

**SECTION 01 00 00
GENERAL REQUIREMENTS**

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SECTION 01 00 00
GENERAL REQUIREMENTS

1.1 GENERAL INTENTION

A. Contractor shall completely prepare site for construction operations, and furnish all labor, equipment and materials and perform work for the project, as required by the drawings and specifications.

Scope Includes, but is not limited to, the following:

1. Demolition of existing interior and exterior portions of Building 100 on the first floor through the roof.
2. Excavation for new building expansion.
3. New concrete footings and structural steel, including connections to the existing building and providing for the expansion of the Emergency Department.
4. New exterior wall envelope and roofing.
5. New interior partitions, glazing, doors, partitions ceilings electrical, plumbing, mechanical, fire protection and low voltage work, as indicated in the Contract Documents.
6. Finishes, signage, accessories, casework and all other items to provide a new and completely functional expanded Emergency Department.
7. Phasing and all required work effort to maintain the existing functioning of the hospital and related access and operations. This includes any temporary utility connections/routing required to maintain continuity of electrical, low voltage, communications, med gas, water and sewer to operating portions of the hospital.
8. Sitework and landscaping, underground utilities to accommodate the new work.
9. New rooftop air handlers as indicated with ductwork routed through the existing hospital to serve the new, expanded Emergency Department.
10. Reconfiguration of existing electrical and low-voltage conduits, racks, panels, cable trays, etc. to accommodate the new work and relocated Low Voltage IT Room and electrical rooms shown on the drawings. Phasing the relocation of such power and lighting circuits to maintain operation of all areas of the hospital served by the electrical room, including those outside of the renovated Emergency Department. Phasing of the relocation of

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low voltage systems to maintain functionality of the hospital inside and outside the Emergency Department.

- B. Visits to the VA Campus site by Bidders may be made only by appointment with the Contracting Officer's Representative.
- C. The VA has contracted separately with an Architect-Engineer firm who will render certain technical services during construction. Such services shall be considered as advisory to the VA and shall not be construed as expressing or implying a contractual act of the Government without specific affirmation by the Contracting Officer.
- D. Before placement and installation of work subject to tests by a testing laboratory, the Contractor shall notify the Contracting Officer's Representative in sufficient time to enable VA personnel to be present at the time for adequate oversight of the taking and testing of specimens and field activities. Such prior notice shall be not less than three work days unless otherwise designated by the Contracting Officer's Representative.
- E. All employees of the Contractor and subcontractors shall comply with the VA security management program and obtain permission for site entry from the VA police, be identified by project and employer, and be restricted from unauthorized access.
- F. The Contracting Officer's Representative will assign specific routes and times for pathways, corridors and elevators for transportation of personnel, materials and equipment. The Contractor will continually clean-up any dust, dirt or debris caused by their jobsite ingress/egress.
- G. Dust and fume control will be exercised during all construction operations. Workers will be careful not to operate any vehicles, gas or diesel engines, or to perform any fume or dust generating process near a building air intake system. Noise will be held to a minimum at all times. Jack-hammering, core drilling and other noisy or disturbing operations may have to be rescheduled or accomplished after hours to avoid interfering with surgery or patient care services.

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1.2 STATEMENT OF BID ITEM(S)

- A. ITEM I, GENERAL CONSTRUCTION: Work includes general construction, alterations, walks, grading, drainage, mechanical and electrical work, medical equipment, utility systems, water storage facilities and necessary removal of existing structures and construction and certain other items, as shown on the Contract Documents. Deductive Alternates:
- B. ALTERNATE NO. 1: Landscape Raised Planters
- C. ALTERNATE NO. 2: Landscape Benches and Bench Pads
- D. ALTERNATE NO. 3: Landscape Bid Alternate.
- E. ALTERNATE NO. 4: Nurse Station Ceiling
- F. ALTERNATE NO. 5: Wood Slat Ceiling at Entry
- G. ALTERNATE NO. 6: Wood Panel System / Plastic Laminate
- H. ALTERNATE NO. 7: Wood Panel System / Paint
- I. ALTERNATE NO. 8: Terrazzo Flooring at Entry
- J. ALTERNATE NO. 9: Sunshade
- K. ALTERNATE NO. 10: Curtain Wall at Gridline 1 & Landscape Green Screen Element
- L. ALTERNATE NO. 11: Roll Down Doors in Exam Rooms
- M. ALTERNATE NO. 12: Office Walls / Furniture System
- N. ALTERNATE NO. 13: Reduced Expansion

1.3 SPECIFICATIONS AND DRAWINGS

- A. After award of contract, specifications and drawings will be available for download from a link provided by the Contracting Officer's Representative
- B. The Contractor shall maintain on the job site one (1) printed set of specifications, one (1) printed set of drawings, one (1) printed copy of all RFI's and any documents that modify the original specifications and drawings.

1.4 ACCIDENT PREVENTION

- A. The Contractor shall provide and maintain work environments and procedures which will:
1. Safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;
 2. Avoid interruptions of Government operations and delays in project completion dates;
 3. Control costs in the performance of this contract; and
 4. Maintain a safe and healthy worksite to prevent adverse impacts to Contractor and subcontractor employees.
- B. The Contractor shall:
1. Before commencing the work, submit a written Safety Plan for implementing actions to prevent accidents. The plan shall include an analysis of significant hazards to life, limb and property inherent in contract work performance and measures for controlling these hazards and avoiding personnel exposure. Meet with the Contracting Officer's Representative to discuss and develop a mutual understanding relative to administration of the overall safety program and obtain approval for the Contractor's Safety Plan from the Contracting Officer's Representative before work start.
 2. Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910 (OSHA); and Title 8, California Administrative Code - Construction Standards (CAL OSHA)
 3. Prior to commencing work, provide proof that an OSHA designated competent person (CP) per 29 CFR 1926.20(b)(2)/1926.32(f) will maintain a presence at the work site whenever the Contractor or subcontractors are present.
 4. Provide appropriate safety barricades, signs, signal lights and personal protective equipment (hard hats, goggles, protective shoes, gloves, masks or breathing apparatus, etc). Do not attempt to operate

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any switch, valve or energy isolation device that is Locked-Out or Tagged-Out. Do not allow entry into trenches or confined space without required protection and employee training.

5. Ensure all Contractor and subcontractor employees have the 10-hour or 30-hour OSHA Construction Safety course and other relevant competency training, as determined by Contracting Officer's Representative. Submit training records of all such employees for approval before the start of work.

6. Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for accident protection and safety of personnel are taken.

C. Whenever the Contracting Officer becomes aware of any noncompliance with safety requirements or any condition which poses a serious or imminent danger to the health or safety of personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

D. The Contractor shall insert the above clause with appropriate changes in the designation of the parties in subcontracts.

1.5 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 Contractor is responsible for assuring that all sub-Contractors working on the project and their employees also comply with these regulations.

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B. Security Procedures:

1. Contractor and subcontractor employees shall not enter the project site without an appropriate badge. They will be subject to inspection of their personal effects when entering or leaving the project site.
2. The Contractor shall create an Employee Daily Log of all personnel working on the site. The Employee Daily Log shall contain the employee's (a) Full Name, (b) Employer/Company Name and (c) Occupation/Trade. The Employee Daily Log shall be submitted with the Contractor's Daily Work Report.
3. All work on the contract shall be performed between 7:00 am and 4:00 pm Monday through Friday, excluding National Holidays, unless approved in writing by the Contracting Officer. For working outside the these hours, the Contractor shall give two weeks' notice to the Contracting Officer's Representative so that oversight, security and escort arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this specification.
4. No photography of VA premises is allowed without written permission of the VA Public Affairs Officer. Submit request to the Contracting Officer's Representative.
5. The VA Police are Federal Police Officers with full authority to make arrests, investigate crimes and issue traffic citations. Citations issued require an appearance in the Federal District Court and/or payment of a fine. Speed limits and other driving and parking codes are strictly enforced. Any vehicle left unattended for more than a few minutes may be cited by the VA Police.
6. Sexual harassment is strictly prohibited. This includes deliberate or unsolicited verbal comments or gestures of a sexual nature, unwelcome sexual advances, requests for sexual favors and/or other unwelcome verbal or physical conduct of a sexual nature.
7. Possession or use of non-prescription drugs or alcohol, including beer and wine, on the Health Care System grounds is strictly

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prohibited. Possession of firearms, knives with blades over 4", ammunition, explosive devices and any item that may be considered an offensive weapon is strictly prohibited. This includes carrying such items in vehicles.

