



**DEPARTMENT OF VETERANS AFFAIRS
ALED A. LUTZ VA MEDICAL CENTER
1500 WEISS STREET
SAGINAW, MI 48602**

**REPLACEMENT OF INTERIOR
EXPANSION JOINT COVERS BUILDING 1
VA Project No. 655-11-129**

Specifications

Prepared by:

**Department of Veterans Affairs
Aleda E. Lutz VA Medical Center
Facilities Management Service, Engineering Section**

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**DEPARTMENT OF VETERANS AFFAIRS
VHA MASTER SPECIFICATIONS**

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SECTION 00 01 15
LIST OF DRAWING SHEETS

The drawings listed below accompanying this specification form a part of the contract.

Drawing No.

Title

ARCHITECTURAL

A1-000.0	TITLE SHEET
A1-100.1	REPLACEMENT EXPANSION JOINTS BASEMENT FLOOR
A1-101.1	REPLACEMENT EXPANSION JOINTS FIRST FLOOR
A1-102.1	REPLACEMENT EXPANSION JOINTS SECOND FLOOR
A1-103.1	REPLACEMENT EXPANSION JOINTS THIRD FLOOR
A1-104.1	REPLACEMENT EXPANSION JOINTS FOURTH FLOOR
A1-105.1	REPLACEMENT EXPANSION JOINTS FIFTH FLOOR
A1-200.0	DETAILS

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SECTION 01 00 00
GENERAL REQUIREMENTS

1.1 GENERAL INTENTION

- A. Contractor shall completely prepare site for building renovation operations. To include demolition and removal of existing interior floor to floor expansion joints; and furnish labor and materials and perform work for replacement of interior floor to floor expansion joints and related work at the Aleda E. Lutz VA Medical Center, Saginaw, Michigan as required by drawings and specifications.
- B. Visits to the site by Bidders may be made only by appointment with the Medical Center Facilities Management Service, Project and Planning Office, VA Project Engineer (COR); Mr. Ernie Graham; Phone (989) 497-2500 ext. 13878.
- C. All employees of General Contractor and Subcontractors shall comply with VA Medical Center security management program and obtain VA identification badge issued by VA Human Resources Service, be identified by project and employer, and shall be restricted from unauthorized access to areas not impacted by construction activities.
- D. DEFINITIONS AND ACRONYMS USED IN THIS DOCUMENT:
 - 1. CO - Contracting Officer
 - 2. COR - Contracting Officer's Representative
 - 3. PE - Project Engineer
 - 4. VA Competent Person (OSHA) - Contracting Officer's Representative
 - 5. GEMS Coordinator - Green Environmental Management, Energy and Emergency Management Coordinator
- E. Prior to commencing work, GENERAL CONTRACTOR shall provide proof that a OSHA certified "competent person" (CP) (29 CFR 1926.20(b)(2)) will maintain a presence at the work site whenever the general or subcontractors are present.
- F. Training:
 - 1. All employees of General Contractor or Subcontractors (having supervisory authority over the project in total or over tradesmen on the project) shall have the 30-hour OSHA certified Construction

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Safety course and/or other relevant competency training, as determined by VA Competent Person.

2. All other employees of General Contractor or Subcontractors on the project shall have the 10-hour OSHA certified Construction Safety course and/or other relevant competency training, as determined by VACP.
3. All employees of General Contractor or Subcontractors on the project shall have the Hilti Company, Firestopping Caulking certified installation course and without this course they shall not be approved to work on the project.
4. Submit OSHA training records of all such employees for approval before the start of work.
5. Submit the Hilti Company Firestopping Caulking training records of all employees for approval before the start of work.

1.2 STATEMENT OF BID ITEM(S)

- A. **ITEM I, EXPANSION JOINT SYSTEM REPLACEMENT:** Work includes, removal of existing interior floor to floor expansion joints, floor tile removal, mosaic stone tile removal, preparation of blockouts for expansion joints, vinyl and mosaic floor tile replacement, painting, and certain other items of work at the Aleda E. Lutz VA Medical Center, Saginaw, Michigan as required by drawings and specifications.

1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

- A. AFTER AWARD OF CONTRACT, Contractor may make the number of sets he has need of from the electronic set furnished to him during the bidding process.

1.4 ADMINISTRATIVE WORKING HOURS:

- A. Administrative working hours for the Medical Center are normally between the hours of 7:00 A.M. to 4:30 P.M. excluding Saturday and Sunday.
- B. Contractor's work hours shall be as outlined under Phasing.
- C. If the Contractor desires to work during periods other than outlined under Phasing, the Contractor must make his/her request to the VAMC Project Engineer (COR) and VA Contracting Officer three (3) days in advance of his/her desire to work during other periods.

1.5 CONTRACTOR EMPLOYEE IDENTIFICATION AND EMPLOYEE BEHAVIOR ON VA MEDICAL CENTER SITE

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- A. On a per day or per visit basis, whichever occurs more frequently, all employees of the General Contractor and all Sub-Contractors, no matter at what tier, and all other contractor support personnel shall be required to SIGN-IN at the Aleda E. Lutz VA Medical Center, Facilities Management Service office, pick up and wear a VA Medical Center NUMERICAL identification badge while on the premises and in the buildings of the Aleda E. Lutz VA Medical Center. The badge will be worn in such a manner as to be visible at all times, and will be located between the waist and the neck on the front of the wearer. A plastic badge, not less than 2 inches by 3 1/2 inches, is required for identification of Contract employees while on the job site. Any employees not having a badge shall be ordered to leave the medical center site immediately.
- B. On a daily or per visit basis all employees of the General Contractor and all Sub-Contractors, no matter at what tier, and all other contractor support personnel wearing a VA Medical Center NUMERICAL identification badge shall be required to TURN-IN their VA Medical Center NUMERICAL identification badge and SIGN-OUT at the Aleda E. Lutz VA Medical Center, Facilities Management Service office.
- C. All employees of the General Contractor and all Sub-Contractors, no matter at what tier, scheduled to be assigned to this project for a total of thirty calendar days or longer during the total duration of this contract shall be required to be finger printed by the VA Human Resources service, issued a VA photo identification badge to hold in their possession until their assignment to the project is ended, SIGN-IN at the Aleda E. Lutz VA Medical Center, Facilities Management Service office daily, and wear a VA Medical Center photo identification badge while on the premises and in the buildings of the Aleda E. Lutz VA Medical Center. The badge will be worn in such a manner as to be visible at all times, and will be located between the waist and the neck on the front of the wearer. Any employees not having a badge shall be ordered to leave the medical center site immediately.
- D. On a daily or per visit basis all employees of the General Contractor and all Sub-Contractors, no matter at what tier, and all other contractor support personnel wearing a VA Medical Center photo identification badge shall be required to SIGN-OUT at the Aleda E. Lutz VA Medical Center, Facilities Management Service office daily.
- E. Objectionable Employees: The VA Contracting Officer, in writing, may require the Contractor to remove from the work site, area, or Medical

