A. Applicable Publications: Publications listed below form part of this Article to extent referenced. Publications are referenced in text by basic designations only.
 1. American Society for Testing and Materials (ASTM):
E84-2008.....Surface Burning Characteristics of Building Materials
 2. National Fire Protection Association (NFPA):
10-2006.....Standard for Portable Fire Extinguishers
30-2007.....Flammable and Combustible Liquids Code

- 51B-2003.....Standard for Fire Prevention During Welding,
Cutting and Other Hot Work
- 70-2007.....National Electrical Code
- 241-2004.....Standard for Safeguarding Construction,
Alteration, and Demolition Operations
- 3. Occupational Safety and Health Administration (OSHA):
 - 29 CFR 1926.....Safety and Health Regulations for Construction
- B. Fire Safety Plan: Establish and maintain a fire protection program in accordance with 29 CFR 1926. Prior to start of work, prepare a plan detailing project-specific fire safety measures, including periodic status reports, and submit to Resident Engineer and Facility Safety Manager for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the general contractor's competent person per OSHA requirements. This briefing shall include information on the construction limits, VAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAMC equipment, etc. Documentation shall be provided to the Resident Engineer that individuals have undergone contractor's safety briefing.
- C. Site and Building Access: Maintain free and unobstructed access to facility emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.
- D. Separate temporary facilities, such as trailers, storage sheds, and dumpsters, from existing buildings and new construction by distances in accordance with NFPA 241. For small facilities with less than 6 m (20 feet) exposing overall length, separate by 3m (10 feet).
- E. Temporary Construction Partitions:
 - 1. Install and maintain temporary construction partitions to provide smoke-tight separations between construction areas and adjoining areas. Construct partitions of gypsum board or treated plywood (flame spread rating of 25 or less in accordance with ASTM E84) on both sides of fire retardant treated wood or metal steel studs. Extend the partitions through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C, ¼ hour fire/smoke rated doors with self-closing devices.
 - 2. Install one-hour fire-rated temporary construction partitions as shown on drawings to maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures.
 - 3. Close openings in smoke barriers and fire-rated construction to maintain fire ratings. Seal penetrations with listed through-penetration firestop materials in accordance with Section 07 84 00, FIRESTOPPING.
- F. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- G. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with Resident Engineer and facility Safety Manager.
- H. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to Resident Engineer and facility Safety Manager Officer.

- I. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- J. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- K. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connections. Provide fire watch for impairments more than 4 hours in a 24-hour period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with Resident Engineer facility Safety Manager Officer. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the medical center. Parameters for the testing and results of any tests performed shall be recorded by the medical center and copies provided to the Resident Engineer.
- N. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with Resident Engineer and facility Safety Manager.
- O. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with Resident Engineer. Obtain permits from facility Safety Manager at least 48 hours in advance. Designate contractor's responsible project-site fire prevention program manager to permit hot work.
- P. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to Resident Engineer and facility Safety Manager.
- Q. Smoking: Smoking is prohibited in and adjacent to construction areas inside existing buildings and additions under construction. In separate and detached buildings under construction, smoking is prohibited except in designated smoking rest areas.
- R. Dispose of waste and debris in accordance with NFPA 241 and Section 01 81 11 SUSTAINABLE DESIGN REQUIREMENTS. Remove from buildings daily.
- S. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.
- T. If required, submit documentation to the Resident Engineer that personnel have been trained in the fire safety aspects of working in areas with impaired structural or compartmentalization features.

1.8 OPERATIONS AND STORAGE AREAS

- A. The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.
- B. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
- C. The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways

constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

- D. Working space and space available for storing materials shall be as determined by the Resident Engineer.
- E. Workmen are subject to rules of Medical Center applicable to their conduct.
- E. Execute work so as to interfere as little as possible with normal functioning of Medical Center as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by Resident Engineer where required by limited working space.
 - 1. Do not store materials and equipment in other than assigned areas.
 - 2. Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by Department of Veterans Affairs in quantities sufficient for not more than two work days. Provide unobstructed access to Medical Center areas required to remain in operation.
 - 3. Where access by Medical Center personnel to vacated portions of buildings is not required, storage of Contractor's materials and equipment will be permitted subject to fire and safety requirements.
- F. Utilities Services: Where necessary to cut existing pipes, electrical wires, conduits, cables, etc., of utility services, or of fire protection systems or communications systems (except telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by Resident Engineer. All such actions shall be coordinated with the Utility Company involved:
 - 1. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.
- I. Construction Fence: Before construction operations begin, Contractor shall provide a chain link construction fence with slats, 2.1m (seven feet) minimum height, around the construction area indicated on the Drawings. Provide gates as required for access with necessary hardware, including hasps and padlocks. Fasten fence fabric to terminal posts with tension bands and to line posts and top and bottom rails with tie wires spaced at maximum 375mm (15 inches). Bottom of fences shall extend to 25mm (one inch) above grade. Remove the fence when directed by Resident Engineer.
 - 1. Contractor may not place/park any materials, containers, trailers, vehicles etc outside the construction fence except for very temporary and approved purposes.
- J. When a building is turned over to Contractor, Contractor shall accept entire responsibility therefore.
 - 1. Contractor shall maintain a minimum temperature of 4 degrees C (40 degrees F) at all times, except as otherwise specified.

2. Contractor shall maintain in operating condition existing fire protection and alarm equipment. In connection with fire alarm equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.
- K. Utilities Services: Maintain existing utility services for Medical Center at all times. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, steam, gases, sewer or air pipes, or conduits, wires, cables, etc. of utility services or of fire protection systems and communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by Resident Engineer.
1. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of Resident Engineer. Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without the Medical Center Director's prior knowledge and written approval. Refer to specification Sections 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS, 27 05 11 REQUIREMENTS FOR COMMUNICATIONS INSTALLATIONS and 28 05 11, REQUIREMENTS FOR ELECTRONIC SAFETY AND SECURITY INSTALLATIONS for additional requirements.
 2. Contractor shall submit a request to interrupt any such services to Resident Engineer, in writing, 48 hours in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.
 3. Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of Medical Center. Interruption time approved by Medical Center may occur at other than Contractor's normal working hours.
 4. Major interruptions of any system must be requested, in writing, at least 15 calendar days prior to the desired time and shall be performed as directed by the Resident Engineer.
 5. In case of a contract construction emergency, service will be interrupted on approval of Resident Engineer. Such approval will be confirmed in writing as soon as practical.
 6. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.
- L. Abandoned Lines: All service lines such as wires, cables, conduits, ducts, pipes and the like, and their hangers or supports, which are to be abandoned but are not required to be entirely removed, shall be sealed, capped or plugged. The lines shall not be capped in finished areas, but shall be removed and sealed, capped or plugged in ceilings, within furred spaces, in unfinished areas, or within walls or partitions; so that they are completely behind the finished surfaces.
- M. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:
1. Keep roads, walks and entrances to grounds, to parking and to occupied areas of buildings clear of construction materials, debris

and standing construction equipment and vehicles. Wherever excavation for new utility lines cross existing roads, at least one lane must be open to traffic at all times.

2. Method and scheduling of required cutting, altering and removal of existing roads, walks and entrances must be approved by the Resident Engineer.
- N. Coordinate the work for this contract with other construction operations as directed by Resident Engineer. This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.

1.9 ALTERATIONS

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the Resident Engineer in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by both, to the Contracting Officer. This report shall list by rooms and spaces:
1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of building.
 2. Existence and conditions of items such as plumbing fixtures and accessories, electrical fixtures, equipment, venetian blinds, shades, etc., required by drawings to be either reused or relocated, or both.
 3. Shall note any discrepancies between drawings and existing conditions at site.
 4. Shall designate areas for working space, materials storage and routes of access to areas within buildings where alterations occur and which have been agreed upon by Contractor and Resident Engineer.
- B. Any items required by drawings to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of Resident Engineer, to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by Government. Provided the contract work is changed by reason of this subparagraph B, the contract will be modified accordingly, under provisions of clause entitled "DIFFERING SITE CONDITIONS" (FAR 52.236-2) and "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
- C. Re-Survey: Thirty days before expected partial or final inspection date, the Contractor and Resident Engineer together shall make a thorough re-survey of the areas of buildings involved. They shall furnish a report on conditions then existing, of resilient flooring, doors, windows, walls and other surfaces as compared with conditions of same as noted in first condition survey report:
1. Re-survey report shall also list any damage caused by Contractor to such flooring and other surfaces, despite protection measures; and, will form basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this contract.
- D. Protection: Provide the following protective measures:
1. Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery.
 2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.

3. Protection of interior of existing structures at all times, from damage, dust and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.

1.10 INFECTION PREVENTION MEASURES

- A. Implement the requirements of VAMC's Infection Control Risk Assessment (ICRA) team. ICRA Group may monitor dust in the vicinity of the construction work and require the Contractor to take corrective action immediately if the safe levels are exceeded.
- B. Establish and maintain a dust control program as part of the contractor's infection preventive measures in accordance with the guidelines provided by ICRA Group. Prior to start of work, prepare a plan detailing project-specific dust protection measures, including periodic status reports, and submit to Resident Engineer and Facility ICRA team for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
 1. All personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the medical center.
- C. Medical center Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the medical center prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition:
 1. The RE and VAMC Infection Control personnel shall review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in the patient-care rooms are appropriate for their settings. The requirement for negative air pressure in the construction zone shall depend on the location and type of activity. Upon notification, the contractor shall implement corrective measures to restore proper pressure differentials as needed.
 2. In case of any problem, the medical center, along with assistance from the contractor, shall conduct an environmental assessment to find and eliminate the source.
- D. In general, following preventive measures shall be adopted during construction to keep down dust and prevent mold.
 1. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by Resident Engineer. Blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.
 2. Do not perform dust producing tasks within occupied areas without the approval of the Resident Engineer. For construction in any areas that will remain jointly occupied by the medical Center and Contractor's workers, the Contractor shall:
 - a. Provide dust proof one-hour fire-rated temporary drywall construction barriers to completely separate construction from the operational areas of the hospital in order to contain dirt debris and dust. Barriers shall be sealed and made presentable on hospital occupied side. Install a self-closing rated door in a metal frame, commensurate with the partition, to allow worker access. Maintain negative air at all times. A fire retardant polystyrene, 6-mil thick or greater plastic barrier meeting local

fire codes may be used where dust control is the only hazard, and an agreement is reached with the Resident Engineer and Medical Center.