8. The Health Care System does not have the equipment, facilities, or personnel trained to handle serious injuries. Call 911 for emergency medical assistance and notify the Contracting Officer's Representative and the VA Police.

9. Vehicle authorization requests shall be required for any vehicle entering the site and such requests shall be submitted 24 hours before the date and time of access. Access shall be restricted to picking up and dropping off materials and supplies. Separate permits shall be issued for Contractor and subcontractor employees for parking in designated areas only.

10. VA reserves the right to shut down the project site and order Contractor's employees and subcontractors off the premises in the event of a national emergency or local disaster. The Contractor may return to the site only with the written approval of the Contracting Officer's Representative.

C. Guards: NOT USED

D. Key Control:

1. The Contractor shall provide duplicate keys and lock combinations to the Contracting Officer's Representative for the purpose of security inspections and emergency actions for every area of the project site including tool boxes and parked machines.

2. The Contractor shall turn over all permanent lock cylinders to the VA locksmith for permanent installation.

E. Document Control:

1. Before starting any work, the Contractor shall submit an electronic security memorandum describing the approach to following goals and maintaining confidentiality of "Sensitive Information".

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2. The General Contractor is responsible for safekeeping of all drawings, project manuals and other project information. This information shall be shared only with those with a specific need to accomplish the project.
3. 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 access to only those who will need it for the project. Return the information to the Contracting Officer's Representative upon request.
4. These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer's Representative.
5. All paper waste or electronic media shall be shredded, destroyed or erased in a manner acceptable to the VA.
6. Notify Contracting Officer's Representative and Site Security Officer immediately when there is a loss or compromise of "Sensitive Information".
7. 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-mails provided all VA encryption procedures are followed.

1.5 FIRE SAFETY

- A. Applicable Publications: Publications listed below form part of this Article.

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1. American Society for Testing and Materials (ASTM):

E84-13a.....Surface Burning Characteristics of Building
Materials

2. National Fire Protection Association (NFPA):

NFPA 10.....Standard for Portable Fire Extinguishers

NFPA 30.....Flammable and Combustible Liquids Code

NFPA 51.....Standard for Fire Prevention During Welding,
Cutting and Other Hot Work

NFPA 70/NEC.....National Electrical Code

NFPA 101Life Safety Code and all referenced codes and
standards

NFPA 241.....Standard for Safeguarding Construction,
Alteration, and Demolition Operations

3. Occupational Safety and Health Administration (OSHA):

29 CFR 1910/1926.....Safety and Health Regulations for Construction

- B. Fire Safety Plan: Establish and maintain a fire protection program in accordance with 29 CFR 1926 and required Interim Life Safety Measures (ILSM). Prior to start of work, prepare a plan detailing project-specific fire safety measures and ILSMs including periodic status reports, and submit to Contracting Officer's Representative for review for compliance with contract requirements. Prior to any worker for the Contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the Contractor's competent person per OSHA requirements. This briefing shall include information on the construction limits, VA safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VA equipment, etc. Documentation shall be provided to the Contracting Officer's Representative that individuals have undergone Contractor's safety briefings.

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- C. Site and Building Access: Maintain free and unobstructed access to facility emergency services and fire, police and other emergency response forces in accordance with NFPA 241. In the event of a fire or during a fire drill, the Contractor must vacate the construction site if within the zone affected.
- 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 20 feet exposed overall length, separate by 10 feet.
- E. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- F. Means of Egress: Do not block exiting for occupied buildings including paths from exits to roads. Minimize disruptions and coordinate with Contracting Officer's Representative.
- G. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily and report findings and corrective actions weekly to Contracting Officer's Representative.
- H. Fire Extinguishers: Provide, maintain and show proof of extinguisher maintenance in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- I. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- J. Standpipes: Maintain standpipes at each floor in accordance with 29 CFR 1926 and NFPA 241. Do not charge wet standpipes subject to freezing until weather protected.
- K. Sprinklers: Install, test and activate new automatic sprinklers prior to removing existing sprinklers.
- L. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection and fire alarm systems except for portions immediately under construction or temporarily for connections. Provide fire watch for impairments more than 4 hours in a 24-hour period. If a Fire Alarm system or sprinkler system is out of service for more than 4 hours, then

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the Contractor shall implement Interim Life Safety Measures in accordance with VA Palo Alto Health Care System Memorandum SAFE 13-23. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with Contracting Officer's Representative. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the Contracting Officer's Representative.

- M. When work requires removal of any ceiling tiles for more than 4 hours in a 24-hour period in areas protected by a fire sprinkler system where the sprinkler heads are made less effective by space above the ceiling exceeding 18 inches, temporary provision shall be made for supplemental heat detectors with annunciation capability to the building/campus fire alarm system. Programmed wireless heat detector sensors (Honeywell #5809 or equal) with associated receiver (Honeywell #5881 or equal) and control panel (Honeywell Vista-20P or equal) are acceptable. Tie-in of the control panel to the building/campus fire alarm system will be made by the VA. Fifteen (15) days advance notice shall be given to the VA for scheduling the tie-in.
- N. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with Contracting Officer's Representative.
- O. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51. Any welding, cutting metal or other burning or spark producing operations will require a hot work permit. Welding and/or burning operations are allowed only during normal working hours. Coordinate with Contracting Officer's Representative to obtain permits from the Facility Safety Officer at least 24 hours in advance. Evidence of training of all personnel assigned to be a fire watch shall be provided before Hot Work Permits will be issued. A fire watch is required for all hot work unless specified differently on the permit. The fire watch shall have fire extinguishing equipment readily available and be trained in its use and be familiar with facilities for sounding an alarm in the event of a fire. They shall watch for fires in all exposed areas, try to extinguish then otherwise sound the alarm. A fire

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watch shall be maintained for at least 30 minutes after completion of hot work.

- P. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with and report findings and corrective actions weekly to Contracting Officer's Representative.
- Q. Smoking: Smoking is prohibited in all buildings and adjacent construction areas. Smoking is prohibited except in designated smoking areas.
- R. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily. Waste and debris will not be disposed of on station or in VA trash containers or dumpsters. The Contractor shall provide their own bin or dumpster, however, the use and location of such must be approved in writing by the Contracting Officer's Representative. Construction waste and debris will not be accumulated in corridors or other building areas where it might cause a fire or safety hazard.
- S. Smoke/fire Barrier Penetrations: Any penetrations to smoke or fire barrier walls, ceilings or floor slabs shall be properly sealed immediately with Hilti Fire Stop 601 or 635 for walls and ceilings and Hilti Fire Stop 657 for floor penetrations or approved equal.
- T. Install one-hour temporary construction partitions as shown on drawings or as required to separate the work site from the occupied portion of the building and maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures. Extend the partitions through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C, ¾ hour fire/smoke rated doors with self-closing devices.
- U. If required, submit documentation to the Contracting Officer's Representative that personnel have been trained in the fire safety aspects of working in areas with impaired structural or compartmentalization features.

1.6 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's Representative. 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's Representative 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 their expense upon completion of the work. With the written consent of the Contracting Officer's Representative, the buildings and utilities may be abandoned and need not be removed.
- C. The Contractor shall, as prescribed by the Contracting Officer's Representative, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer's Representative. 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, code 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 Contracting Officer's Representative.
- E. Workmen are subject to rules of the VA Campus applicable to their conduct.
- F. Execute work so as to interfere as little as possible with normal functioning of the VA Campus as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others.