Center objectionable employees. Objectionable employees include those employees not properly attired or those employees using obscene gestures or profane language, or accused of involvement in criminal or illegal activities.

1.6 IDENTIFICATION OF CONTRACTOR'S AND MATERIAL SUPPLIERS MECHANIZED EQUIPMENT

- A. All Contractor's machinery, motor vehicles, and mechanized equipment shall have acceptable identification showing the owner's name and identifying number. This identification shall be posted in a conspicuous location on each piece of equipment as may be required by the Contracting Officer. The Contractor shall submit a listing of his vehicles intended for use on this project by listing type of vehicle, color, and license number.

1.7 MEDICAL CENTER STAFF, PATIENTS, VISITOR SAFETY

- A. Contractor and/or Sub-Contractors will not expose VA workers, patients, and visitors to unsafe or unhealthy conditions during Construction operations. Contractor should be reminded that adherence to OSHA regulations may not be sufficient in some situations, and more stringent regulation may be required. Extra precautions should be observed when working around persons who are not accustomed to being exposed to Construction hazards and to persons who may have sensory impairments, use wheelchairs, or have mental health conditions which must be considered when contractor personnel leave work areas unattended. In addition, special care must be observed because of the difficulty of health care staff in evacuating patients with self mobility limitations.

1.8 DISCREPANCIES

- A. In all cases of discrepancies between the drawings and specifications, the VA (COR) shall be notified. The specifications shall govern over the drawings. If work proceeds without obtaining proper interpretations of the conflicting drawings and specifications from the VA Contracting Officer, the installed work which is not in accordance with the design and best practices must be replaced at no additional cost.

1.9 OMISSIONS

- A. The drawings and specifications are intended to include all work and materials necessary for completion of the work. Any incidental item of material, labor or detail required for the proper execution and Completion of the work and omitted from either the drawings and specifications or both, but obviously required by governing codes, local regulations, trade practices, operational functions, and good

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workmanship, shall be provided as a part of the contract work without extra charge, even though not specifically detailed or mentioned.

1.10 ENTERTAINMENT SYSTEMS

- A. A tradesman shall not be allowed to bring into the job site any audio/visual entertainment player.

1.11 CONSTRUCTION SECURITY REQUIREMENTS

A. Security Plan:

1. The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.
2. The General Contractor is responsible for assuring that all sub-contractors working on the project and their employees also comply with these regulations.

B. Security Procedures:

1. General Contractor's employees nor Sub-Contractor's employees shall not enter the project site without appropriate badge.
2. They may also be subject to inspection of their personal effects when entering or leaving the project site.
3. For working outside the "regular hours" as defined in the contract, The General Contractor shall give 3 days notice to the VA Contracting Officer so that security escort arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
4. No photography of VA premises is allowed without written permission of the VA Contracting Officer.
5. VA reserves the right to close down or shut down the project site and order all Contractor employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the VA Contracting Officer.

- C. The General Contractor shall be totally responsible for the security of the project (this shall include materials, tools, equipment and the site, etc.) during the total term of the contract.

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D. Key Control:

1. The General Contractor shall provide duplicate keys and lock combinations to the VA (COR) for the purpose of security inspections of every area of project including tool boxes and parked machines and taking any emergency action.

1.12 FIRE SAFETY

A. Applicable Publications: Publications listed below form part of this Article to extent referenced. Publications are referenced in text by basic designations only.

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

E84-2008.....Surface Burning Characteristics of Building
Materials

2. National Fire Protection Association (NFPA):

10-2006.....Standard for Portable Fire Extinguishers

30-2007.....Flammable and Combustible Liquids Code

51B-2003.....Standard for Fire Prevention During Welding,
Cutting and Other Hot Work

70-2008.....National Electrical Code

241-2004.....Standard for Safeguarding Construction,
Alteration, and Demolition Operations

3. Occupational Safety and Health Administration (OSHA):

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

B. FIRE SAFETY PLAN: Establish and maintain a fire protection program in accordance with 29 CFR 1926. Prior to start of work, prepare a plan detailing project-specific fire safety measures, including periodic status reports, and submit to VA (COR) the COR shall share a copy with the Facility Safety Manager for concurrent review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

1. Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the general contractor's competent person per OSHA requirements (certain segments may be supplemented by the VAMC (COR)). This briefing shall include information on the construction limits, VAMC safety guidelines, means

of egress, break areas, work hours, locations of restrooms, use of VAMC equipment, etc. Documentation shall be provided to the VAMC (COR) that individuals have undergone contractor's safety briefing.