- b. HEPA filtration is required where the exhaust dust may reenter the breathing zone. Contractor shall verify that construction exhaust to exterior is not reintroduced to the medical center through intake vents, or building openings. Install HEPA (High Efficiency Particulate Accumulator) filter vacuum system rated at 95% capture of 0.3 microns including pollen, mold spores and dust particles. Insure continuous negative air pressures occurring within the work area. HEPA filters should have ASHRAE 85 or other prefilter to extend the useful life of the HEPA. Provide both primary and secondary filtrations units. Exhaust hoses shall be heavy duty, flexible steel reinforced and exhausted so that dust is not reintroduced to the medical center.
 - c. Adhesive Walk-off/Carpet Walk-off Mats, minimum 600mm x 900mm (24" x 36"), shall be used at all interior transitions from the construction area to occupied medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
 - d. Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Vacuum shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as they are created. Transport these outside the construction area in containers with tightly fitting lids.
 - e. The contractor shall not haul debris through patient-care areas without prior approval of the Resident Engineer and the Medical Center. When, approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with duct tape. No sharp objects should be allowed to cut through the plastic. Wipe down the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down.
 - f. Using a HEPA vacuum, clean inside the barrier and vacuum ceiling tile prior to replacement. Any ceiling access panels opened for investigation beyond sealed areas shall be sealed immediately when unattended.
 - g. There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the construction areas. All accidental spills must be cleaned up and dried within 12 hours. Remove and dispose of porous materials that remain damp for more than 72 hours.
 - h. At completion, remove construction barriers and ceiling protection carefully, outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.
- E. Final Cleanup:
1. Upon completion of project, or as work progresses, remove all construction debris from above ceiling, vertical shafts and utility chases that have been part of the construction.
 2. Perform HEPA vacuum cleaning of all surfaces in the construction area. This includes walls, ceilings, cabinets, furniture (built-in or free standing), partitions, flooring, etc.
 3. All new air ducts shall be cleaned prior to final inspection.

1.11 DISPOSAL AND RETENTION

- A. Materials and equipment accruing from work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:
1. Reserved items which are to remain property of the Government are identified by attached tags or noted on drawings or in specifications as items to be stored. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re-installation and reuse. Store such items where directed by Resident Engineer.
 2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.
 3. Items of portable equipment and furnishings located in rooms and spaces in which work is to be done under this contract shall remain the property of the Government. When rooms and spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are NOT required by drawings and specifications to be either relocated or reused will be removed by the Government in advance of work to avoid interfering with Contractor's operation.
 4. PCB Transformers and Capacitors: The Contractor shall be responsible for disposal of the Polychlorinated Biphenyl (PCB) transformers and capacitors . The transformers and capacitors shall be taken out of service and handled in accordance with the procedures of the Environmental Protection Agency (EPA) and the Department of Transportation (DOT) as outlined in Code of Federal Regulation (CFR), Titled 40 and 49 respectively. The EPA's Toxic Substance Control Act (TSCA) Compliance Program Policy Nos. 6-PCB-6 and 6-PCB-7 also apply. Upon removal of PCB transformers and capacitors for disposal, the "originator" copy of the Uniform Hazardous Waste Manifest (EPA Form 8700-22), along with the Uniform Hazardous Waste Manifest Continuation Sheet (EPA Form 8700-22A) shall be returned to the Contracting Officer who will annotate the contract file and transmit the Manifest to the Medical Center's Chief.
 - a. Copies of the following listed CFR titles may be obtained from the Government Printing Office:
 - 40 CFR 261.....Identification and Listing of Hazardous Waste
 - 40 CFR 262.....Standards Applicable to Generators of Hazardous Waste
 - 40 CFR 263.....Standards Applicable to Transporters of Hazardous Waste
 - 40 CFR 761.....PCB Manufacturing, Processing, Distribution in Commerce, and use Prohibitions
 - 49 CFR 172.....Hazardous Material tables and Hazardous Material Communications Regulations
 - 49 CFR 173.....Shippers - General Requirements for Shipments and Packaging
 - 49 CRR 173.....Subpart A General
 - 49 CFR 173.....Subpart B Preparation of Hazardous Material for Transportation
 - 49 CFR 173.....Subpart J Other Regulated Material; Definitions and Preparation
 - TSCA.....Compliance Program Policy Nos. 6-PCB-6 and 6-PCB-7

1.12 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

- A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
- B. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.
- C. Refer to Section 01 57 19, TEMPORARY ENVIRONMENTAL CONTROLS, for additional requirements on protecting vegetation, soils and the environment. Refer to Articles, "Alterations", "Restoration", and "Operations and Storage Areas" for additional instructions concerning repair of damage to structures and site improvements.

1.13 RESTORATION

- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Except as otherwise shown or specified, do not cut, alter or remove any structural work, and do not disturb any ducts, plumbing, steam, gas, or electric work without approval of the Resident Engineer. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the Resident Engineer before it is disturbed. Materials and workmanship used in restoring work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.
- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work.
- C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone) which are indicated on drawings and which are not scheduled for discontinuance or abandonment.
- D. Expense of repairs to such utilities and systems not shown on drawings or locations of which are unknown will be covered by adjustment to contract time and price in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) and "DIFFERING SITE CONDITIONS" (FAR 52.236-2).

1.14 PROFESSIONAL SURVEYING SERVICES

A registered professional land surveyor or registered civil engineer whose services are retained and paid for by the Contractor shall perform services specified herein and in other specification sections. The Contractor shall certify that the land surveyor or civil engineer is not one who is a regular employee of the Contractor, and that the land surveyor or civil engineer has no financial interest in this contract.

1.15 LAYOUT OF WORK

- A. The Contractor shall lay out the work from Government established base lines and bench marks, indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at Contractor's own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through Contractor's negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.
- B. Establish and plainly mark such other lines and grades that are reasonably necessary to properly assure that location, orientation, and elevations established for roads, are in accordance with lines and elevations shown on contract drawings.
- C. Following completion of general mass excavation and before any other permanent work is performed, establish and plainly mark (through use of appropriate batter boards or other means) sufficient additional survey control points or system of points as may be necessary to assure proper alignment, orientation, and grade of all major features of work. Survey shall include, but not be limited to, location of lines and grades of footings, exterior walls, center lines of columns in both directions, major utilities and elevations of floor slabs:
 1. Such additional survey control points or system of points thus established shall be checked and certified by a registered land surveyor or registered civil engineer. Furnish such certification to the Resident Engineer before any work (such as footings, floor slabs, columns, walls, utilities and other major controlling features) is placed.
- E. Whenever changes from contract drawings are made in line or grading requiring certificates, record such changes on a reproducible drawing bearing the registered land surveyor or registered civil engineer seal, and forward these drawings upon completion of work to Resident Engineer.
- E'. Upon completion of the work, the Contractor shall furnish the Resident Engineer, reproducible drawings at the scale of the contract drawings, showing the finished grade on the grid developed for constructing the work, including burial monuments and fifty foot stationing along new road centerlines. These drawings shall bear the seal of the registered land surveyor or registered civil engineer.
- F. The Contractor shall perform the surveying and layout work of this and other articles and specifications in accordance with the provisions of Article "Professional Surveying Services".

1.16 AS-BUILT DRAWINGS

- A. The contractor shall maintain two full size sets of as-built drawings which will be kept current during construction of the project, to include all contract changes, modifications and clarifications.
- B. All variations shall be shown in the same general detail as used in the contract drawings. To insure compliance, as-built drawings shall be made available for the Resident Engineer's review, as often as requested.
- C. Contractor shall deliver two approved completed sets of as-built drawings to the Resident Engineer within 15 calendar days after each completed phase and after the acceptance of the project by the Resident Engineer.
- D. Paragraphs A, B, & C shall also apply to all shop drawings.

1.17 USE OF ROADWAYS

- A. For hauling, use only established public roads and roads on Medical Center property and, when authorized by the Resident Engineer, such temporary roads which are necessary in the performance of contract work. Temporary roads shall be constructed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed bridges.
- B. When new permanent roads are to be a part of this contract, Contractor may construct them immediately for use to facilitate building operations. These roads may be used by all who have business thereon within zone of building operations.
- C. When certain buildings (or parts of certain buildings) are required to be completed in advance of general date of completion, all roads leading thereto must be completed and available for use at time set for completion of such buildings or parts thereof.

1.18 TEMPORARY USE OF MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Use of new installed mechanical and electrical equipment to provide heat, ventilation, plumbing, light and power will be permitted subject to compliance with the following provisions:
 1. Permission to use each unit or system must be given by Resident Engineer. If the equipment is not installed and maintained in accordance with the following provisions, the Resident Engineer will withdraw permission for use of the equipment.
 2. Electrical installations used by the equipment shall be completed in accordance with the drawings and specifications to prevent damage to the equipment and the electrical systems, i.e. transformers, relays, circuit breakers, fuses, conductors, motor controllers and their overload elements shall be properly sized, coordinated and adjusted. Voltage supplied to each item of equipment shall be verified to be correct and it shall be determined that motors are not overloaded. The electrical equipment shall be thoroughly cleaned before using it and again immediately before final inspection including vacuum cleaning and wiping clean interior and exterior surfaces.
 3. Units shall be properly lubricated, balanced, and aligned. Vibrations must be eliminated.
 4. Automatic temperature control systems for preheat coils shall function properly and all safety controls shall function to prevent coil freeze-up damage.
 5. The air filtering system utilized shall be that which is designed for the system when complete, and all filter elements shall be replaced at completion of construction and prior to testing and balancing of system.

6. All components of heat production and distribution system, metering equipment, condensate returns, and other auxiliary facilities used in temporary service shall be cleaned prior to use; maintained to prevent corrosion internally and externally during use; and cleaned, maintained and inspected prior to acceptance by the Government.
- B. Prior to final inspection, the equipment or parts used which show wear and tear beyond normal, shall be replaced with identical replacements, at no additional cost to the Government.
- C. This paragraph shall not reduce the requirements of the mechanical and electrical specifications sections.

1.19 TEMPORARY USE OF EXISTING ELEVATORS

- A. Use of existing elevators for handling building materials and Contractor's personnel will be permitted subject to following provisions:
 1. Contractor covers and provides maximum protection of following elevator components:
 - a. Entrance jambs, heads soffits and threshold plates.
 - b. Entrance columns, canopy, return panels and inside surfaces of car enclosure walls.
 - c. Finish flooring.
 3. Government will accept hoisting ropes of elevator and rope of each speed governor if they are worn under normal operation. However, if these ropes are damaged by action of foreign matter such as sand, lime, grit, stones, etc., during temporary use, they shall be removed and replaced by new hoisting ropes.
 4. If brake lining of elevators are excessively worn or damaged during temporary use, they shall be removed and replaced by new brake lining.
 5. All parts of main controller, starter, relay panel, selector, etc., worn or damaged during temporary use shall be removed and replaced with new parts, if recommended by elevator inspector after elevator is released by Contractor.
 6. Place elevator in condition equal, less normal wear, to that existing at time it was placed in service of Contractor as approved by Contracting Officer.
 7. Contractor shall retain the services of a licensed elevator inspector to inspect the elevator and certify for facility operation once the contractor has completed all construction related use of the elevator. Any repairs required to be made to the elevator in order to obtain the above referenced certification shall be accomplished by the contractor at his/her own cost.