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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 the VA in quantities sufficient for not more than two work days. Provide unobstructed access to VA Campus areas required to remain in operation.
- G. Utilities Services: Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing pipes, electrical wires, conduits, cables, etc., of utility services, or of fire protection systems or communications systems, they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by Contracting Officer's Representative. All such actions shall be coordinated with any Utility Company involved:
- H. Construction Fence: Before construction operations begin, Contractor shall provide a chain link construction fence, six-foot minimum height, around the construction area, material storage areas and dumpsters/waste locations. Contractor shall provide and maintain visual screening fabric for all fencing. Contractor shall provide gates as required for access with necessary hardware including hasps and locks. All gates shall be locked when no workers are present. Contractor shall coordinate with the VA to assure VA access at any time. Contractor shall remove the fence when directed by Contracting Officer's Representative.
- I. Work areas will be vacated by Government and turned over to Contractor after date of Notice to Proceed and after all pre-construction activities have been completed and pre-construction submittals have been approved by the Contracting Officer's Representative.
- 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

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equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company (VA 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 the VA Campus at all times.

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 Contracting Officer's Representative. 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 Contracting Officer's Representative 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. (Add#01)
2. Contractor shall submit a request to interrupt any such services or systems to Contracting Officer's Representative, in writing, four (4) weeks in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption. Approved outage dates are not guaranteed and are subject to VA operational requirements.
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 the VA. Interruption time approved by Contracting Officer's Representative may occur at other than Contractor's normal working hours.
4. In case of a contract construction emergency, service will be interrupted on approval of Contracting Officer's Representative. Such approval will be confirmed in writing as soon as practical.

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5. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service connection to the construction project, for such items as water, sewer, electricity or gas, payment of such fee shall be paid by the Contractor unless specifically relieved in writing by the Government.
- 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 VA Campus traffic, comply with the following:
1. The Contractor shall not block any road or street, walkway or building egress without requesting approval from the Contracting Officer's Representative. Submit written request one (1) week prior to proposed blockage. 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 work crosses 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 Contracting Officer's Representative.
- N. Coordinate this contract with other construction operations as directed by Contracting Officer's Representative. This includes the scheduling of traffic and the use of roadways.

1.7 ALTERATIONS

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the Contracting Officer's Representative, of buildings areas in which alterations occur and areas which are anticipated routes of

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access, and furnish a signed report, to the Contracting Officer's Representative. 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 the 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 Contracting Officer's Representative.
- 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 Contracting Officer's Representative 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 Contracting Officer's Representative 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

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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. 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.

1.8 INFECTION PREVENTION MEASURES

- A. Implement the requirements of VA'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 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 Contracting Officer's Representative and Facility ICRA team for review for compliance with contract requirements.
 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. VA Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the Contracting Officer's

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Representative prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition in patient-care areas:

1. The Contractor, Contracting Officer's Representative and VA Infection Control personnel shall review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in patient-care areas 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. The contractor shall install negative air machines as directed by the Contracting Officer's Representative and shall be required to add machines as directed.
 2. In case of a problem the VA, 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 Contracting Officer's Representative. Blank off ducts and diffusers to prevent circulation of dust into patient-occupied areas during construction.
 2. Do not perform dust producing tasks within patient-occupied areas without the approval of the Contracting Officer's Representative. 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 temporary drywall construction barriers to completely separate construction from the operational areas of the hospital in order to contain dirt debris and dust. Construct the dust proof barrier with a one hour fire rating. Barriers shall be sealed and made presentable on hospital occupied side. Install a self-closing rated door in a metal frame, commensurate with the

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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 in certain circumstances where hard walls cannot be constructed and an agreement is reached with the Contracting Officer's Representative and VA Fire Protection Specialist.

- b. HEPA filtration is required. 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. The contractor shall install a state of the art air pressure differential monitor. The monitor shall be placed at such a location that anyone entering or leaving the work site shall be able to determine if negative air pressure is being maintained.
- d. Adhesive Walk-off/Carpet Walk-off Mats, minimum 24" x 36", shall be used at all interior transitions from the construction area to occupied medical center area. A shop vacuum with HEPA filtration shall be placed at any exit from the work site. These shop vacuums shall be used to remove dust that has accumulated on workers clothing while working whenever they leave the work site. The mats shall be changed as directed by the Contracting Officer's Representative to maintain clean work areas directly outside construction area at all times.
- e. Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Shop vacuums and vacuum cleaners shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as they are created.

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Transport these outside the construction area in containers with tightly fitting lids.

- f. The contractor shall not haul debris through patient-care areas without prior approval of the Contracting Officer's Representative. When, approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with tape. No sharp objects should be allowed to cut through the plastic. Wipe down the wheel treads and 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. Wheels and tires shall not track debris on floors outside the work zone.
- g. 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.
- h. 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 4 hours. Remove and dispose of porous materials that remain damp for more than 24 hours.
- i. 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 and existing air ducts shall be cleaned prior to final inspection.

1.9 DISPOSAL AND RETENTION

A. Materials and equipment accruing from work removed 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 noted on drawings or in specifications as items to be stored. Items that remain property of the Government shall be removed from present locations in such a manner as to prevent damage. Store such items where directed by Contracting Officer's Representative.
2. Items not reserved shall become property of the Contractor and be removed by Contractor.
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 VA 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. The Contractor is required to alert the VA immediately in the event any known or suspected hazardous materials are disturbed or will need to be disturbed before proceeding with work. Hazardous materials, such as PCB's, asbestos, lead paint, cleaning solutions and other harmful chemicals shall be disposed of in accordance with federal, state and local laws and regulations. In case of an accidental spill of hazardous materials, the Contractor shall take immediate action to contain the spill and notify the Contracting Officer's Representative. Washing cement, plaster, paint, oil or grease, solvents, etc. into any drains is strictly prohibited. **REPORT ANY ACCIDENTAL SPILLS THAT MAY RUN INTO STORM DRAINS IMMEDIATELY TO ENGINEERING SERVICE AT EXTENSION 62468.**

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5. Contractor shall provide a monthly summary of construction and demolition debris diversion and disposal, quantifying all materials generated at the work site and disposed of or diverted from disposal through recycling per SECTION 01 74 19 CONSTRUCTION WASTE MANAGEMENT.

1.10 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's Representative.
- 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's Representative may have the necessary work performed and charge the cost to the Contractor.

1.11 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 Contracting Officer's Representative. Existing work to be altered or extended and that which is found to be defective in any way, shall be reported to the Contracting Officer's Representative before it is

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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, computer network, etc.) which are indicated on drawings or reasonably discovered during execution of the work and which are not scheduled for discontinuance or abandonment.
- D. Expense of repairs to such utilities and systems not shown on drawings for which locations are unknown and not reasonably discovered will be considered for 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).

1.12 PHYSICAL DATA

- A. Data and information included in the Langan Treadwell Rollo Geotechnical Report, dated May 27, 2014, Project # 7504876614 will be made available to the contractor for their use. However data included in this report (test borings, hydrographic data, test pits, weather conditions, etc.) furnished or referred to is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor. (FAR 52.236-4)

1.13 LAYOUT OF WORK

- A. The Contractor shall lay out the work and shall be responsible for all measurements in connection with the layout. The Contractor shall

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furnish, at Contractor's own expense, all templates, 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 that may be established or indicated by the Contracting Officer's Representative. The Contractor shall also be responsible for maintaining and preserving all marks established by the Contracting Officer's Representative 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's Representative may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor. (FAR 52.236-17)

1.14 AS-BUILT DRAWINGS

- A. The Contractor shall maintain one full size set 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 Contracting Officer's Representative's review, as often as requested.
- C. Contractor shall deliver electronic CAD files of approved completed as-built drawings to the Contracting Officer's Representative within 15 calendar days after each completed phase and after the acceptance of the project by the Contracting Officer's Representative.

1.15 USE OF ROADWAYS

- A. For hauling, use only established public roads and roads on the VA Campus and, when authorized by the Contracting Officer's Representative, 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 transitions.