- C. Site and Building Access: Maintain free and unobstructed access to facility emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.
- D. Separate temporary facilities, such as trailers, storage sheds, and dumpsters, from existing building by distances in accordance with NFPA 241.
- E. Temporary Construction Partitions:
 - 1. Install and maintain temporary construction partitions to provide smoke-tight separations between construction areas, the areas that are described in phasing requirements, and adjoining areas. Construct partitions of gypsum board or treated plywood (flame spread rating of 25 or less in accordance with ASTM E84) on both sides of fire retardant treated wood or metal steel studs. Extend the partitions through suspended ceilings to floor slab deck or roof above. Seal all joints and penetrations. At door openings, install Class C, ¾ hour fire/smoke rated doors with self-closing devices.
 - 2. Install two-hour fire-rated temporary construction partitions as shown on drawings to maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures.
 - 3. Close openings in smoke barriers and fire-rated construction to maintain fire and/or smoke ratings. Seal penetrations with listed through-penetration firestop materials in accordance with Section 07 84 00, FIRESTOPPING.
- F. Temporary Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- G. Means of Egress for Veterans, visitors and Department of Veterans Affairs Employees and Construction Workers: Do not block exiting for occupied building, including paths from exits to roads. Minimize disruptions and coordinate with VAMC Project Engineer (COR), and facility Safety Manager.

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- H. Fire Extinguishers: Provide and maintain extinguishers 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. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems. Provide fire watch for impairments more than 1 hour in a 24-hour period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with VAMC (COR).
- K. Smoke Detectors: Prevent accidental operation. At the start of the work shift or at the time dusty or smoke generating task are started cover all smoke detector heads in the work area completely with a plastic bag and bind the bag with a plastic bundle tie above the smoke detector head. Remove temporary covering at the end of work operations each day. Coordinate with VAMC (COR).
- L. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with VAMC (COR). Obtain permits from VAMC (COR) at least 4 hours in advance. Reference copy is provided at the end of this section.
- M. Smoking: Smoking is prohibited in and adjacent to construction areas inside existing buildings.
- N. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily or more frequently as required.
- O. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.

1.13 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 VA (COR). 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 VA

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Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work.

- C. The Contractor shall, under regulations prescribed by the VA Contracting Officer, use only established roadways. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads. (FAR 52.236-10)
- D. Working space and space available for storing materials shall be as determined by the VAMC (COR).
- E. Workmen are subject to rules of Medical Center applicable to their conduct.
- F. Execute work so as to interfere as little as possible with normal functioning of Medical Center as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by VA (COR) where required by limited working space.
 - 1. Do not store materials and equipment in other than assigned areas.
 - 2. Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by Department of Veterans Affairs in quantities sufficient for not more than two work days. Provide unobstructed access to Medical Center areas required to remain in operation.
- G. PHASING:**
 - 1. To insure such executions, Contractor shall furnish the VA Project Engineer (COR) with a schedule of approximate phasing dates on which

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the Contractor intends to accomplish work in each specific area of site, building or portion thereof.

2. Arrange such phasing dates to insure accomplishment of this work in successive phases mutually agreeable to VA Medical Center Director, VA Project Engineer (COR) and Contractor, as follows:

PHASE I: (7 calendar days): Hospital Building No.1-Fifth Floor-East and West Corridors and Restroom Room 1-5234 (joint occupancy and after normal work hours for the Hospital).

All Smoke tight temporary construction partitions shall extent floor to ceiling above. Temporary construction partitions shall extent across corridor and restroom during expansion joint removal and blackout preparation.

All existing expansion joint demolition and new expansion joint installation work shall take place only between the hours of 5:00PM Friday night and 5:00AM the following Monday Morning.

A fire rated plywood bridge clear spanning the new expansion joint installation shall be set over each newly installed expansion joint and grout infill. The plywood bridges shall clear span the new expansion joint installation and grout infill. These bridges shall remain in place 7 calendar days until the following Friday night to allow the grout to reach its full set strength without any loading put on the expansion joint frame or grout. The bridges will then be removed to the Fourth Floor and the new floor tile shall be installed.

PHASE II: (7 calendar days): Hospital Building No.1-Fourth Floor- West Corridor and Waiting Room 1-4225, East Corridor and Office 1-4123 (joint occupancy and after normal work hours for the Hospital).

All Smoke tight temporary construction partitions shall extent floor to ceiling above. Temporary construction partitions shall extent across corridor during expansion joint removal and blackout preparation.

All existing expansion joint demolition and new expansion joint installation work in the corridor shall take place only between the hours of 5:00PM Friday night and 5:00AM the following Monday morning.

Two of the temporary fire rated plywood bridges used on the fifth floor shall be moved down to the fourth floor and set over the newly installed

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expansion joints and grout infills. The plywood bridge shall clear span the new expansion joint installation and grout infill. These bridges shall remain in place 7 calendar days until the following Friday night to allow the grout to reach its full set strength without any loading put on the expansion joint frame or grout. The bridges will then be removed and the new floor tile shall be installed.

PHASE III: (7 calendar days): Hospital Building No.1-Third Floor East and West corridors (joint occupancy and after normal work hours for the Hospital).

All smoke tight temporary construction partitions shall extent floor to ceiling above. Temporary construction partition shall extent across corridor during expansion joint removal and blackout preparation.

All existing expansion joint demolition and new expansion joint installation work in the corridor shall take place only between the hours of 5:00PM Friday night and 5:00AM the following Monday morning.

A temporary fire rated plywood bridge shall be set over each of the newly installed expansion joints and grout infills. The plywood bridge shall clear span the new expansion joint installation and grout infill. These bridges shall remain in place 7 calendar days until the following Friday night to allow the grout to reach its full set strength. The bridges will then be removed to the second floor and the new floor tile shall be installed.

PHASE IV: (7 calendar days): Hospital Building No.1-Second Floor East and West Corridors (joint occupancy and after normal work hours for the Hospital).

All smoke tight temporary construction partitions shall extent floor to ceiling above. Temporary construction partition shall extent across corridor during expansion joint removal and blackout preparation.

All existing expansion joint demolition and new expansion joint installation work in the corridor shall take place only between the hours of 5:00PM Friday night and 5:00AM the following Monday morning.