1.20 TEMPORARY TOILETS

- A. Provide where directed, (for use of all Contractor's workmen) ample temporary sanitary toilet accommodations with suitable sewer and water connections; or, when approved by Resident Engineer, provide suitable dry closets where directed. Keep such places clean and free from flies, and all connections and appliances connected therewith are to be removed prior to completion of contract, and premises left perfectly clean.

1.21 AVAILABILITY AND USE OF UTILITY SERVICES

- A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The amount to be paid by the Contractor for chargeable electrical services shall be the prevailing rates charged to the Government. The Contractor shall carefully conserve any utilities furnished without charge.

- B. The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of electricity used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.
- C. Contractor shall install meters at Contractor's expense and furnish the Medical Center a monthly record of the Contractor's usage of electricity as hereinafter specified.
- D. Heat: Furnish temporary heat necessary to prevent injury to work and materials through dampness and cold. Use of open salamanders or any temporary heating devices which may be fire hazards or may smoke and damage finished work, will not be permitted. Maintain minimum temperatures as specified for various materials:
 - 1. Obtain heat by connecting to Medical Center heating distribution system.
 - a. Steam is available at no cost to Contractor.
- E. Electricity (for Construction and Testing): Furnish all temporary electric services.
 - 1. Obtain electricity by connecting to the Medical Center electrical distribution system. The Contractor shall meter and pay for electricity required for electric cranes and hoisting devices, electrical welding devices and any electrical heating devices providing temporary heat. Electricity for all other uses is available at no cost to the Contractor.
- F. Water (for Construction and Testing): Furnish temporary water service.
 - 1. Obtain water by connecting to the Medical Center water distribution system. Provide reduced pressure backflow preventer at each connection. Water is available at no cost to the Contractor.
 - 2. Maintain connections, pipe, fittings and fixtures and conserve water-use so none is wasted. Failure to stop leakage or other wastes will be cause for revocation (at Resident Engineer's discretion) of use of water from Medical Center's system.
- G. Steam: Furnish steam system for testing required in various sections of specifications.
 - 1. Obtain steam for testing by connecting to the Medical Center steam distribution system. Steam is available at no cost to the Contractor.
 - 2. Maintain connections, pipe, fittings and fixtures and conserve steam-use so none iswasted. Failure to stop leakage or other waste will be cause for revocation (at Resident Engineer's discretion), of use of steam from the Medical Center's system.
- H. Fuel: Natural and LP gas and burner fuel oil required for boiler cleaning, normal initial boiler-burner setup and adjusting, and for performing the specified boiler tests will be furnished by the Government. Fuel required for prolonged boiler-burner setup, adjustments, or modifications due to improper design or operation of boiler, burner, or control devices shall be furnished by the Contractor at Contractor's expense.

1.22 NEW TELEPHONE EQUIPMENT

The contractor shall coordinate with the work of installation of telephone equipment by others. This work shall be completed before the building is turned over to VA.

1.23 TESTS

- A. Pre-test mechanical and electrical equipment and systems and make corrections required for proper operation of such systems before requesting final tests. Final test will not be conducted unless pre-tested.
- B. Conduct final tests required in various sections of specifications in presence of an authorized representative of the Contracting Officer. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests.
- C. Mechanical and electrical systems shall be balanced, controlled and coordinated. A system is defined as the entire complex which must be coordinated to work together during normal operation to produce results for which the system is designed. For example, air conditioning supply air is only one part of entire system which provides comfort conditions for a building. Other related components are return air, exhaust air, steam, chilled water, refrigerant, hot water, controls and electricity, etc. Another example of a complex which involves several components of different disciplines is a boiler installation. Efficient and acceptable boiler operation depends upon the coordination and proper operation of fuel, combustion air, controls, steam, feedwater, condensate and other related components.
- D. All related components as defined above shall be functioning when any system component is tested. Tests shall be completed within a reasonably short period of time during which operating and environmental conditions remain reasonably constant.
- E. Individual test result of any component, where required, will only be accepted when submitted with the test results of related components and of the entire system.

1.24 INSTRUCTIONS

- A. Contractor shall furnish Maintenance staff with written and/or verbal instructions when required by the various sections of the specifications and as hereinafter specified.
- B. Manuals: Maintenance and operating manuals (four copies each) for each separate piece of equipment shall be delivered to the Resident Engineer coincidental with the delivery of the equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment. They shall include complete information necessary for starting, adjusting, maintaining in continuous operation for long periods of time and dismantling and reassembling of the complete units and sub-assembly components. Manuals shall include an index covering all component parts clearly cross-referenced to diagrams and illustrations. Illustrations shall include "exploded" views showing and identifying each separate item. Emphasis shall be placed on the use of special tools and instruments. The function of each piece of equipment, component, accessory and control shall be clearly and thoroughly explained. All necessary precautions for the operation of the equipment and the reason for each precaution shall be clearly set forth. Manuals must reference the exact model, style and size of the piece of equipment and system being furnished. Manuals referencing equipment similar to but of a different model, style, and size than that furnished will not be accepted.
- C. Instructions: Contractor shall provide qualified, factory-trained manufacturers' representatives to give detailed instructions to assigned Department of Veterans Affairs personnel in the operation and complete maintenance for each piece of equipment. All such training will be at the job site. These requirements are more specifically

detailed in the various technical sections. Instructions for different items of equipment that are component parts of a complete system, shall be given in an integrated, progressive manner. All instructors for every piece of component equipment in a system shall be available until instructions for all items included in the system have been completed. This is to assure proper instruction in the operation of inter-related systems. All instruction periods shall be at such times as scheduled by the Resident Engineer and shall be considered concluded only when the Resident Engineer is satisfied in regard to complete and thorough coverage. The Department of Veterans Affairs reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the Resident Engineer, does not demonstrate sufficient qualifications in accordance with requirements for instructors above.

1.25 GOVERNMENT-FURNISHED PROPERTY

- A. The Government shall deliver to the Contractor, the Government-furnished property shown on the drawings.
- B. Equipment furnished by Government to be installed by Contractor will be furnished to Contractor at the Medical Center.
- C. Storage space for equipment will be provided by the Government and the Contractor shall be prepared to unload and store such equipment therein upon its receipt at the Medical Center.
- D. Notify Contracting Officer in writing, 60 days in advance, of date on which Contractor will be prepared to receive equipment furnished by Government. Arrangements will then be made by the Government for delivery of equipment.
 - 1. Immediately upon delivery of equipment, Contractor shall arrange for a joint inspection thereof with a representative of the Government. At such time the Contractor shall acknowledge receipt of equipment described, make notations, and immediately furnish the Government representative with a written statement as to its condition or shortages.
 - 2. Contractor thereafter is responsible for such equipment until such time as acceptance of contract work is made by the Government.
- E. Equipment furnished by the Government will be delivered in a partially assembled (knock down) condition in accordance with existing standard commercial practices, complete with all fittings, fastenings, and appliances necessary for connections to respective services installed under contract. All fittings and appliances (i.e., couplings, ells, tees, nipples, piping, conduits, cables, and the like) necessary to make the connection between the Government furnished equipment item and the utility stub-up shall be furnished and installed by the contractor at no additional cost to the Government.
- F. Completely assemble and install the Government furnished equipment in place ready for proper operation in accordance with specifications and drawings.
- G. Furnish supervision of installation of equipment at construction site by qualified factory trained technicians regularly employed by the equipment manufacturer.

1.26 RELOCATED ITEMS

- A. Contractor shall disconnect, dismantle as necessary, remove and reinstall in new location, all existing equipment and items indicated by symbol "R" or otherwise shown to be relocated by the Contractor.
- B. Perform relocation of such equipment or items at such times and in such a manner as directed by the Resident Engineer.
- C. Suitably cap existing service lines, such as steam, condensate return, water, drain, gas, air, vacuum and/or electrical, whenever such lines

are disconnected from equipment to be relocated. Remove abandoned lines in finished areas and cap as specified herein before under paragraph "Abandoned Lines".

- D. Provide all mechanical and electrical service connections, fittings, fastenings and any other materials necessary for assembly and installation of relocated equipment; and leave such equipment in proper operating condition.

1.27 STORAGE SPACE FOR DEPARTMENT OF VETERANS AFFAIRS EQUIPMENT

- A. Contractor shall complete approximately 630 square meters 7,000 (square feet) of space in building accessible from ground level without use of elevators for storage of certain materials and equipment by Department of Veterans Affairs.
 - 1. Storage space shall be turned over to Contracting Officer forty-five days prior to Completion Date of the buildings involved.
 - 3. Forward two sets of drawings to Contracting Officer through the Resident Engineer 120 days prior to Completion Date of building; drawings shall indicate those areas which will be made available to Department of Veterans Affairs for temporary storage.
 - 4. All cost for utility services for such storage space shall be borne by Contractor until entire building is turned over for occupancy.
- B. "Completion Date" shall mean that date as established by Contracting Officer upon which Contractor will turn over entire project or portions thereof to the Government.

1.28 CONSTRUCTION SIGN

- A. Provide a Construction Sign where directed by the Resident Engineer. All wood members shall be of framing lumber. Cover sign frame with 0.7 mm (24 gage) galvanized sheet steel nailed securely around edges and on all bearings. Provide three 100 by 100 mm (4 inch by 4 inch) posts (or equivalent round posts) set 1200 mm (four feet) into ground. Set bottom of sign level at 900 mm (three feet) above ground and secure to posts with through bolts. Make posts full height of sign. Brace posts with 50 x 100 mm (two by four inch) material as directed.
- B. Paint all surfaces of sign and posts two coats of white gloss paint. Border and letters shall be of black gloss paint, except project title which shall be blue gloss paint.
- C. Maintain sign and remove it when directed by the Resident Engineer.
- D. Detail Drawing of construction sign showing required legend and other characteristics of sign is attached hereto and made a part of this specification. shown on the drawings.

1.29 SAFETY SIGN

- A. Provide a Safety Sign where directed by Resident Engineer. Face of sign shall be 19 mm (3/4 inch) thick exterior grade plywood. Provide two 100 mm by 100 mm (four by four inch) posts extending full height of sign and 900 mm (three feet) into ground. Set bottom of sign level at 1200 mm (four feet) above ground.
- B. Paint all surfaces of Safety Sign and posts with one prime coat and two coats of white gloss paint. Letters and design shall be painted with gloss paint of colors noted.
- C. Maintain sign and remove it when directed by Resident Engineer.
- D. Detail Drawing Number 45 of safety sign showing required legend and other characteristics of sign is shown on the drawings.
- E. Post the number of accident free days on a daily basis.