1.16 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 Contracting Officer's Representative. If the equipment is not installed and maintained in accordance with the following provisions, the Contracting Officer's Representative 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 use 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.

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Boilers, pumps, feedwater heaters and auxiliary equipment must be operated as a complete system and be fully maintained by operating personnel. Boiler water must be given complete and continuous chemical treatment.

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.

1.17 EXCLUSIVE TEMPORARY USE OF EXISTING ELEVATORS

A. Exclusive use of existing elevators for handling building materials and Contractor's personnel will be permitted subject to following provisions:

1. Contractor shall coordinate all arrangements with the Contracting Officer's Representative for use of elevators. The Contracting Officer's Representative will ascertain that elevators are in proper condition. Personnel for operating elevators will not be provided by the Department of Veterans Affairs.
2. 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.

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4. If brake lining of elevators are excessively worn or damaged during temporary use, they shall be removed and replaced with 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's Representative.

1.18 TEMPORARY TOILETS

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

1.19 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. If applicable, 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's Representative, 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 equipment.

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- C. Contractor shall install meters at Contractor's expense and furnish the Contracting Officer's Representative a monthly record of the Contractor's usage of electricity as required.
- 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:
- E. Electricity (for Construction and Testing): Furnish all temporary electric services.
1. Obtain electricity by connecting to the VA Campus 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 VA Campus 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 Contracting Officer's Representative's discretion) of use of water from VA Campus system at no cost.
- G. 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 or reimbursed by the Contractor at Contractor's expense.

1.20 NEW TELEPHONE EQUIPMENT

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

1.21 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 the Contracting Officer's Representative. 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 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.

1.22 INSTRUCTIONS

- A. Contractor shall furnish Maintenance and Operating Manuals and verbal instructions when required by the various sections of the specifications and as hereinafter specified.
- B. Manuals: Maintenance and Operating Manuals (two copies each plus pdf file) for each separate piece of equipment shall be delivered to the Contracting Officer's Representative 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 manufacturer representatives to give detailed instructions to assigned VA 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 Contracting Officer's Representative and shall be considered concluded only when the Contracting Officer's

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Representative is satisfied in regard to complete and thorough coverage. The VA reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the Contracting Officer's Representative, does not demonstrate sufficient qualifications in accordance with requirements for the above.

1.23 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 building.
- 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 building.
- D. Notify Contracting Officer's Representative 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 the Contracting Officer's Representative. At such time the Contractor shall acknowledge receipt of equipment described, make notations, and immediately furnish the Contracting Officer's 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 Contracting Officer's Representative.
- 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

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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.

1.24 RELOCATED EQUIPMENT 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 Contracting Officer's Representative.
- C. 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.

1.25 CONSTRUCTION SIGN

- A. Provide a Construction Sign where directed by the Contracting Officer's Representative. All wood members shall be of framing lumber. Cover sign frame with 24 gage galvanized sheet steel nailed securely around edges and on all bearings. Provide three 4 inch by 4 inch posts or equivalent round posts set four feet into ground. Set bottom of sign level at three feet above ground and secure to posts with through bolts. Make posts full height of sign. Brace posts with two by four inch material.
- 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 Contracting Officer's Representative.

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- D. Detailed drawing of a construction sign showing required legend and other characteristics of sign will be available from the Contracting Officer's Representative.

1.26 SAFETY SIGN

- A. Provide a Safety Sign where directed by Contracting Officer's Representative. Face of sign shall be 3/4 inch thick exterior grade plywood. Provide two four by four inch posts extending full height of sign and three feet into ground. Set bottom of sign level at 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 and approved by Contracting Officer's Representative.
- C. Maintain sign and remove it when directed by Contracting Officer's Representative.
- D. Detailed drawing of a safety sign showing required legend and other characteristics of sign will be available from the Contracting Officer's Representative.
- E. Post the number of accident free days on a daily basis.

1.27 PHOTOGRAPHIC DOCUMENTATION - NOT USED**1.28 FINAL ELEVATION DIGITAL IMAGES - NOT USED****1.29 HISTORIC PRESERVATION**

- A. 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 Contracting Officer's Representative verbally, and then with a written follow up.

1.30 PROJECT PHASING/CONSTRUCTION SEQUENCING & OCCUPANCY:

The project shall be phased in accordance with the Contract Documents and as summarized below:

SEQUENCE 1:

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Duration- 6 months

New Addition**1a. Site Work (Civil and Landscape)**

- Locate and build temporary pedestrian pathway and enclosure in front of building 100 ED site.
- Fence Site and construction staging area. Location of construction staging area is indicated, but Final perimeter of construction staging area to be approved by COR prior to start of construction.
- Site demolition of site paving at building footprint.
- Verify location of electrical and water Utilities. Relocated as needed.
- Construction and complete installation of 10" diameter storm drains and 8" sanitary sewer pipe to be located in the landscape frontage.
- Connect new storm and sewage drains with new points of connection of existing building and to new addition.
- No landscape work to be done during this sequence.

1b. Building (Structural and Architectural)

- Prepare compaction of soil and preparation for foundation and concrete slab on grade.
- Demolish exterior CMU wall enclosure at front of ED department
- Construct 1 hour construction resistive barriers with STC rating of 42-45 along southern elevation GL I façade and along GL 1 façade immediately after precast are to be removed. See Structural drawings. Refer to drawings of precast panels shop drawing by Tecon Pacific (1980 South River Road, West Sacramento, CA 95691, Tel (916) 371-0305.) for exact dimensions, locations and structural supports
- Structural supports to be added to second floor level panels
- Pour slab on grade
- Erect Structure Steel and metal deck. Pour concrete on metal deck
- Erect Cold Steel Framing

Interior Renovation:**Architectural**

- Prepare 1 hour construction barrier pathway along corridor behind ED Suite for staff to exit. Fully enclose corridor C07 for duration entire duration of phase one and build temporary pedestrian path. See AD drawings.
- Prepare 1 hour construction barrier on upper floors for construction of shaft enclosure through levels 2, 3, 4 and roof.
- Construct 1 hour construction barriers along Gridline and build doors out to construction staging area for material access and removal.

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- Install and build an exit door from the ED out into protected pedestrian pathway out of construction area. See AD drawings.
- Demolish walls, floors, ceilings as shown on AD series drawings.
- Maintain (repair and or re-fire proof) fire-rated assemblies which includes columns, slabs, beams, wall penetrations, caulking.
- Maintain the structure and finish of all existing walls, columns, beams, wall penetrations. Repair or replace any existing building elements (interior and exterior) that gets damaged or discolored due to construction activity.
- Build and install new walls, ceilings, lighting fixtures and floor finishes per AE drawings.
- Build new curbs structural supports for SA and RA to AHU.
- Building a small enclosure around roof penetration for the mechanical ducts.
- Install all medical equipment (including headwalls) and structural bracing required per code. See Structural Drawings for anchorage details and schedule.
- Coordinate timing of next sequence of work with COR and ED staff.
- Prepare the removal and installation of 1 hour construction barrier.
- Clean and sterilize area prior to occupancy of patients and staff.

Mechanical

- Perform test and balance of all mechanical system of existing system at all related work area, and include the main mechanical equipment such as the AHU and exhaust fans serving the scope of work.
- Demolish all mechanical components on level 1 as shown on plan drawing. Cap all ductwork that are going to have future connection as shown.
- Demolish supply air ductwork serving MED A2-120A and C. UTIL A2-122 on level 2 as shown on drawing plan. Cap supply air ductwork where the demolished components were connected.
- Demolish supply air ductwork serving Medical room and Clean utility room on level 3 as shown on drawing plan. Cap supply air ductwork where the demolished components were connected.
- Demolish ductwork on level 4 as shown on plan drawing. Cap ductwork where the demolished component were connected.
- Connect all new ductwork to existing point of connections on level 1 as shown on plan drawing.
- Connect new ductwork to existing point of connections on level 2 as shown on plan drawing.
- Connect new ductwork to existing point of connections on level 3 as shown on plan drawing.
- Connect new ductwork to existing point of connections on level 4 as shown on plan drawing.
- Install risers for supply return and exhaust system through the roof.
- Layout ductwork on the roof as shown on roof plan drawing. Connect supply and return ductwork to existing AHU-16.