A temporary fire rated plywood bridge shall be set over each of the newly installed expansion joints and grout infills. The plywood bridge

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shall clear span the new expansion joint installation and grout infill. These bridges shall remain in place 7 calendar days until the following Friday night to allow the grout to reach its full set strength. The new floor tile shall then be installed. The bridges will then be moved to the second floor north corridor and room 1-2315.

PHASE V: (7calendar days): Hospital Building No.1-Second Floor North

Corridors and Lecture Room 1-2315 (joint occupancy and after normal work hours for the Hospital).

All Smoke tight Smoke tight temporary construction partitions shall extent floor to ceiling above. Temporary construction partition shall extent across corridor and room during expansion joint removal and blackout preparation.

All existing expansion joint demolition and new expansion joint installation work in the corridor and R. 1-2315shall take place only between the hours of 5:00PM Friday night and 5:00AM the following Monday morning.

A temporary fire rated plywood bridge shall be set over each of the newly installed expansion joints and grout infills. The plywood bridge shall clear span the new expansion joint installation and grout infill. The third bridge shall be brought down from the fifth floor. These bridges shall remain in place 7 calendar days until the following Friday night to allow the grout to reach its full set strength. The bridges will then be removed to the first floor and the new floor tile shall be installed.

PHASE VI: (7 calendar days): Hospital Building No.1-First Floor East and West Corridors and Admitting Office Room 1-1250 (joint occupancy and after normal work hours for the Hospital).

All Smoke tight temporary construction partitions shall extent floor to ceiling above. Temporary construction partition shall extent across corridor and room during expansion joint removal and blackout preparation.

All existing expansion joint demolition and new expansion joint installation work in the corridor and Rm. 1-1250 shall take place only

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between the hours of 5:00PM Friday night and 5:00AM the following Monday morning.

A temporary fire rated plywood bridge shall be set over each of the newly installed expansion joints and grout infills. The plywood bridge shall clear span the new expansion joint installation and grout infill. The third bridge shall be brought down from the second floor. These bridges shall remain in place 7 calendar days until the following Friday night to allow the grout to reach its full set strength. The bridges will then be removed to the first floor north corridor and the new floor tile shall be installed.

PHASE VII: (7 calendar days): Hospital Building No.1-First Floor north Corridor (joint occupancy and after normal work hours for the Hospital).

All Smoke tight temporary construction partitions shall extent floor to ceiling above. Temporary construction partition shall extent across corridor and room during expansion joint removal and blackout preparation.

All existing expansion joint demolition and new expansion joint installation work in the corridor shall take place only between the hours of 5:00PM Friday night and 5:00AM the following Monday morning.

A temporary fire rated plywood bridge shall be set over each of the newly installed expansion joints and grout infills. The plywood bridge shall clear span the new expansion joint installation and grout infill. These bridges shall remain in place 7 calendar days until the following Friday night to allow the grout to reach its full set strength. The bridges will then be removed to the first floor north corridor and the new floor tile shall be installed. The other temporary bridge shall be removed from the building.

PHASE VIII: (7 calendar days): Hospital Building No.1-Basement Floor East and North Corridors (joint occupancy and after normal work hours for the Hospital).

All Smoke tight temporary construction partitions shall extent floor to 8 feet above the finished floor. Temporary construction partition shall extent across corridor during expansion joint removal and blackout preparation.

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All existing expansion joint demolition and new expansion joint installation work in the corridor shall take place only between the hours of 5:00PM Friday night and 5:00AM the following Monday morning.

A temporary fire rated plywood bridge shall be set over each of the newly installed expansion joints and grout infills. The plywood bridge shall clear span the new expansion joint installation and grout infill. These bridges shall remain in place 7 calendar days until the following Friday night to allow the grout to reach its full set strength, the bridges will then be removed.

SPECIAL PHASING REQUIREMENTS:

- A. Contractor shall maintain access to the Building 1 loading dock at all times.
- B. Contractor shall construct safety barriers as determined necessary prior to the start of demolition and they must remain in place until the completion of that phase where required.
- C. Contractor shall perform all work in or adjacent to VA occupied areas in such a manner to ensure:
 - 1. Protection of patients and personnel in occupied areas from the hazards and dust associated with a construction environment.
 - 2. The work areas are to be kept clear, clean, and free of loose debris, construction materials and partially installed work which would create a safety hazard or interfere with patient and personnel duties and traffic. The contractor shall sweep and vacuum the areas clean at the end of each work day and make every effort to keep dust and noise to a minimum at all times.
- D. The Government will not be liable for overtime cost incurred after the contract is awarded. The cost of any anticipated overtime projected for this project should be estimated in the bidders original bid proposal to the Government.
- E. NO CONTRACT WORK WILL BE SCHEDULED ON FEDERAL HOLIDAYS
 - 1. No work will be scheduled on the following federal holidays

New Years Day
Martin Luther King Jr. Birthday

January 1, 2012
January 19, 2012

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George Washington's Birthday	February 20, 2012
Memorial Day	May 28, 2012
Independence Day	July 4, 2012
Labor Day	September 3, 2012
Columbus Day	October 8, 2012
Veterans Day	November 12, 2012
Thanksgiving Day	November 22, 2012
Christmas Day	December 25, 2012

STANDARDIZED DEFINITIONS:

JOINT OCCUPANCY:

Those area(s) designated as being jointly occupied means that the contractor will be able to complete the work necessary in the building(s), room(s), or area(s) designated in a particular phase, while remaining occupied by the VA personnel and/or VA patients. The contractor shall, in all jointly occupied area(s), protect VA personnel/patients and existing equipment from the hazards of dust, materials, tools, etc., associated with a construction environment. The contractor shall keep these jointly occupied area(s) clear, clean, and free of loose debris, construction materials and partially installed work which would create a safety hazard or interfere with VA personnel or patients. The contractor will pay particular attention to leaving these jointly occupied area(s) clean at the end of each work shift. The contractor will be required to observe any restraint(s) outlined under the "Special Phasing Requirements", Section 01 00 00, of the Contract Specifications.