1.30 PHOTOGRAPHIC DOCUMENTATION

- A. During the construction period through completion, provide photographic documentation of construction progress and at selected milestones including electronic indexing, navigation, storage and remote access to

the documentation, as per these specifications. The commercial photographer or the subcontractor used for this work shall meet the following qualifications:

1. Demonstrable minimum experience of three (3) years in operation providing documentation and advanced indexing/navigation systems including a representative portfolio of construction projects of similar type, size, duration and complexity as the Project.
 2. Demonstrable ability to service projects throughout North America, which shall be demonstrated by a representative portfolio of active projects of similar type, size, duration and complexity as the Project.
- B. Photographic documentation elements:
1. Each digital image shall be taken with a professional grade camera with minimum size of 6 megapixels (MP) capable of producing 200x250mm (8 x 10 inch) prints with a minimum of 2272 x 1704 pixels and 400x500mm (16 x 20 inch) prints with a minimum 2592 x 1944 pixels.
 2. Indexing and navigation system shall utilize Autodesk documents, making such documents interactive on an on-line interface. For all documentation referenced herein, indexing and navigation must be organized by both time (date-stamped) and location throughout the project.
 3. Documentation shall combine indexing and navigation system with inspection-grade digital photography designed to capture actual conditions throughout construction and at critical milestones. Documentation shall be accessible on-line through use of an internet connection. Documentation shall allow for secure multiple-user access, simultaneously, on-line.
 4. Before construction, the building pad, adjacent streets, roadways, parkways, driveways, curbs, sidewalks, landscaping, adjacent utilities and adjacent structures surrounding the building pad and site shall be documented. Overlapping photographic techniques shall be used to insure maximum coverage. Indexing and navigation accomplished through interactive architectural drawings. If site work or pad preparation is extensive, this documentation may be required immediately before construction and at several pre-determined intervals before building work commences.
 5. Construction progress for all trades shall be tracked at pre-determined intervals, but not less than once every thirty (30) calendar days ("Progressions"). Progression documentation shall track both the exterior and interior construction of the building. Exterior Progressions shall track 360 degrees around the site and each building. Interior Progressions shall track interior improvements beginning when stud work commences and continuing until Project completion.
 6. As-built condition of pre-slab utilities and site utilities shall be documented prior to pouring slabs, placing concrete and/or backfilling. This process shall include all underground and in-slab utilities within the building(s) envelope(s) and utility runs in the immediate vicinity of the building(s) envelope(s). This may also include utilities enclosed in slab-on-deck in multi-story buildings. Overlapping photographic techniques shall be used to insure maximum coverage. Indexing and navigation accomplished through interactive site utility plans.
 7. As-built conditions of mechanical, electrical, plumbing and all other systems shall be documented post-inspection and pre-

- insulation, sheet rock or dry wall installation. This process shall include all finished systems located in the walls and ceilings of all buildings at the Project. Overlapping photographic techniques shall be used to insure maximum coverage. Indexing and navigation accomplished through interactive architectural drawings.
8. As-built conditions of exterior skin and elevations shall be documented with an increased concentration of digital photographs as directed by the Resident Engineer in order to capture pre-determined focal points, such as waterproofing, window flashing, radiused steel work, architectural or Exterior Insulation and Finish Systems (EIFS) detailing. Overlapping photographic techniques shall be used to insure maximum coverage. Indexing and navigation accomplished through interactive elevations or elevation details.
 9. As-built finished conditions of the interior of each building including floors, ceilings and walls shall be documented at certificate of occupancy or equivalent, or just prior to occupancy, or both, as directed by the Resident Engineer. Overlapping photographic techniques shall be used to insure maximum coverage. Indexing and navigation accomplished through interactive architectural drawings.
 10. Miscellaneous events that occur during any Contractor site visit, or events captured by the Department of Veterans Affairs independently, shall be dated, labeled and inserted into a Section in the navigation structure entitled "Slideshows," allowing this information to be stored in the same "place" as the formal scope.
 11. Customizable project-specific digital photographic documentation of other details or milestones. Indexing and navigation accomplished through interactive architectural plans.
 12. Monthly (29 max) exterior progressions (360 degrees around the project) and slideshows (all elevations and building envelope). The slideshows allow for the inclusion of Department of Veterans Affairs pictures, aerial photographs, and timely images which do not fit into any regular monthly photopath.
 13. Weekly (21 Max) Site Progressions - Photographic documentation capturing the project at different stages of construction. These progressions shall capture underground utilities, excavation, grading, backfill, landscaping and road construction throughout the duration of the project.
 14. Regular (8 max) interior progressions of all walls of the entire project to begin at time of substantial framed or as directed by the Resident Engineer through to completion.
 15. Detailed Exact-Built of all Slabs for all project slab pours just prior to placing concrete or as directed by the Resident Engineer.
 16. Detailed Interior exact built overlapping photos of the entire building to include documentation of all mechanical, electrical and plumbing systems in every wall and ceiling, to be conducted after rough-ins are complete, just prior to insulation and or drywall, or as directed by Resident Engineer.
 17. Finished detailed Interior exact built overlapping photos of all walls, ceilings, and floors to be scheduled by Resident Engineer prior to occupancy.
 18. In event a greater or lesser number of images than specified above are required by the Resident Engineer, adjustment in contract price will be made in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).

- C. Images shall be taken by a commercial photographer and must show distinctly, at as large a scale as possible, all parts of work embraced in the picture.
- D. Coordination of photo shoots is accomplished through Resident Engineer. Contractor shall also attend construction team meetings as necessary. Contractor's operations team shall provide regular updates regarding the status of the documentation, including photo shoots concluded, the availability of new Progressions or Exact-Built viewable on-line and anticipated future shoot dates.
- E. Contractor shall provide all on-line domain/web hosting, security measures, and redundant server back-up of the documentation.
- F. Contractor shall provide technical support related to using the system or service.
- G. Upon completion of the project, final copies of the documentation (the "Permanent Record") with the indexing and navigation system embedded (and active) shall be provided in an electronic media format, typically a DVD or external hard-drive. Permanent Record shall have Building Information Modeling (BIM) interface capabilities. On-line access terminates upon delivery of the Permanent Record.

1.31 FINAL ELEVATION DIGITAL IMAGES

- A. A minimum of four (4) images of each elevation shall be taken with a minimum 6 MP camera, by a professional photographer with different settings to allow the Resident Engineer to select the image to be printed. All images are provided to the RE on a CD.
- B. Photographs shall be taken upon completion, including landscaping. They shall be taken on a clear sunny day to obtain sufficient detail to show depth and to provide clear, sharp pictures. Pictures shall be 400 mm x 500 mm (16 by 20 inches), printed on regular weight paper, matte finish archival grade photographic paper and produced by a RA4 process from the digital image with a minimum 300 PPI. Identifying data shall be carried on label affixed to back of photograph without damage to photograph and shall be similar to that provided for final construction photographs.
- C. Furnish six (6) 400 mm x 500 mm (16 by 20 inch) color prints of the following buildings constructed under this project (elevations as selected by the RE from the images taken above). Photographs shall be artistically composed showing full front elevations. All images shall become property of the Government. Each of the selected six prints shall be place in a frame with a minimum of 2 inches of appropriate matting as a border. Provide a selection of a minimum of 3 different frames from which the SRE will select one style to frame all six prints. Photographs with frames shall be delivered to the Resident Engineer in boxes suitable for shipping.

1.32 BUILDING INFORMATION MODELING PROTOCOL

- A. The protocols, expected levels of development, and authorized uses of the Building Information Model (BIM) on this Project and assignment of specific areas of responsibility for the development of each Model Element to a defined Level of Development (LOD).
- B. The Architect shall provide to the Contractor a BIM Model that has been developed to reflect the architectural elements. Architect will also provide AutoCAD drawings for the remaining disciplines. After obtaining a Release Agreement it will be provided to the Contractor for development of As-built existing shell conditions. This activity should follow demolition and abatement during the current schedule hold which is allocated for material testing. The model can then be used for Construction Detail Activity with their respective subcontractors. The

BIM modeling shall be conducted in conjunction with the development of the 2D shop drawing detail.

1. Refer to Appendix F for Release Agreement.

C. Definitions

1. Building Information Model (BIM): A building information model is a digital representation of the physical and functional characteristics of the Project and is referred to in this Section as the "Model(s)", which term may be used herein to describe a Model Element, a single Model or multiple Models used in the Aggregate. "Building Information Modeling" means the process and technology used to create the Model.

2. Level of Development: The Level(s) of Development (LOD) describes the level of completeness to which a Model Element is developed.

3. Model Element: A Model Element is a portion of the Building Information Model representing a component system or assembly within a building or building site. For the purposed of this Section, Model Elements are represented by the Construction Specifications Institute (CSI) UniFormat classification system in the Model Element Table

4. Model Element Author: The Model Element Author (MEA) is the party responsible for developing the content of a specific Model Element to the LOD required for a particular phase of the Project. Model Element Authors are identified in the Model Element Table.

5. Model User: The Model User refers to any individual or entity authorized to use the Model on the Project.

D. Protocol

1. Coordination and Conflicts: Where conflicts are found in the Model, the discovering party shall notify the Model Element Author(s), upon such notification, the Model Element Author(s) shall act to mitigate the conflict.

2. Model Ownership: In contributing content to the Model, the Model Element Author does not convey any ownership right in the content provided or in the software used to generate the content. Unless otherwise granted in a separate license, any subsequent Model Element Author's and Model User's right to use, modify, or further transmit the Model is specifically limited to the design and construction of the Project, and nothing contained in this Section conveys any other right to use the Model for another purpose.