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- Install exhaust fans as shown on the roof with associated mechanical accessories.
- Perform test and balance of all mechanical system including newly installed air outlets and all newly installed terminal units to make sure that design intent is met.

Plumbing

- Demolish all plumbing fixtures and associated water piping back to shutoff valves as shown on plans; demo associated vent and waste piping as shown on plans; demo hot water main between grid H&2 - F&2 as shown.
- Provide new plumbing fixtures with associated piping connected back to existing systems. Re-route new HW main with new branches as shown. Extend (E) underground storm, overflow storm and sanitary main to new exterior civil mains in new area south of grid I. Provide new underground piping as shown in new area south of grid I.

Medical Gasses

- Shut off valves for Extend (E) Oxygen, Medical Air and Medical Vacuum mains at G&6. Demo and plug the branches around (E) ENTE room as shown on plans, after cleaning, inspection and testing, turn back on the shut offs valves. Shut off valves at H&4. Demo and plug the branches back to the shut off valves.
- Extend (E) Oxygen, Medical Air and Medical Vacuum mains to the new medical valve box, and connect to the new medical gas outlets as shown.

Electrical

- Build a new electrical room.
- Install new electrical equipment.
- Tie the new electrical gear to the existing main electrical room. Refer to the electrical single-line for details.
- Test and commission the new electrical system.
- Energize the new electrical room.
- Demolish the existing electrical room, and discard the electrical gear.
- Existing bus ducts to remain.
- Demolish the riser bus ducts sections located in the first floor, and terminate at the bottom of the second floor slab. Refer to the electrical single-line for details.
- Provide a new connection between the new feeders and the existing riser bus ducts. Refer to the electrical single-line for details.
- Demo all the existing spaces as indicated on the architectural and electrical drawings.
- Provide new wiring and conduits to all the new spaces per the architectural and electrical drawings.
- Provide new lighting and controls to all the new spaces per the architectural and electrical drawings.

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- Extend new wiring and conduits to the existing spaces that fall outside of sequence 1 boundary line. Refer to the electrical drawings for points of connection.
- Provide new wiring and conduits to the mechanical exhaust fans located on the roof.
- Provide a new power and control connection to the site lighting.

Telecomm

In accordance with contract documents

SEQUENCE 2:

Duration- 9 months.

New Addition:

- Install exterior finishes - exterior Sheathing, waterproofing and curtain wall, composite metal panels.
- Install roof drains, cold formed BUR and parapets
- Frame all interior partitions with cold metal steel.
- Install electrical, telecom conduits and boxes
- Install backing plates for equipment, casework, handrails, bathroom accessories
- Rough in recessed areas for fire cabinets
- Install Gyp board walls and soffits, ceilings.
- Install framing for acoustical ceiling, all braced wall conditions.

Interior Renovation:

Architectural

- Prepare 1 hour construction barrier within suite. Maintain doors to the construction staging area for material access and removal.
- Install and build an exit door from the ED out into protected pedestrian pathway out of construction area. See AD drawings, sequence 2.
- Demolish walls, floors, ceilings as shown on AD series drawings.
- Maintain (repair and or re-fire proof) fire-rated assemblies which includes columns, slabs, beams, wall penetrations, caulking.
- Maintain the structure and finish of all existing walls, columns, beams, wall penetrations. Repair or replace any existing building elements (interior and exterior) that gets damaged or discolored due to construction activity.
- Build and install new walls, ceilings, lighting fixtures and floor finishes per AE drawings.
- Install all medical equipment (including headwalls) and structural bracing required per code. See Structural Drawings for anchorage details and schedule.
- Coordinate timing of next sequence of work with COR and ED staff.
- Prepare the removal and installation of 1 hour construction barrier.

Expand Emergency Department Services

- Clean and sterilize area prior to occupancy of patients and staff.

Mechanical

- Demolish all mechanical components on level 1 as shown on plan drawing. Cap all ductwork that are going to have future connection as shown on plan drawing.
- Connect all new ductwork to existing point of connections on level 1 as shown on plan drawing.
- Perform test and balance of all mechanical system including newly installed air outlets and all newly installed terminal units to make sure that design intent is met.

Plumbing

- Demo all plumbing fixtures and associated water piping back to shutoff valves as shown on plans; demo associated vent and waste piping as shown on plans; demo hot water main between grid H&1 - H&2 as shown.
- Provide new plumbing fixtures with associated piping connected back to existing systems. Re-route new HW main with new branches as shown.

Medical Gasses

- No demolition is this sequence
- Extend (E) Oxygen, Medical Air and Medical Vacuum mains from the shut off valves to the new medical gas wall outlets as shown.

Electrical

- Demo all the existing spaces as indicated on the architectural and electrical drawings.
- Provide new wiring and conduits to all the new spaces per the architectural and electrical drawings.
- Provide new lighting and controls to all the new spaces per the architectural and electrical drawings

SEQUENCE 3:

Duration- 3 months.

New Addition/Interior Renovation

- Staff moves into new portion of ED space before demolition for next phase can begin.
- Remove all construction barriers prior to stud framing at new addition side along gridline I. Frame corridor and door from the new addition to existing ED space.

Expand Emergency Department Services

- Material disposal and construction staging area access is through new addition. Protect concrete slab from damage.
- Finish installation of dry wall. Final finishes in the new addition can begin after interior demolition is complete. (all equipment, lightings, ceiling tiles, wood ceiling to be installed).

Mechanical

Demolish all mechanical components on level 1 as shown on plan drawing. Cap all ductwork that are going to have future connection as shown on plan drawing.

Plumbing

- Demolish all plumbing fixtures and associated water piping back to shutoff valves as shown on plans; demo associated vent and waste piping as shown on plans; demo hot water main between grid H&3 - H&3 as shown.
- Provide new plumbing fixtures with associated piping connected back to existing systems. Re-route new HW main with new branches as shown. Provide new roof drain and pipe to underground storm, provide new overflow roof drains and pipe to daylight to exterior.
- Provide new exterior wall hydrant and pipe CW to it.

Medical gas

- Shut off valves for Extend (E) Oxygen, Medical Air and Medical Vacuum branches at I&4. Demo and plug the branches as shown on plans.
- Extend (E) Oxygen, Medical Air and Medical Vacuum branches to the new medical gas outlets as shown.

Electrical

- Demo all the existing spaces as indicated on the architectural and electrical drawings.
- Provide new wiring and conduits to all the new spaces per the architectural and electrical drawings.
- Provide new lighting and controls to all the new spaces per the architectural and electrical drawings

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SECTION 01 32 16.15
PROJECT SCHEDULE

PART 1- GENERAL

1.1 DESCRIPTION

- A. The Contractor shall develop a plan and schedule demonstrating fulfillment of the contract requirements (Project Schedule). The Contractor shall keep the Project Schedule up-to-date and shall utilize it for scheduling, coordinating and monitoring work under this contract (including all activities of subcontractors, equipment vendors and suppliers).

1.2 CONTRACTOR'S REPRESENTATIVE

- A. The Contractor shall designate an authorized representative responsible for the Project Schedule including preparation, review and progress reporting with and to the Contracting Officer's Representative.
- B. The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the requirements of this contract.

1.3 SCHEDULES AND UPDATES

- A. The contractor shall provide monthly, to the Contracting Officer's Representative an updated Project Schedule.
- B. The contractor shall be responsible for the correctness and timeliness of any updated Project Schedule and payment requests.