VACATED AREAS(S):

Those area(s) designated as being vacated area(s) means that the contractor will be able to complete the work necessary in the buildings(s), room(s), or area(s) designated in a particular phase, without the presence of VA personnel and/or patients. In area(s) of limited work, the contractor shall protect existing equipment from the hazards of dust, materials, tools, etc., associated with construction environment; however, the contractor will be required to observe any restraint(s) outlined under the "Special Phasing Requirements", Section 01 00 00, of the Contract Specifications.

AFTER NORMAL WORKING HOURS:

Those area(s) designated as being worked after normal working hours means that the contractor will be able to perform the work necessary in the building and areas designated in a particular phase, only during the hours that the VA considers to be other than their normal hours. Normal hours are 8:00 am to 4:30 PM. The contractor must allow enough time at the end of each shift to clean and return the area(s) back to the station prior to the start of the station's normal hours of operation. Existing equipment in the areas shall be protected from the hazards of dust, materials, tools, etc., associated with a construction restraint. The contractor will be required to observe any restraints outlined under the "Special Phasing Requirements", Section 01 00 00, of the Contract Specifications.

- H. Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in affected areas of construction against dust and debris, so that equipment and affected areas to be used in the Medical Centers operations will not be hindered. Contractor shall permit access to Department of Veterans Affairs personnel and patients through construction areas which serve as routes of access to such affected areas and equipment. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that Medical Center operations will continue during the construction period.
- I. Contractor Parking: Parking shall be allowed on the project site on the east parking lot unless designated or approved otherwise by the VAMC (COR).
- J. Utilities Services: Maintain existing utility services for Medical Center at all times. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, steam, gases, sewer or air pipes, or conduits, wires, cables, etc. of utility services or of fire protection systems and communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by VAMC (COR).
- 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 VAMC (COR). Electrical work

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shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without the Medical Center Director's prior knowledge and written approval.

2. Contractor shall submit a request to interrupt any such services to VAMC (COR), in writing, 48 hours in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.
3. Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of Medical Center. Interruption time approved by Medical Center may occur at other than Contractor's normal working hours.
4. In case of a contract construction emergency, service will be interrupted on approval of VAMC (COR). Such approval will be confirmed in writing as soon as practical.

K. 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 are required to be entirely removed and 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.

L. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:

1. Keep roads, walks and entrances to grounds, to parking and to occupied areas of buildings clear of construction materials, debris and standing construction equipment and vehicles.

M. CONSTRUCTION SITE MAINTENANCE:

1. Provide labor and material necessary to maintain the site in a safe condition.
2. Keep the premises free from accumulation of waste materials, rubbish and other debris resulting from the work.

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3. At completion of the work, remove all waste materials, rubbish, and debris from about the premises, as well as all tools, construction equipment, machinery, and surplus materials.
4. Repair, at your expense, damage which may have occurred to any permanent structure completed under the contract work, or to private or public property.
5. Leave the site clean and ready for use by the VA Medical Center. Restore to their original condition those portions of the site not designated for alteration by the contract documents, but disturbed by construction activities.
6. Failure to continually maintain site or to immediately clean the site after a complaint or project completion may result in the Government completing the work by hire or by the VA Medical Center's maintenance and repair staff or another contractor. All cost would be responsibility of the contractor failing to complete the work.

S. FIELD OPERATIONS AND DEADLINES

1. Provide equipment of sufficient size and power to expedite the project so that all deadlines are met. Personnel and crew size also shall be sufficient to meet required deadlines.
2. If, in the opinion of the VAMC (COR), there is insufficient equipment or personnel to complete the project, the VAMC (COR) will notify the contractor and VA Contracting Officer, and a project meeting will be held within twenty-four (24) hours for the purpose of contract termination, unless a reasonable cause is given to the contrary.

N. Coordinate the work for this contract with other construction operations as directed by VAMC (COR). This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.

1.14 SCHEDULE OF WORK PROGRESS

A. The contractor shall submit with the schedule of costs, a progress schedule that indicates the anticipated installation of work versus the elapsed contract time, for the approval of the contracting officer. The contractor shall develop the schedule using software that is compatible with Microsoft Project 2002 software. The starting date of the schedule shall be the date the Contractor receives the "Notice to Proceed." The ending date shall be the original contract completion date. At a

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minimum, both dates shall be indicated on the progress schedule. The specific item of work, i.e., "Excavation", "Floor Tile", "Finish Carpentry", etc., should be plotted along the vertical axis and indicated by a line or bar at which time(s) during the contract this work is scheduled to take place. The schedule shall be submitted in Microsoft Project 2002 file format and delivered on a CD-ROM, as well as in triplicate and signed by the contractor.

- (b) The actual percent completion will be based on the value of installed work divided by the current contract amount. The actual completion percentage will be indicated on the monthly progress report.
- (c) The progress schedule will be revised when individual or cumulative time extensions of 15 calendar days or more are granted for any reason. The revised schedule should indicate the new contract completion date and should reflect any changes to the installation time(s) of the items of work affected.
- (d) The revised progress schedule will be used for reporting future Scheduled percentage completion.

1.15 USE OF CELLULAR PHONES

Cellular telephones are permitted in the Building 1-HOSPITAL except [3rdrd floor(Pre-surgery, Surgery area and Post-Surgery Area), 2ndnd floor (Clinical Laboratory), 1st floor (Urgent Care Area) Cellular phones in these areas must be completely turned off, not on stand-by].

1.16 ALTERATIONS

A. Survey: Before any work is started, the Contractor shall make a thorough survey with the VAMC (COR) of areas of building in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by both to the VA Contracting Officer. This report shall list by rooms and spaces:

1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of building.
2. Shall note any discrepancies between drawings and existing conditions at site.