3. Model Requirements

a. Model Standard: The Model shall be developed in accordance with the standards of the National Building Information Model Standards (NBIMS).

b. File Formats: Models shall be delivered in the following format(s) as appropriate to the use of the Model:

<u>4. Use of Model</u>	<u>Required Software Formats</u>
<u>Collision Checking & Coordination</u>	<u>Navis Works 2011</u>
<u>Architectural Modeling</u>	<u>Autodesk Revit Architecture 2011</u> <u>or other IFC Compliant Application</u>
<u>Structural Modeling</u>	<u>Autodesk Revit Structure 2011</u> <u>or other IFC Compliant Application</u>
<u>MEP Modeling</u>	<u>Autodesk Revit MEP 2011</u> <u>or other IFC Compliant Application</u>

E. Model Management

1. The requirements for managing the Model include, but are not limited to, the duties set forth below. The Architect will deliver to the

successful bidder the last version of the Preconstruction Architectural Model for use by the General Contractor and their respective trade contractors. The General Contractor will manage the model in the Construction Phase. Trade contractors who are without BIM capabilities may retain the services of following consultants for Modeling Services:

VICO Software Inc.
8001 Irvine Center Drive
Irvine, CA 92618
Mr. Clive Jordan
Email: clive.jordan@vicosoftware.com
Tel: 305-992-5841

AEC CATALYST
11266 Braddock Drive
Culver City, CA 90230
Mr. Cliff Moser
Email: Cliff@aeccatalyst.com
Tel: 310-947-8509

AEC FACTORY
350 S. Crenshaw Blvd, Suite A-200
Torrance, CA 90503
Mr. Chris Suggs
Email: Christopher@aecfactory.com
Tel: 323-285-5223

2. Initial Responsibilities: The party responsible for the managing the Model shall facilitate the establishment of protocols for the following:

Model origin, coordinate system, and units
File storage location(s)
Processes for transferring and accessing Model files
Clash detection
Access rights

3. Ongoing Responsibilities: The party responsible for managing the Model shall have the following ongoing responsibilities:

- a. Collect incoming Models:
 - 1) Coordinate submission and exchange of Models
 - 2) Log incoming Models
 - 3) Validate that files are complete and usable and in compliance with applicable protocols.
 - 4) Maintain a record copy of each file received.
- b. Aggregate Model files and make available for viewing.
- c. Perform clash detection in accordance with established protocols and issue periodic clash detection reports.
- d. Maintain Model archives and backups.
- e. Manage access rights.
- f. Follow established protocols.

4. Model Archives: The party responsible for Model Management as set forth shall produce a Model Archive at the end of the Construction Phase and shall preserve the Model Archive as a record that may not be altered for any reason.

- a. The Model Archive shall consist of two sets of files. The first set shall be a collection of individual Models as received from the Model Element Author(s). The second set of files shall consist of the aggregate of those individual Models in a format suitable for archiving and viewing. The second set shall be saved in the following file format:

Autodesk Revit Architecture 2011 Or 3D DWG.

- b. The procedures for storing and preserving the Model upon final completion of the Project are as follows: Provide three copies of all digital files that make up the BIM Model on DVD to the Architect.

F. Level Of Development

1. The following Level of Development (LOD) descriptions identify the specific content requirements and associated authorized uses for each Model Element at three progressively detailed levels of completeness. Each subsequent LOD builds on the previous level and includes all the characteristics of previous level. The Architect will deliver to the Contractor an architectural Model developed to LOD 200. The Contractor shall complete LOD's 200 for the portions not modeled and, 300, 400 and 500 below, in conjunction with their respective trade contractors, for the development of above ceiling coordination and shop drawing preparation.

2. LOD 200

- a. Model Content Requirements. Model elements are modeled as generalized systems or assemblies with approximate quantities, size, shape, location and orientation. Nongeometric information may be attached to Model Elements.
- b. Authorized Uses
- 1) Analysis: The model may be used for performance of selected systems by application of generalized performance criteria assigned to the representative model elements.
 - 2) Cost Estimating: the model may be used to develop cost estimates based on the approximates based on approximate data provided and conceptual estimating techniques (e.g., volume and quantity of elements or type of system selected).
 - 3) Schedule: The Model may be used to show ordered, time scaled appearance of major elements and systems

3. LOD 300

- a. Model Content Requirements. Model Elements shall be modeled as specific assemblies in terms of quantity, size, shape, location and orientation. Non-geometric information may also be attached to Model Elements.
- b. Authorized Uses
- 1) Construction: Suitable for the generation of traditional shop drawings.
 - 2) Analysis: The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.
 - 3) Schedule: The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.

4. LOD 400

- a. Model Content Requirements: Model Elements are modeled as specific assemblies that are accurate in terms of size, shape, location, quantity, and orientation with complete fabrication, assembly and detailing information. Non-geometric information may also be attached to Model Elements.
- b. Authorized Uses
- 1) Construction. Model Elements are virtual representation of the proposed element and are suitable for construction.

- 2) Analysis: The Model may be analyzed for performance of approved selected systems based on specific Model Elements.
- 3) Schedule: The model may be used to show ordered, time-scaled appearance of detailed specific elements and systems including construction means and methods.

5. D. LOD 500

- a. Model Content Requirements: Model Elements are modeled as constructed assemblies actual and accurate in terms of size, shape, location, quantity, and orientation with completer fabrication, assembly and detailing information. Non-geometric information may also be attached to Model Elements.
- b. Authorized Uses
 - 1) General Usage: The Model may be utilized for maintaining, altering, and adding to the Project, but only to the extent consistent with any licenses granted in the Agreement or in a separate licensing agreement.

G. Model Elements

1. Reliance of Model Elements

- a. The Model Element Table identifies (1) the LOD required for each Model Element at the end of each Project Phase, and (2) the Model Element Author responsible for developing the Model Element to the LOD identifies. Each Model Element Author's content is intended to be shared with subsequent Model Element Authors and Model User through the course of the Project.
- b. It is understood that while the content of a specific Model Element may include data that exceeds the required LOBD identified for a particular phase, Model Users and subsequent Model Element Author's may rely on the accuracy and completeness of a Model Element consistent only with the content required for the LD identified.
- c. Any use of, or reliance on, a Model Element inconsistent with the LOD indicated by subsequent Model Element Authors or Model Users shall be at their sole risk and without liability to the Model Element Author. To the fullest extent permitted by law, subsequent Model Element Authors and Models Users shall indemnify and defend the Model Element Author from and against all claims arising from or related to the subsequent Model Element Author's or Model User's modification to, or unauthorized use of, the Model Element Author's content.

H. Table Instructions

1. The table indicates the LOD to which each Model Element Author (MEA) is required to develop the content of the Model Element at the conclusion of each phase of the Project.
2. Abbreviations for each MEA to be used in the Model Element Table are as follows:

A= Architect

C=Contractor

I. Model Element Table

Model Elements Utilizing CSI UniFormat

				<u>Pre Construction</u>		<u>Construction</u>		<u>Comments</u>
<u>Model Elements Utilizing CSI UniFormat</u>				<u>LOD</u>	<u>ME</u>	<u>LOD</u>	<u>ME</u>	
					<u>A</u>		<u>A</u>	
<u>A. Substructure</u>	<u>A10 Foundations</u>	<u>A1010</u>	<u>Standard Foundations</u>	-	-	<u>400</u>	<u>C</u>	<u>Only new elements to be modeled</u>
		<u>A1020</u>	<u>Special Foundations</u>	-	-	<u>400</u>	<u>C</u>	<u>Only new elements to be modeled</u>
		<u>A1030</u>	<u>Slab on Grade</u>	-	-	<u>400</u>	<u>C</u>	<u>Only new elements to be modeled</u>
	<u>A20 Basement Construction</u>	<u>A2010</u>	<u>Basement Excavation</u>	-	-			
		<u>A2020</u>	<u>Basement Walls</u>	-	-			
<u>B. Shell</u>	<u>B10 Superstructure</u>	<u>B1010</u>	<u>Floor Construction</u>	<u>100</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>B1020</u>	<u>Roof Construction</u>	<u>100</u>	<u>A</u>	<u>400</u>	<u>C</u>	
	<u>B20 Exterior Enclosure</u>	<u>B2010</u>	<u>Exterior Walls</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>B2020</u>	<u>Exterior Windows</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>B2030</u>	<u>Exterior Doors</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
	<u>B30 Roofing</u>	<u>B3010</u>	<u>Roof Coverings</u>	-	-			
		<u>B3020</u>	<u>Roof Openings</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
<u>C. Interiors</u>	<u>C10 Interior Construction</u>	<u>C1010</u>	<u>Partitions</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>C1020</u>	<u>Interior Doors</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>C1030</u>	<u>Fittings</u>	-	-	<u>400</u>	<u>C</u>	
	<u>C20 Stairs</u>	<u>C2010</u>	<u>Stair Construction</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>C2020</u>	<u>Stair Finishes</u>	-	-			<u>Existing to Remain</u>
	<u>C30 Interior Finishes</u>	<u>C3010</u>	<u>Wall Finishes</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>C3020</u>	<u>Floor Finishes</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>C3030</u>	<u>Ceiling Finishes</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
<u>D. Services</u>	<u>D10 Conveying</u>	<u>D1010</u>	<u>Elevators & Lifts</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>D1020</u>	<u>Escalators & Moving Walks</u>	-	-			
		<u>D1030</u>	<u>Other Conveying Systems</u>	-	-			
	<u>D20 Plumbing</u>	<u>D2010</u>	<u>Plumbing</u>	-	-	<u>400</u>	<u>C</u>	

		<u>0</u>	<u>Fixtures</u>					
		<u>D202</u> <u>0</u>	<u>Domestic Water</u> <u>Distribution</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D203</u> <u>0</u>	<u>Sanitary Waste</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D204</u> <u>0</u>	<u>Rain Water</u> <u>Drainage</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D209</u> <u>0</u>	<u>Other Plumbing</u> <u>Systems</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
	<u>D30 HVAC</u>	<u>D301</u> <u>0</u>	<u>Energy Supply</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D302</u> <u>0</u>	<u>Heat</u> <u>Generating</u> <u>Systems</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D303</u> <u>0</u>	<u>Cooling</u> <u>Generating</u> <u>Systems</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D304</u> <u>0</u>	<u>Distribution</u> <u>Systems</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D305</u> <u>0</u>	<u>Terminal &</u> <u>Package Units</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D306</u> <u>0</u>	<u>Controls &</u> <u>Instrumentation</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D307</u> <u>0</u>	<u>Systems</u> <u>Testing &</u> <u>Balancing</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D309</u> <u>0</u>	<u>Other HVAC</u> <u>Systems &</u> <u>Equipmnt</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
	<u>D40 Fire</u> <u>Protection</u>	<u>D401</u> <u>0</u>	<u>Sprinklers</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D402</u> <u>0</u>	<u>Standpipes</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D403</u> <u>0</u>	<u>Fire Protection</u> <u>Specialties</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D409</u> <u>0</u>	<u>Other Fire</u> <u>Protection</u> <u>Systems</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
	<u>D50 Electrical</u>	<u>D501</u> <u>0</u>	<u>Electrical</u> <u>Service &</u> <u>Distribution</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D502</u> <u>0</u>	<u>Lighting and</u> <u>Branch Wiring</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D503</u> <u>0</u>	<u>Communication</u> <u>s & Security</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>D509</u> <u>0</u>	<u>Other Electrical</u> <u>Systems</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
<u>E</u> <u>Equipment</u> <u>and</u> <u>Furnishings</u>	<u>E10</u> <u>Equipment</u>	<u>E1010</u>	<u>Commercial</u> <u>Equipment</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>E1020</u>	<u>Institutional</u> <u>Equipment</u>	<u>:</u>	<u>:</u>	<u>400</u>	<u>C</u>	
		<u>E1030</u>	<u>Veicular</u>	<u>:</u>	<u>:</u>			