1.4 PROJECT SCHEDULE SUBMITTAL

- A. Within 10 calendar days after receipt of Notice to Proceed, the Contractor shall submit the Project Schedule for the Contracting Officer's Representative's review and written approval. The submittal shall include project duration, phase completion dates, activities/events duration and activities/event allocated/loaded cost. Each activity/event on the schedule shall contain a name/number ID, description, duration, allocated cost, early start date, early finish date, late start date, late finish date and total float. The Project Schedule shall reflect the entire contract duration as defined in the contract. Changes/delays shall be entered at the first update after receipt of approval. The Contractor shall provide written requests for time extensions as a result of contract changes/delays.
- C. The Project Schedule shall constitute the approved Baseline Schedule until subsequently revised.
- D. The Project Schedule shall include all major work.

1.5 WORK ACTIVITY/EVENT COST DATA

- A. The Contractor shall cost load all work activities/events except procurement activities. The cumulative amount of all cost loaded work activities/events shall equal the total 90% contract price. The remaining 10% will be held until all requirements of the contract have been completed. The Contractor shall prorate overhead, profit and general conditions on all work activities/events for the entire project length. The contractor shall generate from this information cost curves indicating graphically the total percentage of work activity/event dollar value scheduled versus actual.
- D. The Contractor shall cost load activities/events for all work. Periodic payments shall be approved only for work activities that have been 100% completed and for equipment and material that has been delivered to the work site.

1.6 PROJECT SCHEDULE REQUIREMENTS

- A. Show on the Project Schedule the sequence of work activities/events required for complete performance of all items of work. The Contractor Shall:
1. Show activities/events such as:
 - a. Contractor's time required for submittal of shop drawings, templates, fabrication, delivery and similar pre-construction work.
 - b. Contracting Officer's Representative's and Architect/Engineer's review and approval of shop drawings, equipment schedules, samples, templates, or similar items.
 - c. Interruption of VA Facilities utilities, delivery of Government furnished equipment, and rough-in drawings, project phasing and any other specification requirements.
 - d. Test, balance and adjustment of various systems and pieces of equipment, delivery of maintenance and operation manuals, instructions and maintenance tasks.
 - e. VA inspection and acceptance with a minimum duration of five work days at the end of each phase and immediately preceding any VA move required by the contract phasing for that phase.
 - f. VA activation period between each phase (sequence), which shall be approximately thirty (30) days and will be confirmed by the VA. Activation and relocation shall be fully completed for each phase before Contractor may begin the subsequent construction phase.

(Add#01)

g. Contractor to provide a minimum of a thirty (30) day prior notification to the VA regarding the projected completion date of each phase (sequence). (Add#01)

3. Break up the work into activities/events with a duration no longer than one reporting period, except as to non-construction activities/events and any activities/events for which the Contracting Officer's Representative may approve the showing of a longer duration. The duration for VA approval of any required submittal, shop drawing, or other submittals will not be less than 14 work days.
 4. Describe work activities/events clearly, so the work is readily identifiable for assessment of completion.
- C. To the extent that the Project Schedule or any revised Project Schedule shows anything not jointly agreed upon, it shall not be deemed to have been approved by the Contracting Officer's Representative. Failure to include any element of work required for the performance of this contract shall not excuse the Contractor from completing all work required within any applicable completion date of each phase regardless of the Contracting Officer's Representative's approval of the Project Schedule.

1.7 PAYMENT TO THE CONTRACTOR:

- A. The Contractor shall be entitled to a monthly progress payment upon approval of costs as determined from the currently approved updated Project Schedule. Monthly payment requests/invoices shall include: a listing of all agreed upon project schedule changes and associated data and an updated Project Schedule.
- B. Approval of the Contractor's invoice shall be contingent on, among other factors, the submittal of a satisfactory monthly update of the Project Schedule.

1.8 PAYMENT AND PROGRESS REPORTING

- A. Monthly schedule update meetings will be held on dates mutually agreed to by the Contracting Officer's Representative and the Contractor. Contractor shall attend all monthly schedule update meetings. The Contractor shall accurately update the Project Schedule and all other data required and provide this information to the Contracting Officer's Representative three work days in advance of the scheduled update meeting.

1.9 RESPONSIBILITY FOR COMPLETION

- A. If it becomes apparent from the current revised monthly Project Schedule that phasing or contract completion dates will not be met, the Contractor shall execute some or all of the following remedial actions:
1. Increase construction manpower in such quantities and crafts as necessary to eliminate the backlog of work.
 2. Increase the number of working hours per shift, shifts per working day, working days per week, the amount of construction equipment, or any combination of the foregoing to eliminate the backlog of work.
 3. Reschedule the work in conformance with the specification requirements.
- B. Prior to proceeding with any of the above actions, the Contractor shall notify and obtain approval from the Contracting Officer's Representative for the proposed schedule changes. If such actions are approved, the representative schedule revisions shall be incorporated by the Contractor into the Project Schedule before the next update.

1.10 ADJUSTMENT OF CONTRACT COMPLETION

- A. The contract completion time will be adjusted only for causes specified in this contract. Request for an extension of the contract completion date by the Contractor shall be supported with a justification, data and supporting evidence necessary for determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract. Submission of proof based on revised activity/event logic, durations (in work days) and costs is required for any approvals. The schedule must clearly display that the Contractor has used, in full, all the float time available for the work involved in this request. The Contracting Officer's Representative's determination as to the total number of days of contract extension will be based upon the current Project Schedule for the time period in question and any other relevant information.
- B. Actual delays in activities/events which, according to the schedule, do not affect the extended and predicted contract completion date shown by the critical path in the network, will not be the basis for a change to the contract completion date. The Contracting Officer's Representative will, within a reasonable time after receipt of a request with justification and supporting information, review the facts and advise the Contractor in writing of the Contracting Officer's Representative's decision.

C. The Contractor shall submit each request for a change in the contract completion date to the Contracting Officer's Representative in accordance with the provisions specified under FAR 52.243-4 (Changes) and VAAR 852.236-88 (Changes - Supplemental). The Contractor shall include, as a part of each change request, a sketch showing all schedule logic revisions, duration changes, and cost changes for work in question and its relationship to other activities on the approved Project Schedule.

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SECTION 04 72 10**STONE VENEER WALL****PART 1 - GENERAL****1.1 DESCRIPTION**

- A. This section specifies stone veneer planter using natural stone.

1.2 RELATED WORK

- A. Stone specified: Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Section 32 13 20, SITE CONCRETE
- C. Concrete Reinforcing Steel Institute (CRSI): "Manual of Standard Practice" and "Recommended Practice for Placing Reinforcing Bars".
- D. California Code of Regulations, Title 24, 2007 Edition, also known as California Building Code (CBC).
- E. Sustainable design requirements and procedures including submittal requirements: Section 01 81 11, SUSTAINABLE DESIGN REQUIREMENTS.
- F. Procedures and requirements for managing and disposing construction and demolition waste: Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT.

1.3 QUALITY ASSURANCE

- A. Pre-installation Conference: Conduct conference at Project site with VA COR.
- B. Stone samples for comparison of quality and color are available from the Landscape Architect or Contracting Officer. Contractor shall request access to these samples for review, prior to submitting samples for approval.
- C. Preconstruction Soil Testing: Engage a qualified independent testing agency to test soil reinforcement and backfill materials for compliance with design criteria.
- D. Installer Qualifications: Firm specializing in design and installation of stone walls and :
1. With not less than 2 years documented experience.
 2. With a minimum of five previously constructed successful projects, similar in size and magnitude, using specified wall system; Provide contact names and numbers.
 3. Site supervisor with verifiable qualified experience suitable for this project.