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3. Shall designate areas for working space, materials storage and routes of access to areas within building where alterations occur and which have been agreed upon by Contractor and VAMC (COR).
- 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 VAMC (COR), 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) of Section GENERAL CONDITIONS.
- C. Resurvey: Fourteen days before expected final inspection date, the Contractor and VAMC (COR) together shall make a thorough re-survey of the areas of building 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. Resurvey report shall also list any damage caused by Contractor to such flooring and other surfaces, despite protection measures; and, will form basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this contract.
- D. Protection: Provide the following protective measures:
 1. Temporary protection against damage for portions of existing structure where work is to be done, materials handled and equipment moved and/or relocated.
 3. Protection of interior of existing structures at all times, from damage, dust and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.

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1.17 CONTRACTORS NOT ALLOWED USE OF GOVERNMENT EQUIPMENT, TOOLS AND MATERIALS.

1.18 RECEIPT OF CONTRACTOR'S MATERIALS:

- A. Contractors should not have materials, equipment, tools, or supplies shipped to them care of the VA Medical Center. Our warehousemen have been instructed that if they sign for a contractors order and there is any problem with the order they accept all liability for the order, they will not have the protection of the government. Also, if they are injured while handling a contractor's order they are not protected by their employers insurance. Therefore, they have been instructed to refuse delivery of contractors' orders.

1.19 INFECTION PREVENTION MEASURES

- A. Implement the requirements of VAMC's Infection Control Risk Assessment (ICRA) team. ICRA Group may monitor dust in the vicinity of the construction work and require the Contractor to take corrective action immediately if the safe levels are exceeded.
- B. Establish and maintain a dust control program as part of the contractor's infection preventive measures in accordance with the guidelines provided by ICRA Group and as specified here. Prior to start of work, prepare a plan detailing project-specific dust protection measures, including periodic status reports, and submit to VA Project Engineer (COR) and Facility ICRA team for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
 - 1. All personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the medical center.
- C. Medical Center Infection Control personnel shall monitor for airborne disease as appropriate during construction. A baseline of conditions may be established by the medical center prior to the start of work and during the construction stage to determine impact of construction activities on indoor air quality. In addition:
 - 1. The VA Project Engineer (COR) and VAMC Infection Control personnel shall review the requirement for negative air pressure in the construction zone this shall depend on the location and type of activity. Upon notification, the contractor shall implement

corrective measures to restore proper pressure differentials as needed.

2. In case of any problem, the medical center, along with assistance from the contractor, shall conduct an environmental assessment to find and eliminate the source.

D. In general, the 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 VA Project Engineer (COR). Contractor shall blank off ducts and diffusers as required and determined feasible to prevent circulation of dust into occupied areas during construction.
2. Do not perform dust producing tasks within occupied areas without the approval of the VA Project Engineer (COR). For construction in any areas that will remain jointly occupied by the medical Center and Contractor's workers, the Contractor shall:
 - a. Provide dust proof one-hour fire-rated temporary construction barriers to completely separate construction from the operational areas of the hospital in order to contain dirt, debris and dust. Barriers shall be sealed. Install a self-closing rated door in a metal frame, commensurate with the partition, to allow worker access. Maintain negative air at times as determined necessary by the hospital infection control team. A fire retardant polystyrene, 6-mil thick or greater plastic barrier meeting local fire codes may be used where dust control is the only hazard, and an agreement is reached with the VAMC Project Engineer (COR).
 - b. HEPA filtration is required where the exhaust dust may reenter the breathing zone. Contractor shall verify that construction exhaust to exterior is not reintroduced to the medical center through intake vents, or building openings. Install HEPA (High Efficiency Particulate Accumulator) filter vacuum system rated at 95% capture of 0.3 microns including pollen and dust particles. Insure continuous negative air pressures occurring within the work area. HEPA filters should have ASHRAE 85 or other prefilter to extend the useful life of the HEPA. Provide both primary and secondary

filtrations units. Exhaust hoses shall be heavy duty, flexible steel reinforced and exhausted so that dust is not reintroduced to the medical center.

- c. Adhesive Walk-off/Carpet Walk-off Mats, minimum 600mm x 900mm (24" x 36"), shall be used at all interior transitions from the construction area to occupied medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
- d. Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Vacuum shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as it is created and transport it outside the construction area in containers with tightly fitting lids.
- e. The contractor shall not haul debris through patient-care areas without prior approval of the VAMC (COR). When approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with duct tape. No sharp objects should be allowed to cut through the plastic. Wipe down the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down.
- f. Using a HEPA vacuum, clean inside the barrier and vacuum ceiling tile prior to replacement. Any ceiling access panels opened for investigation beyond sealed areas shall be sealed immediately when unattended.
- g. There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the construction areas. All accidental spills must be cleaned up and dried within 2 hours. Remove and dispose of porous materials that remain damp for more than 12 hours.
- h. At completion, remove construction barriers and ceiling protection carefully. Vacuum and clean all surfaces free of dust after the removal.

E. Final Cleanup:

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1. Upon completion of project, or as work progresses, remove all construction debris from above ceilings 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.

1.20 DISPOSAL AND RETENTION

A. Materials and equipment accruing from work removed and from demolition operations shall be disposed of as follows:

1. The Government shall have the right to selectively salvage equipment or component parts thereof. If the government should determine it has no interest in salvaging any materials they shall become the property of the contractor for disposal by him.
2. Reserved items which are to remain property of the Government are identified by attached tags as items to be stored. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re-installation and reuse. Store such items were directed by VAMC (COR).
3. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.
4. 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 spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are OT 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.

1.21 PROTECTION OF EXISTING STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

A. The Contractor shall preserve and protect all structures, equipment 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.

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- B. Refer to Articles, "Alterations", "Restoration", and "Operations and Storage Areas" for additional instructions concerning repair of damage to structures and site improvements.

1.22 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 VAMC (COR). Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the VAMC (COR) before it is disturbed. Materials and workmanship used in restoring work shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.
- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work.
- C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone) which are indicated on drawings and which are not scheduled for discontinuance or abandonment.
- D. Expense of repairs to such utilities and systems not shown on drawings or locations of which are unknown will be covered by adjustment to contract time and price in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) and "DIFFERING SITE CONDITIONS" (FAR 52.236-2) of Section 00 72 00, GENERAL CONDITIONS.