			<u>Equipment</u>					
		<u>E1090</u>	<u>Other Equipment</u>	=	=			
	<u>E20 Furnishings</u>	<u>E2010</u>	<u>Fixed Furnishings</u>	<u>100</u>	<u>A</u>			<u>For coordination with owner only</u>
		<u>E2020</u>	<u>Movable Furnishings</u>	<u>100</u>	<u>A</u>			<u>For coordination with owner only</u>
<u>F Special Construction & Demo</u>	<u>F10 Special Construction</u>	<u>F1010</u>	<u>Special Structures</u>	=	=			
		<u>F1020</u>	<u>Integrated Construction</u>	=	=			
		<u>F1030</u>	<u>Special Construction Systems</u>	=	=			
		<u>F1040</u>	<u>Special Facilities</u>	=	=			
		<u>F1050</u>	<u>Special Controls & Instrumentation</u>	=	=			
	<u>F20 Selective Building Demo</u>	<u>F2010</u>	<u>Building Elements Demolition</u>	=	=			
		<u>F2020</u>	<u>Hazardous Components Abatement</u>	=	=			
<u>G Building Sitework</u>	<u>G10 Site Preparation</u>	<u>G1010</u>	<u>Site Clearing</u>	=	=			
		<u>G1020</u>	<u>Site Demolition & Relocations</u>	=	=			
		<u>G1030</u>	<u>Site Earthwork</u>	=	=			
		<u>G1040</u>	<u>Hazardous Waste Remediation</u>	=	=			
	<u>G20 Site Improvements</u>	<u>G2010</u>	<u>Roadways</u>	=	=			
		<u>G2020</u>	<u>Parking Lots</u>	=	=			
		<u>G2030</u>	<u>Pedestrian Paving</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>G2040</u>	<u>Site Development</u>	<u>200</u>	<u>A</u>	<u>400</u>	<u>C</u>	
		<u>G2050</u>	<u>Landscaping</u>	=	=			
	<u>G30 Site Civil / Mech. Utilities</u>	<u>G3010</u>	<u>Water Supply & Distribution Systems</u>	=	=	<u>400</u>	<u>C</u>	
		<u>G3020</u>	<u>Sanitary Sewer Systems</u>	=	=	<u>400</u>	<u>C</u>	

		G3030	Storm Sewer Systems	:	:	400	C	
		G3040	Heating Distribution	:	:	400	C	
		G3050	Cooling Distribution	:	:	400	C	
		G3060	Fuel Distribution	:	:			
		G3090	Other Civil / Mechanical Utilities	:	:	400	C	
	G40 Site Electrical Utilities	G4010	Electrical Distribution	:	:	400	C	
		G4020	Site Lighting	:	:	400	C	
		G4030	Site Communications & Security	:	:	400	C	
		G4090	Other Electrical Utilities	:	:	400	C	
	G50 Other Site Construction	G5010	Service Tunnels	:	:			
		G5090	Other Site Systems & Equipment	:	:			

BIM REQUIREMENTS

~~A. TO GENERATE THE BIM MODEL, BACKGROUNDS WILL BE PROVIDED FOR THE CONTRACTOR'S USE IN THE FOLLOWING:~~

~~AUTOCAD:~~

- ~~——— STRUCTURAL~~
- ~~——— MECHANICAL~~
- ~~——— ELECTRICAL~~
- ~~——— LANDSCAPE~~
- ~~——— CIVIL~~

~~REVIT:~~

- ~~——— ARCHITECTURAL~~
- ~~——— FIRE PROTECTION~~
- ~~——— FIRE SPRINKLER~~
- ~~——— FIRE ALARM~~

~~B. CONTRACTOR SHALL COMPLY WITH "THE VA BIM GUIDE" APRIL 2010.~~

~~C. BIM FILE INCORPORATION: DEVELOP AND INCORPORATE COORDINATION DRAWING FILES INTO BUILDING INFORMATION MODEL ESTABLISHED FOR PROJECT.~~

~~1. PERFORM THREE-DIMENSIONAL COMPONENT CONFLICT ANALYSIS AS PART OF PREPARATION OF COORDINATION DRAWINGS. RESOLVE COMPONENT CONFLICTS PRIOR TO SUBMITTAL. INDICATE WHERE CONFLICT RESOLUTION REQUIRES MODIFICATION OF DESIGN REQUIREMENTS BY ARCHITECT.~~

1.33 HISTORIC PRESERVATION

Where the Contractor or any of the Contractor's employees, prior to, or during the construction work, are advised of or discover any possible archeological, historical and/or cultural resources, the Contractor shall immediately notify the Resident Engineer verbally, and then with a written follow up.

1.34 WORK DAYS AND HOURS AT PROJECT LOCATION

A. The normal work days and hours for this project will be Monday through Friday, excluding federal holidays, from 7:30 a.m. to 4:30 p.m. Access to the work site may be restricted to these hours and days. Work during other than normal work days and hours may be required, but days and hours must still be coordinated in advance with the Contracting Officer through the COTR.

B. SNHCS, Reno, NV. Normal working hours are between 7:30 a.m. and 4:30 p.m. Monday through Friday. If the Contractor needs to perform work during hours or days other than the hours or work days stated, the Contractor shall submit a written request Seven (7) Calendar Days prior to required start of work. The request shall include number of work days, work hours, elements, labor categories, and VA Master Specifications Construction Division Number, also starting times, ending times, and overall dates of proposed work. Work may begin during requested times only after approval of the request by the Contracting Officer.

1.35 SECURITY OF DOCUMENTS

Security requirements addressing the destructions of records, drawings, and specifications by the Contractor shall be accomplished in accordance with VA Directive 6371 dated 02 May 2008.

1.36 BRAND NAME OR EQUAL

Wherever a brand name is cited, contractor shall ensure, in any resultant contract, that any equal has the salient characteristics of the brand name. Lack of confirmation shall be grounds for Government inspection at any time and Government direction for replacement of materials or equipment by the Contractor at no increase in contract price or time.

1.37 SMOKE AND CARBON MONOXIDE MONITORING REQUIREMENTS

Contractor, his employees, his subcontractors, and their employees shall adhere to SNHCS Policies for these requirements. They are available upon request from COR.

1.38 ADDITIONAL PROJECT INFORMATION

Location of the project is 975 Kirman Ave Reno Nevada 89502. Contract duration is 8 months. Actual construction will not start until Mid-November, 2012. Project scope consists of the complete renovation of Building 1A, a three story slab on grade building approximately 21,000 square feet. The building was originally constructed in 1937 with wings added in 1945. Building 1A currently houses administrative functions, and will continue to house administrative functions upon project completion. The building will be vacant for the duration of the project. The building is connected to another building which will remain operational. LEED Silver Certification will be required by the design. A separately contracted commissioning agent will interface throughout the duration of the project. Project duration is 240 Calendar Days from Issuance of Notice to Proceed.

A. Interior. Work includes asbestos removal, demo of all HVAC, plumbing, electrical, and telcom systems, demo of most of the interior walls and drop ceilings, salvage and re-use of most of the fire alarm system, salvage and re-use of room identification signage, salvage and re-use of the public address system, structural seismic upgrades, installation of an entire HVAC system (rooftop AHU, chilled beam strategy in room areas, wet, dry, and controls), plumbing, fire sprinkler system, electrical, telcom, camera security system, window replacement, new walls and other related architectural work. Installation of the utilities will require work in adjacent buildings to connect to utility sources; of significant note is

the installation of a steam to hot water heat exchanger system for heating hot water. Preserve the elevator and test/certify at project end.

B. Demolition: utilities mounted to the side of the building, exterior main door stairwell approach and replacement with a patio only accessible from the inside; sidewalks; irrigation and landscaping systems.

C. Replace/New: Prep and paint the entire building. Roof mounted air handler unit. Roof top solar panels. Roof to remain except for repairs at demo and install penetrations. Concrete ramp/walls with geothermal ice melt system within the ramp.

D. Security Requirements. Contractors, contractor personnel, subcontractors, and subcontractor personnel shall be subject to the same Federal laws, regulations, standards, and VA Directives and Handbooks as VA and VA personnel regarding information and information system security.

E. Government Observes the following Holidays. New Years Day, Martin Luther King's Birthday, President's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, and Christmas Day and, any other day specifically declared by the President of the United States.

1.39 ACCESS TO VA INFORMATION AND VA INFORMATION SYSTEMS.

A. GENERAL

Contractors, contractor personnel, subcontractors, and subcontractor personnel shall be subject to the same Federal laws, regulations, standards, and VA Directives and Handbooks as VA and VA personnel regarding information and information system security.

1. A contractor/subcontractor shall request logical (technical) or physical access to VA information and VA information systems for their employees, subcontractors, and affiliates only to the extent necessary to perform the services specified in the contract, agreement, or task order.
2. All contractors, subcontractors, and third-party servicers and associates working with VA information are subject to the same investigative requirements as those of VA appointees or employees who have access to the same types of information. The level and process of background security investigations for contractors must be in accordance with VA Directive and Handbook 0710, *Personnel Suitability and Security Program*. The Office for Operations, Security, and Preparedness is responsible for these policies and procedures.
3. Contract personnel who require access to national security programs must have a valid security clearance. National Industrial Security Program (NISIP) was established by Executive Order 12829 to ensure that cleared U.S. defense industry contract personnel safeguard the classified information in their possession while performing work on contracts, programs, bids, or research and development efforts. The Department of Veterans Affairs does not have a Memorandum of Agreement with Defense Security Service (DSS). Verification of a Security Clearance must be processed through the Special Security Officer located in the Planning and National Security Service within the Office of Operations, Security, and Preparedness.
4. Custom software development and outsourced operations must be located in the U.S. to the maximum extent practical. If such services are proposed to be performed abroad and are not disallowed by other VA policy or mandates, the contractor/subcontractor must state where all non-U.S. services are provided and detail a security plan, deemed to be acceptable by VA, specifically to address mitigation of the resulting problems of communication, control, data

protection, and so forth. Location within the U.S. may be an evaluation factor.

5. The contractor or subcontractor must notify the Contracting Officer immediately when an employee working on a VA system or with access to VA information is reassigned or leaves the contractor or subcontractor's employ. The Contracting Officer must also be notified immediately by the contractor or subcontractor prior to an unfriendly termination.