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1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Samples:
 - 1. Stone, samples 4 by 12 by 12 inches, each color and finish.
 - 2. Stone cap, end condition and full size, 1 color and finish. Finish on all 4 exposed faces as shown on Drawings.
- C. Shop Drawings:
 - 1. Stone showing exposed faces, profiles, cross sections, anchorage, reinforcing, jointing and sizes.
- D. List of jobs furnished by the manufacturer, which were similar in scope and at least three (3) years of age.
- E. Mockups: Build 8' long sample planter wall mockup including veneer over prepared, tested and approved concrete wall core to verify selections made under sample submittals and to demonstrate functional and aesthetic effects and set quality standards for materials and execution. Mockup should include color range, texture, bond pattern, and joints. Mockup shall include the corner end condition and cap throughout. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion. Do not continue masonry work until mock-up has been approved by VA COR. Approved mock up shall be the standard of workmanship for the Project.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Store cement, sand, Lime and stone under waterproof covers on planking clear of ground.
- B. Protect Stone from handling, dirt, stain, and water damage.

1.6 WARRANTY

- A. Warranty exterior masonry walls against moisture leaks, any defects and subject to terms of "Warranty of Construction", FAR clause 52.246-21. Provide manufacturer's five year specialty warranty.

1.7 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by the basic designation only. Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified.
- B. Cast Stone Institute Technical Manual and Cast Stone Institute standard specifications.
- C. American Society for Testing and Materials (ASTM):

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1. A167-99 (2004) Stainless and Heat Resisting Chromium- Nickel Steel Plate, Sheet, and Strip
2. A185-07 Steel, Welded Wire Fabric, Plain for Concrete
3. A615/A615M-08 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
4. C33-07 Concrete Aggregates
5. C150-07 Portland Cement
6. C503-08 Marble Dimension Stone (Exterior)
7. C568-08 Limestone Dimension Stone
8. C615-03 Granite Dimension Stone
9. C616-08 Quartz-Based Dimension Stone
10. C979-05 Pigments for Integrally Colored Concrete

PART 2 - PRODUCTS

2.1 PORTLAND CEMENT: ASTM C150, TYPE I.

2.2 SAND: ASTM C144; NATURAL SAND CONTAINING NOT MORE THAN 2% OF SILT AND CLAY BY WEIGHT WITH SPECIFIC GRAVITY NOT LESS THAN 2.65.

2.3 LIME: ASTM C5, SLAKE; SCREEN THROUGH 16 MESH, THEN STORE AND PROTECT FOR 10 DAYS.

2.4 PLANTER WALL SOLID STONE UNITS

A. Natural stone quarried and sawn (except for face) into rectangular shapes and sizes for the planter wall as shown on Drawings.

1. Stone Type: Limestone
2. Color:
 - a. "Chocolate" or approved equal in medium brown tones. Wall should consist of 2/3 this color, except for the cap. Cap shall be 100% "Chocolate".
 - b. "Caramel" or approved equal in light brown or khaki tones. Wall should consist of 1/3 this color, except for the cap. (Add#01).
3. Stone native location: Lueders, Texas
4. Texture: Split face on all exposed sides. Contractor shall cut, fabricate, and hand-work the stone in any combination of the 3, as necessary to produce the veneer and cap pieces as specified and as shown on the Drawings. Exceptions to the split face finish on all exposed sides are not acceptable.
5. Saw cut on all non-exposed sides.
6. Face Shape: rectangular with 90 degree corners and parallel sides
7. Individual Stone Height: Varies shown on Drawings.

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8. Individual Stone Length (face Width): Varies as shown on Drawings.
 9. Width (Depth from Face) As Shown on Drawings.
 10. Warp bow or twist of stone shall not exceed length/360 or 1/8 inch, whichever is greater.
 11. Moisture Absorption: 6 percent, maximum
 12. Compressive Strength, Dry: 9,000 psi minimum.
 13. Dimensional Tolerances: Plus/minus 1/8 inch from specified dimensions.
 14. Appearance: Natural quarried face without machine marks or scrapes.
 15. Sawn as indicated within these specs shall be means and methods by the Contractor. The Contractor shall proceed in a manner that produces the stone units required as specified herein and as shown on the Drawings. Any Stone that does not meet dimensional or finish Specification will be rejected at the Contractor's expense.
- B. Concrete Wall Core and Foundation: Reinforced concrete with compressive strength of 3,000 psi minimum.
- C. Drainage backfill: Class 2 permeable backfill per Caltrans with Subsurface Drain system as described herein.
- 2.5 GROUT:** CONSIST OF 1 PART PORTLAND CEMENT AND 3 PARTS SAND. ADD UP TO 10% LIME. WHEN THE GROUT CORE IS 2" OR MORE WIDE, ADD 2 PARTS OF PEA GRAVEL TO THE ABOVE GROUT MIX. ADD WATER TO GROUT TO CAUSE IT TO FLOW WITHOUT SEGREGATION INTO ALL VOIDS INTENDED TO BE FILLED, AND TO PRODUCE A 28-DAY STRENGTH OF 2000 PSI. PLASTER SAND MAY BE ADDED TO PREVENT SEGREGATION, PROVIDED STRENGTH IS MAINTAINED. COLOR: MEDIUM TO LIGHT GRAY COLOR ADDED TO MORTAR. SUBMIT COLOR SAMPLES FOR ACCEPTANCE BY VA COR.
- 2.6 REINFORCING MATERIALS**
- A. New, free of rust, Billet steel bars: Current ASTM designation A615.
- B. Bar Reinforcement: ASTM A615.
1. #3 and smaller: Grade 40.
 2. #4 and larger: Grade 60.
 3. Tie wire: #6 minimum, black and annealed.
- C. Bar Reinforcement recycled content shall be a minimum of 75% recycled post consumer steel.
- D. All anchors, dowels and other anchoring devices and shims shall be standard building stone anchors commercially available in a non-corrosive material such as zinc plated, galvanized steel, brass, or stainless steel Type 302 or 304.
- E. Stone anchors shall be as required to meet joint spacing indicated on Drawings.

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2.7 ANCILLARY MATERIALS

- A. Dampproofing: Per CALTRANS Standard Specifications, Section 54.
- B. Subsurface Drain behind Retaining-Type Walls: All walls that retain 30 inches of soil or more shall include a subsurface drainage system to relieve water pressure in accordance with Section 68 of the CALTRANS Standard Specifications and as shown. If no subsurface drain is shown, provide corrugated polyethylene plastic tubing per 68-1.02K surrounded with an envelope of Class 2 permeable material per 68-1.025 and wrapped with filter fabric per 68-1.028. Connect drains to storm drain system as accepted by VA COR.

PART 3 - EXECUTION**3.1 PREPARATION**

- A. Provide testing and subgrade preparation complete.
- B. Provide subgrade preparation and the base material installation complete, including clearing, grading, excavation, filling and dewatering. Take every precaution to obtain a subgrade of uniform bearing power compacted to a minimum of 95% relative compaction as determined by the ASTM D1557 laboratory test procedure and in Sections 19 and 20 of the Caltrans Standard Specifications.
- C. Do any necessary finish grading and compaction in addition to that performed in accordance with earthwork to bring subgrades after final compaction to required grades and sections as indicated. Place no material on muddy subgrade. Remove un-compactable material and replace with clean fill and compact as required.
- D. Excavate to lines and grades shown on Drawings. Do not disturb embankment or foundation beyond lines. Minimize over-excavation.
- E. After excavation and prior to placement of leveling materials, Contractor's Geotechnical engineer shall examine bearing soil surface to verify strength meets or exceeds design requirement and assumptions and issue report to VA COR for acceptance. Replace any unsuitable bearing soil as directed by Geotechnical Engineer.

3.2 REINFORCEMENT

- A. Concrete wall and footing shall be steel reinforced

3.3 INSTALLATION

- A. Install in accordance with Drawings and applicable codes and regulations.
 - 1. Erection Tolerances:
 - a. Variation for face plane of a solid stone unit (split faced surface) may be 1/4" maximum.

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- b. Offset from true alignment between two connecting members (adjacent stone units) may be 3/8" maximum.
 - c. Joint spacing as indicated on Drawings. Deviation from specified joint spacing shall be 1/8 inch maximum for horizontal joints, 1/4 inch maximum for vertical joints.
- 2. Mortar joints as shown on Drawings. Recess mortar joints as shown on Drawings. Provide pitch on joints in top surface of wall to drain. Strike all joints to provide dense mortar.
- 3. Place first course of units on concrete foundation; check alignment and level. Check for full contact with base and for stability.
- 4. Place units side by side aligning face of wall using string line or offset from base line.
- 5. Insert anchoring devices as required. Check for proper alignment and batter. Place succeeding courses.