1.23 AS-BUILT DRAWINGS

- A. The contractor shall maintain two full size sets of as-built drawings which will be kept current during construction of the project, to include all contract changes, modifications and clarifications.

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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 VAMC (COR) review, as often as requested.

C. Contractor shall deliver two approved completed sets of as-built drawings to the VAMC (COR) within 15 calendar days after each completed phase and after the acceptance of the project by the VAMC (COR).

D. Paragraphs A, B, & C shall also apply to all shop drawings.

1.24 USE OF ROADWAYS

A. For hauling, use only established public roads and roads on Medical Center property. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well constructed bridges.

1.25 TEMPORARY USE OF EXISTING ELEVATOR

A. Use of existing Service Elevator No.3, in Building No.1, for handling building materials and Contractor's personnel will be permitted subject to following provisions: Contractor makes all arrangements with the VAMC (COR) for use of elevator. The VAMC (COR) will ascertain that elevator is in proper condition. Contractor may use elevator No.3 in Building No. 1 for daily use between the hours of (6:00 A.M. to 7:00A.M.), (8:00A.M. to 11:00A.M.), (12:45P.M. to 4:30P.M.) and (5:30 P.M. to 6:00 A.M.).

B. VA personnel for operating elevator will not be provided by the Department of Veterans Affairs.

1.26 TEMPORARY TOILETS

A. Contractor may have for use of Contractor's workmen, such toilet accommodations as may be assigned to Contractor by Medical Center. Contractor shall keep such places clean and be responsible for any damage done thereto by Contractor's workmen. Failure to maintain satisfactory condition in toilets will deprive Contractor of the privilege to use such toilets.

1.27 AVAILABILITY AND USE OF UTILITY SERVICES

A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The Contractor shall carefully conserve any utilities furnished without charge.

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B. The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, and associated paraphernalia.

C. Electricity (for Construction and Testing): Furnish all temporary electric services.

1. Obtain electricity by connecting to the Medical Center electrical distribution system. Electricity is available at no cost to the Contractor.

D. Water (for Construction and Testing): Furnish temporary water service.

1. Obtain water by connecting to the Medical Center water distribution system. Provide reduced pressure backflow preventer at each connection. Water is available at no cost to the Contractor.

2. Maintain connections, pipe, fittings and fixtures and conserve water-use so none is wasted. Failure to stop leakage or other wastes will be cause for revocation (at VAMC (COR) discretion) of use of water from Medical Center's system.

1.28 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: Installation and Maintenance manuals (four copies each) for each expansion joint system shall be delivered to the VAMC (COR) coincidental with the delivery of the system to the job site. Manuals shall be complete, detailed guides for the installation, maintenance and operation, and disassembly and reassembly of expansion joint system. They shall include complete information necessary for installing, 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. The function

of each component, accessory shall be clearly and thoroughly explained. All necessary precautions for the operation of the system and the reason for each precaution shall be clearly set forth. Manuals must reference the exact model, style and size of the system being furnished. Manuals referencing systems similar to but of a different model, style, and size than that furnished will not be accepted.

1.29 WARRANTY

- A. A full Warranty shall cover all materials and workmanship for a period of three years from the final acceptance of project.

1.30 TB SCREENING PROGRAM FOR CONTRACTORS

- A. The contractor shall have a medical program that addresses tuberculosis and certifies that their employees are "TB free". The medical program shall include written assurance that each employee has no active tuberculosis. All contract employees assigned to the work site shall have a pre-placement tuberculin screening within 90 days prior to assignment to the worksite as recommended by the Center for Disease Control (CDC). This can be the CDC two-step skin testing or a Food and Drug Administration (FDA) approved blood test. Employees manifesting positive screening reactions to the tuberculin shall be examined per current CDC guidelines prior to working on VHA property. If the employee is found without evidence of active (infectious) pulmonary tuberculosis (TB), a statement documenting examination by a physician must be on file with the employer (construction contractor), noting that the employee with a positive tuberculin screening test is without evidence of active (infectious) pulmonary TB. If the employee is found with evidence of active (infectious) pulmonary TB, the employee would require treatment with a subsequent statement as outlined above before being allowed to return to work on VHA property.

1.31 GREEN ENVIRONMENTAL MANAGEMENT MISSION STATEMENT

- A. The following is the Green Environmental Management Mission Statement for the Aleda E. Lutz VA Medical Center which is shared with all contractors working on our medical center site and it is expected to be adhered to to the greatest extent possible by the contractors.
- B. The mission of the VA Medical Center, Saginaw, Michigan is to deliver quality health care to our nation's veterans. In order to accomplish this mission, the Medical Center recognizes that it must operate so as to protect both the environment and the health and safety of

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patients, employees and visitors. In order to accomplish this, the VA Medical Center is committed to the following actions:

1. Operating a Green Environmental Management System (GEMS) that meets requirements of Presidential Executive Order 13148 and the guidance provided by Veterans Health Administration.
 2. Being a good steward of the environment by complying with federal, state and local environmental laws and other requirements, preventing pollution, minimizing waste, conserving cultural and natural resources and continually improving environmental programs.
 3. Utilizing sustainable practices to eliminate minimize or mitigate adverse environmental impacts.
 4. Evaluating the operation of the VA Medical Center to incorporate actions into facility planning and procedures to reduce environmental vulnerabilities.
 5. Integrating pollution prevention, waste minimization, resource conservation into the VA Medical Center operations, whenever practical.
 6. Using natural resources efficiently, and maintain a policy of protecting plant and wildlife habitats consistent with the VA Medical Center's mission.
 7. Recognizing that the development and construction at the VA Medical Center must consider the unique conditions of the environment of which the facility is part.
 8. Training VA Medical Center staff, as needed, to carry out the environmental responsibilities of their positions.
 9. Soliciting input, as appropriate, from stakeholders including staff, patients, visitors, and the local community regarding environmental matters affecting the operation of the medical center.
- C. The official environmental policy document is MEDICAL CENTER MEMORANDUM NO. 00-08 which can be obtained by contacting Facilities Management Service, GEMS Coordinator, at (989) 497-2500 Extension 13918.