B. VA INFORMATION CUSTODIAL LANGUAGE

1. Information made available to the contractor or subcontractor by VA for the performance or administration of this contract or information developed by the contractor/subcontractor in performance or administration of the contract shall be used only for those purposes and shall not be used in any other way without the prior written agreement of the VA.
2. VA information should not be co-mingled, if possible, with any other data on the contractors/subcontractor's information systems or media storage systems in order to ensure VA requirements related to data protection and media sanitization can be met. If co-mingling must be allowed to meet the requirements of the business need, the contractor must ensure that VA's information is returned to the VA or destroyed in accordance with VA's sanitization requirements. VA reserves the right to conduct on site inspections of contractor and subcontractor IT resources to ensure data security controls, separation of data and job duties, and destruction/media sanitization procedures are in compliance with VA directive requirements.
3. Prior to termination or completion of this contract, contractor/subcontractor must not destroy information received from VA, or gathered/created by the contractor in the course of performing this contract without prior written approval by the VA. Any data destruction done on behalf of VA by a contractor/subcontractor must be done in accordance with National Archives and Records Administration (NARA) requirements as outlined in VA Directive 6300, *Records and Information Management* and its Handbook 6300.1 *Records Management Procedures*, applicable VA Records Control Schedules, and VA Handbook 6500.1, *Electronic Media Sanitization*. Self-certification by the contractor that the data destruction requirements above have been met must be sent to the VA Contracting Officer within 30 days of termination of the contract.
4. The contractor/subcontractor must receive, gather, store, back up, maintain, use, disclose and dispose of VA information only in compliance with the terms of the contract and applicable Federal and VA information confidentiality and security laws, regulations and policies. If Federal or VA information confidentiality and security laws, regulations and policies become applicable to the VA information or information systems after execution of the contract, or if NIST issues or updates applicable FIPS or Special Publications (SP) after execution of this contract, the parties agree to negotiate in good faith to implement the information confidentiality and security laws, regulations and policies in this contract.
5. The contractor/subcontractor shall not make copies of VA information except as authorized and necessary to perform the terms of the agreement or to preserve electronic information stored on contractor/subcontractor electronic storage media for restoration in case any electronic equipment or data used by the

- contractor/subcontractor needs to be restored to an operating state. If copies are made for restoration purposes, after the restoration is complete, the copies must be appropriately destroyed.
6. If VA determines that the contractor has violated any of the information confidentiality, privacy, and security provisions of the contract, it shall be sufficient grounds for VA to withhold payment to the contractor or third party or terminate the contract for default or terminate for cause under Federal Acquisition Regulation (FAR) part 12.
 7. If a VHA contract is terminated for cause, the associated BAA must also be terminated and appropriate actions taken in accordance with VHA Handbook 1600.01, *Business Associate Agreements*. Absent an agreement to use or disclose protected health information, there is no business associate relationship.
 8. The contractor/subcontractor must store, transport, or transmit VA sensitive information in an encrypted form, using VA-approved encryption tools that are, at a minimum, FIPS 140-2 validated.
 9. The contractor/subcontractor's firewall and Web services security controls, if applicable, shall meet or exceed VA's minimum requirements. VA Configuration Guidelines are available upon request.
 10. Except for uses and disclosures of VA information authorized by this contract for performance of the contract, the contractor/subcontractor may use and disclose VA information only in two other situations: (i) in response to a qualifying order of a court of competent jurisdiction, or (ii) with VA's prior written approval. The contractor/subcontractor must refer all requests for, demands for production of, or inquiries about, VA information and information systems to the VA contracting officer for response.
 11. Notwithstanding the provision above, the contractor/subcontractor shall not release VA records protected by Title 38 U.S.C. 5705, confidentiality of medical quality assurance records and/or Title 38 U.S.C. 7332, confidentiality of certain health records pertaining to drug addiction, sickle cell anemia, alcoholism or alcohol abuse, or infection with human immunodeficiency virus. If the contractor/subcontractor is in receipt of a court order or other requests for the above mentioned information, that contractor/subcontractor shall immediately refer such court orders or other requests to the VA contracting officer for response.
 12. For service that involves the storage, generating, transmitting, or exchanging of VA sensitive information but does not require C&A or an MOU-ISA for system interconnection, the contractor/subcontractor must complete a Contractor Security Control Assessment (CSCA) on a yearly basis and provide it to the COTR.

C. INFORMATION SYSTEM DESIGN AND DEVELOPMENT

1. Information systems that are designed or developed for or on behalf of VA at non-VA facilities shall comply with all VA directives developed in accordance with FISMA, HIPAA, NIST, and related VA security and privacy control requirements for Federal information systems. This includes standards for the protection of electronic PHI, outlined in 45 C.F.R. Part 164, Subpart C, information and system security categorization level designations in accordance with FIPS 199 and FIPS 200 with implementation of all baseline security controls commensurate with the FIPS 199 system security categorization (reference Appendix D of VA Handbook 6500, *VA Information Security Program*). During the development cycle a

- Privacy Impact Assessment (PIA) must be completed, provided to the COTR, and approved by the VA Privacy Service in accordance with Directive 6507, *VA Privacy Impact Assessment*.
2. The contractor/subcontractor shall certify to the COTR that applications are fully functional and operate correctly as intended on systems using the VA Federal Desktop Core Configuration (FDCC), and the common security configuration guidelines provided by NIST or the VA. This includes Internet Explorer 7 configured to operate on Windows XP and Vista (in Protected Mode on Vista) and future versions, as required.
 3. The standard installation, operation, maintenance, updating, and patching of software shall not alter the configuration settings from the VA approved and FDCC configuration. Information technology staff must also use the Windows Installer Service for installation to the default "program files" directory and silently install and uninstall.
 4. Applications designed for normal end users shall run in the standard user context without elevated system administration privileges.
 5. The security controls must be designed, developed, approved by VA, and implemented in accordance with the provisions of VA security system development life cycle as outlined in NIST Special Publication 800-37, *Guide for Applying the Risk Management Framework to Federal Information Systems*, VA Handbook 6500, *Information Security Program* and VA Handbook 6500.5, *Incorporating Security and Privacy in System Development Lifecycle*.
 6. The contractor/subcontractor is required to design, develop, or operate a System of Records Notice (SOR) on individuals to accomplish an agency function subject to the Privacy Act of 1974, (as amended), Public Law 93-579, December 31, 1974 (5 U.S.C. 552a) and applicable agency regulations. Violation of the Privacy Act may involve the imposition of criminal and civil penalties.
 7. The contractor/subcontractor agrees to:
 - a. Comply with the Privacy Act of 1974 (the Act) and the agency rules and regulations issued under the Act in the design, development, or operation of any system of records on individuals to accomplish an agency function when the contract specifically identifies:
 - b. The Systems of Records (SOR); and
 - c. The design, development, or operation work that the contractor/subcontractor is to perform.
 8. Include the Privacy Act notification contained in this contract in every solicitation and resulting subcontract and in every subcontract awarded without a solicitation, when the work statement in the proposed subcontract requires the redesign, development, or operation of a SOR on individuals that is subject to the Privacy Act.
 9. Include this Privacy Act clause, including this subparagraph (3), in all subcontracts awarded under this contract which requires the design, development, or operation of such a SOR.
 - a. In the event of violations of the Act, a civil action may be brought against the agency involved when the violation concerns the design, development, or operation of a SOR on individuals to accomplish an agency function, and criminal penalties may be imposed upon the officers or employees of the agency when the violation concerns the operation of a SOR on individuals to accomplish an agency function. For purposes of the Act, when the

contract is for the operation of a SOR on individuals to accomplish an agency function, the contractor/subcontractor is considered to be an employee of the agency.

10. "Operation of a System of Records" means performance of any of the activities associated with maintaining the SOR, including the collection, use, maintenance, and dissemination of records.
11. "Record" means any item, collection, or grouping of information about an individual that is maintained by an agency, including, but not limited to, education, financial transactions, medical history, and criminal or employment history and contains the person's name, or identifying number, symbol, or any other identifying particular assigned to the individual, such as a fingerprint or voiceprint, or a photograph.
12. "System of Records" means a group of any records under the control of any agency from which information is retrieved by the name of the individual or by some identifying number, symbol, or other identifying particular assigned to the individual.
 - a. The vendor shall ensure the security of all procured or developed systems and technologies, including their subcomponents (hereinafter referred to as "Systems"), throughout the life of this contract and any extension, warranty, or maintenance periods. This includes, but is not limited to workarounds, patches, hotfixes, upgrades, and any physical components (hereafter referred to as Security Fixes) which may be necessary to fix all security vulnerabilities published or known to the vendor anywhere in the Systems, including Operating Systems and firmware. The vendor shall ensure that Security Fixes shall not negatively impact the Systems.
 - b. The vendor shall notify VA within 24 hours of the discovery or disclosure of successful exploits of the vulnerability which can compromise the security of the Systems (including the confidentiality or integrity of its data and operations, or the availability of the system). Such issues shall be remediated as quickly as is practical.
 - c. When the Security Fixes involve installing third party patches (such as Microsoft OS patches or Adobe Acrobat), the vendor will provide written notice to the VA that the patch has been validated as not affecting the Systems within 10 working days. When the vendor is responsible for operations or maintenance of the Systems, they shall apply the Security Fixes as quickly as practical.
 - d. All other vulnerabilities shall be remediated as specified in this paragraph in a timely manner based on risk, but within 60 days of discovery or disclosure. Exceptions to this paragraph (e.g. for the convenience of VA) shall only be granted with approval of the contracting officer and the VA Assistant Secretary for Office of Information and Technology.