B. Setting Stones:

- 1. Distribute stones as shown on drawings. Brush free of dust or other foreign matter and thoroughly wet before placing. Set in full mortar beds.
- 2. Provide sufficient number of stones to install complete wall from lines and grades shown on the drawings and details.

3.4 DAMPPROOFING

- A. Mop apply one heavy coat of asphalt to a minus 2 inches below finished soil grade on soil side of retaining wall.

3.5 CLEANUP:

- A. Exercise care that no mortar or grout comes in contact with exposed face of work. Clean immediately.
- B. Use only stiff fiber brushed and wooden scrapers in keeping work clean as it progresses or in cleaning down at completion. Use no metal implements.

3.6 CONSTRUCTION WASTE MANAGEMENT

- A. General: Comply with Contractor's Waste Management Plan and Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT.
- B. To the greatest extent possible, separate reusable and recyclable products from contaminated waste and debris in accordance with the Contractor's Waste Management Plan. Place recyclable and reusable products in designated containers and protect from moisture and contamination.

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Renovate Emergency Department Facilities

**SECTION 11 73 00
CEILING MOUNTED PATIENT LIFT SYSTEM****PART 1 - GENERAL****1.1 DESCRIPTION**

Ceiling Mounted Patient Lift Systems for the transfer of physically challenged patients are specified in this section.

1.2 RELATED WORK

- A. Section 01 00 00, GENERAL REQUIREMENTS: Requirements for pre-test of equipment.
- B. Section 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS: Seismic requirements for non-structural equipment.
- C. Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS: General Electrical Requirements and items, which are common to sections of Division 26.

1.3 QUALITY ASSURANCE

- A. Certification for compliance is required for Ceiling Mounted Patient Lift Systems. Certifications shall be provided by an independent third party who will conduct testing to ensure that the ceiling lift and charging system are safe and in compliance with ISO 10535 & UL 60601-1
- B. Inspection of equipment after installation is required prior to use for patient movement. Inspection shall be in accordance with manufacturer's installation checklist and the facilities installation checklist (Patient Safety Alert AL14-07).

1.4 SUBMITTALS

- A. Submit in accordance with specification Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- B. MOCK-UP: Contractor is required to mock-up the patient lift to confirm the proper placement of the patient lift (relative to the room walls and ceiling, headwall, ceiling lights, hospital bed, etc.), which shall be reviewed and approved by the VA prior to actual installation of the patient lifts. A location for the mock-up will be provided by the VA for Contractor's use. (Add#01)
- BC. Certificates of Compliance
- ED. Manufacturer's Literature and Data:
 - 1. Lifting Capacity
 - 2. Lifting Speed
 - 3. Horizontal Displacement Speeds

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4. Horizontal Axis Motor
 5. Vertical Axis Motor
 6. Emergency Brake
 7. Emergency Lowering Device
 8. Emergency Stopping Device
 9. Electronic Soft-Start and Soft-Stop Motor Control
 10. Current Limiter for Circuit Protection
 11. Low Battery Disconnect System
 12. Strap Length
 13. All equipment anchors and supports. Submittals shall include weights, dimensions, center of gravity, standard connections, manufacturer's recommendations and behavior problems (e.g., vibration, thermal expansion,) associated with equipment or piping so that the proposed installation can be properly reviewed.
- DE.** Individual Room layouts showing location of lift system installation shall be approved before proceeding with installation of lifts.
- EF.** Manufacturer's Checklist for after installation inspection.

1.5 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are listed in the text by the basic designation only.
- B. International Organization for Standardization (IOS):
10535-06.....Hoist for the Transfer of Disabled Persons-
Requirements and Test Methods
- C. Underwriters Laboratories (UL):
60601-1(2003).....Medical Electrical Equipment: General
Requirements for Safety
94-2013.....UL Standards for Safety Test for Flammability
of Plastic Materials for Parts in Devices and
Appliances-Fifth Edition
- D. International Electromagnetic Commission (IEC):
801-2(1991).....Electromagnetic Compatibility for Industrial-
Process Measurement and Control Equipment-Part
2: Electromagnetic Discharge Requirements
- E. Patient Safety Alert AL14-07

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PART 2 - PRODUCTS**2.1 CEILING TRACK SYSTEM**

The Ceiling Track shall be made from high strength extruded aluminum T66081-T5 at a thickness of 3/16" (4.8mm). Provide anchor supports at a minimum 3 per linear foot at ceiling substrate. The ceiling track shall be finished with baked enamel paint.

2.2 LIFT UNIT

- A. The Lift Unit shall be constructed of a steel frame system (2205lbs / 1000kg tested) driven by a gear reduced high torque motor
- B. The Lift system shall have the following features.
 - 1. Lifting capacity: 600 lbs (200 kg)
 - 2. Electronic soft-start and soft-stop motor control
 - 3. Emergency lowering device
 - 4. Emergency stopping device
 - 5. Current limiter for circuit protection in case of overload.
 - 6. Safety device that stops the motor to lift when batteries are low.
 - 7. Lifting speed: 2.3in/s (6 cm/s), 1.6in/s (3.5cm) in full capacity
 - 8. Horizontal displacement speed: 5.9in/s (150mm/s)
 - 9. Horizontal axis motor: 24VDC at 62 watts and vertical axis motor at 110 watts
 - 10. Emergency brake (in case of mechanical failure)
 - 11. Strap length up to 90in (2.3m) tested for 2998lbs (1360kg)
 - 12. Cab: VO plastic-fire retardant, UL 94
 - 13. Wireless remote control (optional)

2.3 MOTORS

- A. Vertical Movement-DC Motor
 - 1. Type: Class A, fully enclosed, permanent magnet.
 - 2. Rating: 24Vdc, 1.1A, 110W, 4000RPM, 0.3N-m.
 - 3. Mounting: Secured to chassis.
- B. Horizontal Movement-DC Motor
 - 1. Type: Fully enclosed, permanent magnet, integral reducer.
 - 2. Rating: 24Vdc, 1.8A, 62W, 260RPM, 1.0N-m.
 - 3. Mounting: Secured to chassis.

2.4 BATTERIES

- A. The life cycle (number of charging cycles) for batteries shall be in compliance with IEC 801-2.

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- B. Provide rechargeable batteries with up to 120 transfers with a load of 200lbs (74kg) and up to 70 transfers with its maximum load of 440lbs (200kg).

2.5 CHARGER

- A. Charger Input: 100-240 Vac, 50/60 Hz.
- B. Charger Output: 27 Vdc, 1 A max.
- C. Supplemental to the charger provide a clip on charging station with indicator lights.

2.6 STRAPS AND SLING

- A. The straps shall be made of threaded nylon. The straps shall ensure the patient's safety by preventing the patient from falling out of the sling.
- B. The sling shall be made from a polyester/nylon net material that is pliable, breathable and easy to use. The sling shall cradle the body of the patient.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Install ceiling mounted patient lift system as per manufacturer's instruction and under the supervision of manufacturer's qualified representative and as shown on drawings.
- B. If the distance in between the suspended ceiling and anchors is more than 18" consult with manufacturer to determine if lateral braces will be required.

3.2 INSTRUCTION AND PERSONNEL TRAINING

Training shall be provided for the required personnel to educate them on proper operation and maintenance for the lift system equipment.

3.3 TEST

Conduct performance test, in the presence of the VA COR and a manufacturer's field representative, to show that the patient lift system equipment and control devices operate properly and in accordance with design and specification requirements.

3.4 INSPECTION

Inspection of installed ceiling mounted patient lift systems shall be conducted in accordance with the manufacturer's installation checklist and the facilities installation checklist (Patient Safety Alert AL14-07) prior to use for patient movement.

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