D. INFORMATION SYSTEM HOSTING, OPERATION, MAINTENANCE, OR USE

1. For information systems that are hosted, operated, maintained, or used on behalf of VA at non-VA facilities, contractors/subcontractors are fully responsible and accountable for ensuring compliance with all HIPAA, Privacy Act, FISMA, NIST, FIPS, and VA security and privacy directives and handbooks. This includes conducting compliant risk assessments, routine vulnerability scanning, system patching and change management procedures, and the completion of an acceptable contingency plan for each system. The

- contractor's security control procedures must be equivalent, to those procedures used to secure VA systems. A Privacy Impact Assessment (PIA) must also be provided to the COTR and approved by VA Privacy Service prior to operational approval. All external Internet connections to VA's network involving VA information must be reviewed and approved by VA prior to implementation.
2. Adequate security controls for collecting, processing, transmitting, and storing of Personally Identifiable Information (PII), as determined by the VA Privacy Service, must be in place, tested, and approved by VA prior to hosting, operation, maintenance, or use of the information system, or systems by or on behalf of VA. These security controls are to be assessed and stated within the PIA and if these controls are determined not to be in place, or inadequate, a Plan of Action and Milestones (POA&M) must be submitted and approved prior to the collection of PII.
 3. Outsourcing (contractor facility, contractor equipment or contractor staff) of systems or network operations, telecommunications services, or other managed services requires certification and accreditation (authorization) (C&A) of the contractor's systems in accordance with VA Handbook 6500.3, *Certification and Accreditation* and/or the VA OCS Certification Program Office. Government-owned (government facility or government equipment) contractor-operated systems, third party or business partner networks require memorandums of understanding and interconnection agreements (MOU-ISA) which detail what data types are shared, who has access, and the appropriate level of security controls for all systems connected to VA networks.
 4. The contractor/subcontractor's system must adhere to all FISMA, FIPS, and NIST standards related to the annual FISMA security controls assessment and review and update the PIA. Any deficiencies noted during this assessment must be provided to the VA contracting officer and the ISO for entry into VA's POA&M management process. The contractor/subcontractor must use VA's POA&M process to document planned remedial actions to address any deficiencies in information security policies, procedures, and practices, and the completion of those activities. Security deficiencies must be corrected within the timeframes approved by the government. Contractor/subcontractor procedures are subject to periodic, unannounced assessments by VA officials, including the VA Office of Inspector General. The physical security aspects associated with contractor/subcontractor activities must also be subject to such assessments. If major changes to the system occur that may affect the privacy or security of the data or the system, the C&A of the system may need to be reviewed, retested and re-authorized per VA Handbook 6500.3. This may require reviewing and updating all of the documentation (PIA, System Security Plan, Contingency Plan). The Certification Program Office can provide guidance on whether a new C&A would be necessary.
 5. The contractor/subcontractor must conduct an annual self assessment on all systems and outsourced services as required. Both hard copy and electronic copies of the assessment must be provided to the COTR. The government reserves the right to conduct such an assessment using government personnel or another contractor/subcontractor. The contractor/subcontractor must take appropriate and timely action (this can be specified in the contract) to correct or mitigate any weaknesses discovered during such testing, generally at no additional cost.

6. VA prohibits the installation and use of personally-owned or contractor/subcontractor-owned equipment or software on VA's network. If non-VA owned equipment must be used to fulfill the requirements of a contract, it must be stated in the service agreement, SOW or contract. All of the security controls required for government furnished equipment (GFE) must be utilized in approved other equipment (OE) and must be funded by the owner of the equipment. All remote systems must be equipped with, and use, a VA-approved antivirus (AV) software and a personal (host-based or enclave based) firewall that is configured with a VA-approved configuration. Software must be kept current, including all critical updates and patches. Owners of approved OE are responsible for providing and maintaining the anti-viral software and the firewall on the non-VA owned OE.
7. All electronic storage media used on non-VA leased or non-VA owned IT equipment that is used to store, process, or access VA information must be handled in adherence with VA Handbook 6500.1, *Electronic Media Sanitization* upon: (i) completion or termination of the contract or (ii) disposal or return of the IT equipment by the contractor/subcontractor or any person acting on behalf of the contractor/subcontractor, whichever is earlier. Media (hard drives, optical disks, CDs, back-up tapes, etc.) used by the contractors/subcontractors that contain VA information must be returned to the VA for sanitization or destruction or the contractor/subcontractor must self-certify that the media has been disposed of per 6500.1 requirements. This must be completed within 30 days of termination of the contract.
8. Bio-Medical devices and other equipment or systems containing media (hard drives, optical disks, etc.) with VA sensitive information must not be returned to the vendor at the end of lease, for trade-in, or other purposes. The options are:
 - a. Vendor must accept the system without the drive;
 - b. VA's initial medical device purchase includes a spare drive which must be installed in place of the original drive at time of turn-in; or
 - c. VA must reimburse the company for media at a reasonable open market replacement cost at time of purchase.
9. Due to the highly specialized and sometimes proprietary hardware and software associated with medical equipment/systems, if it is not possible for the VA to retain the hard drive, then;
 - a. The equipment vendor must have an existing BAA if the device being traded in has sensitive information stored on it and hard drive(s) from the system are being returned physically intact; and
10. Any fixed hard drive on the device must be non-destructively sanitized to the greatest extent possible without negatively impacting system operation. Selective clearing down to patient data folder level is recommended using VA approved and validated overwriting technologies/methods/tools. Applicable media sanitization specifications need to be pre-approved and described in the purchase order or contract.
11. A statement needs to be signed by the Director (System Owner) that states that the drive could not be removed and that (a) and (b) controls above are in place and completed. The ISO needs to maintain the documentation.

E. SECURITY INCIDENT INVESTIGATION

1. The term "security incident" means an event that has, or could have, resulted in unauthorized access to, loss or damage to VA assets, or sensitive information, or an action that breaches VA security procedures. The contractor/subcontractor shall immediately notify the COTR and simultaneously, the designated ISO and Privacy Officer for the contract of any known or suspected security/privacy incidents, or any unauthorized disclosure of sensitive information, including that contained in system(s) to which the contractor/subcontractor has access.
2. To the extent known by the contractor/subcontractor, the contractor/subcontractor's notice to VA shall identify the information involved, the circumstances surrounding the incident (including to whom, how, when, and where the VA information or assets were placed at risk or compromised), and any other information that the contractor/subcontractor considers relevant.
3. With respect to unsecured protected health information, the business associate is deemed to have discovered a data breach when the business associate knew or should have known of a breach of such information. Upon discovery, the business associate must notify the covered entity of the breach. Notifications need to be made in accordance with the executed business associate agreement.
4. In instances of theft or break-in or other criminal activity, the contractor/subcontractor must concurrently report the incident to the appropriate law enforcement entity (or entities) of jurisdiction, including the VA OIG and Security and Law Enforcement. The contractor, its employees, and its subcontractors and their employees shall cooperate with VA and any law enforcement authority responsible for the investigation and prosecution of any possible criminal law violation(s) associated with any incident. The contractor/subcontractor shall cooperate with VA in any civil litigation to recover VA information, obtain monetary or other compensation from a third party for damages arising from any incident, or obtain injunctive relief against any third party arising from, or related to, the incident.

F. LIQUIDATED DAMAGES FOR DATA BREACH

1. Consistent with the requirements of 38 U.S.C. §5725, a contract may require access to sensitive personal information. If so, the contractor is liable to VA for liquidated damages in the event of a data breach or privacy incident involving any SPI the contractor/subcontractor processes or maintains under this contract.
2. The contractor/subcontractor shall provide notice to VA of a "security incident" as set forth in the Security Incident Investigation section above. Upon such notification, VA must secure from a non-Department entity or the VA Office of Inspector General an independent risk analysis of the data breach to determine the level of risk associated with the data breach for the potential misuse of any sensitive personal information involved in the data breach. The term 'data breach' means the loss, theft, or other unauthorized access, or any access other than that incidental to the scope of employment, to data containing sensitive personal information, in electronic or printed form, that results in the potential compromise of the confidentiality or integrity of the data. Contractor shall fully cooperate with the entity performing the risk analysis. Failure to cooperate may be deemed a material breach and grounds for contract termination.

3. Each risk analysis shall address all relevant information concerning the data breach, including the following:
 - a. Nature of the event (loss, theft, unauthorized access);
 - b. Description of the event, including:
 - (1) date of occurrence;
 - (2) data elements involved, including any PII, such as full name, social security number, date of birth, home address, account number, disability code;
 - (3) Number of individuals affected or potentially affected;
 - (4) Names of individuals or groups affected or potentially affected;
 - (5) Ease of logical data access to the lost, stolen or improperly accessed data in light of the degree of protection for the data, e.g., unencrypted, plain text;
 - (6) Amount of time the data has been out of VA control;
 - (7) The likelihood that the sensitive personal information will or has been compromised (made accessible to and usable by unauthorized persons);
 - (8) Known misuses of data containing sensitive personal information, if any;
 - 9) Assessment of the potential harm to the affected individuals;
 - (10) Data breach analysis as outlined in 6500.2 Handbook, *Management of Security and Privacy Incidents*, as appropriate; and
 - (11) Whether credit protection services may assist record subjects in avoiding or mitigating the results of identity theft based on the sensitive personal information that may have been compromised.
 - c. Based on the determinations of the independent risk analysis, the contractor shall be responsible for paying the VA liquidated damages per affected individual to cover the cost of providing credit protection services to affected individuals consisting of the following:
 - (1) Notification;
 - (2) One year of credit monitoring services consisting of automatic daily monitoring of at least 3 relevant credit bureau reports;
 - (3) Data breach analysis;
 - (4) Fraud resolution services, including writing dispute letters, initiating fraud alerts and credit freezes, to assist affected individuals to bring matters to resolution;
 - (5) One year of identity theft insurance with \$20,000.00 coverage at \$0 deductible; and
 - (6) Necessary legal expenses the subjects may incur to repair falsified or damaged credit records, histories, or financial affairs.

G. SECURITY CONTROLS COMPLIANCE TESTING

On a periodic basis, VA, including the Office of Inspector General, reserves the right to evaluate any or all of the security controls and privacy practices implemented by the contractor under the clauses contained within the contract. With 10 working-day's notice, at the request of the government, the contractor must fully cooperate and assist in a government-sponsored security controls assessment at each location wherein VA information is processed or stored, or information systems are developed, operated, maintained, or used on behalf of VA, including those

initiated by the Office of Inspector General. The government may conduct a security control assessment on shorter notice (to include unannounced assessments) as determined by VA in the event of a security incident or at any other time.

H. TRAINING

1. All contractor employees and subcontractor employees requiring access to VA information and VA information systems shall complete the following before being granted access to VA information and its systems:
2. Sign and acknowledge (either manually or electronically) understanding of and responsibilities for compliance with the *Contractor Rules of Behavior*, Appendix E relating to access to VA information and information systems;
3. Successfully complete the *VA Cyber Security Awareness and Rules of Behavior* training and annually complete required security training;
4. Successfully complete the appropriate VA privacy training and annually complete required privacy training; and
5. Successfully complete any additional cyber security or privacy training, as required for VA personnel with equivalent information system access [*to be defined by the VA program official and provided to the contracting officer for inclusion in the solicitation document - e.g., any role-based information security training required in accordance with NIST Special Publication 800-16, Information Technology Security Training Requirements.*]
6. The contractor shall provide to the contracting officer and/or the COTR a copy of the training certificates and certification of signing the Contractor Rules of Behavior for each applicable employee within 1 week of the initiation of the contract and annually thereafter, as required.
7. Failure to complete the mandatory annual training and sign the Rules of Behavior annually, within the timeframe required, is grounds for suspension or termination of all physical or electronic access privileges and removal from work on the contract until such time as the training and documents are complete.

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