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ATTACHMENT No.1

**FOR CUTTING AND WELDING
WITH PORTABLE GAS OR ARC EQUIPMENT**

VA Project No: 655-11-129

Name of Contractor's Firm: _____

Date: _____

Building/Location: _____

Work To Be Done: _____

Any Special Precautions: _____

Fire Watch Required: ____Yes ____No

The location where the work is to be performed has been examined, necessary precautions have been taken, and permission is granted for this work.

Signed _____

(Contracting Officer's Technical Representative)

Permit Expires:(Time)_____ (Date)_____

Time Hot Work Started: _____ Time Hot Work Completed:_____

FINAL CHECK-UP

Work area and all adjacent areas to which sparks and heat might have spread (including floors above and below and on opposite sides of walls) were inspected 30 minutes after the work was completed and were found firesafe.

Signed _____

(Contractor's Fire Watch)

(Form-Page 1 of 2)

ATTENTION

Before approving any cutting and welding permit, the contractor's authorized representative or their appointee shall inspect the work area and confirm that precautions have been taken to prevent fire in accordance with NFPA Standard No. 51B.

PRECAUTIONS

1. Sprinklers are in service where installed
2. Cutting and welding equipment in good repair
3. Within 10,500 mm (35 feet); floors swept clean of combustible, no combustible material or flammable liquids, all wall and floor openings covered, and covers suspended beneath work to collect sparks
4. When working on enclosed equipment and in confined space, equipment and area is free of flammable vapors
5. Fire watch provided during and 30 minutes after operation (60 minutes for torch applied roofing operations)
6. Portable fire extinguisher with adequate rating available in the immediate vicinity
7. Standpipe system in service where installed
8. Protection of any sprinkler heads when hot work is in close proximity
9. Smoking prohibited in immediate vicinity
10. Non-combustible shields provided when hot work is done near combustible walls, partitions, floors, roofs
11. Prohibition of hot work on pipes contacting combustible walls
12. Personnel trained in use of equipment including portable fire extinguishers and sounding a fire alarm
13. Final check-up conducted after 30 minutes

SECTION 01 33 23
SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

- 1-1. Refer to Articles titled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FAR 52.236-21) and, SPECIAL NOTES (VAAR 852.236-91), in GENERAL CONDITIONS.
- 1-2. For the purposes of this contract, samples, test reports, certificates, and manufacturers' literature and data shall also be subject to the previously referenced requirements. The following text refers to all items collectively as SUBMITTALS.
- 1-3. Submit for approval, all of the items specifically mentioned under the separate sections of the specification, with information sufficient to evidence full compliance with contract requirements. Materials, fabricated articles and the like to be installed in permanent work shall equal those of approved submittals. After an item has been approved, no change in brand or make will be permitted unless:
 - A. Satisfactory written evidence is presented to, and approved by Contracting Officer, that manufacturer cannot make scheduled delivery of approved item or;
 - B. Item delivered has been rejected and substitution of a suitable item is an urgent necessity or;
 - C. Other conditions become apparent which indicates approval of such substitute item to be in best interest of the Government.
- 1-4. Contractor to forward submittals in sufficient time to permit proper consideration and approval action by Government. Contractor to time submission to assure adequate lead time for procurement of contract - required items. Delays attributable to untimely and rejected submittals will not serve as a basis for extending contract time for completion.
- 1-5. Submittals will be reviewed for compliance with contract requirements by VAMC Architect/Engineer, and action thereon will be taken by Project Engineer (COTR) Contracting Officers Technical Representative on behalf of the Contracting Officer.
- 1-6. Upon receipt of submittals, VAMC Architect/Engineer will assign a file number thereto. Contractor, in any subsequent correspondence, shall refer to this file and identification number to expedite replies relative to previously approved or disapproved submittals.
- 1-7. The Government reserves the right to require additional submittals, whether or not particularly mentioned in this contract. If additional submittals beyond those required by the contract are furnished pursuant

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to request therefor by Contracting Officer, adjustment in contract price and time will be made in accordance with Articles titled CHANGES (FAR 52.243-4) and CHANGES - SUPPLEMENT (VAAR 852.236-88) of the GENERAL CONDITIONS.

- 1-8. Schedules called for in specifications and shown on shop drawings shall be submitted for use and information of Department of Veterans Affairs and Architect/Engineer. However, the Contractor shall assume responsibility for coordinating and verifying schedules. The Contracting Officer and Architect/Engineer assumes no responsibility for checking schedules or layout drawings for exact sizes, exact numbers and detailed positioning of items.
- 1-9. Submittals must be submitted by Contractor only and shipped prepaid. Contracting Officer assumes no responsibility for checking quantities or exact numbers included in such submittals.
 - A. Submit samples in single units unless otherwise specified. Submit shop drawings, schedules, manufacturers' literature and data, and certificates in quadruplicate, except where a greater number is specified.
 - B. Submittals will receive consideration only when covered by a transmittal letter signed by Contractor. Letter shall be sent via first class mail and shall contain the list of items, name of Medical Center, name of Contractor, contract number, applicable specification paragraph numbers, applicable drawing numbers (and other information required for exact identification of location for each item), manufacturer and brand, and such additional information as may be required by specifications for particular item being furnished. In addition, catalogs shall be marked to indicate specific items submitted for approval.
 1. A copy of letter must be enclosed with items, and any items received without identification letter will be considered "unclaimed goods" and held for a limited time only.
 2. Each sample, certificate, manufacturers' literature and data shall be labeled to indicate the name and location of the Medical Center, name of Contractor, manufacturer, brand, contract number and location(s) on project.
 3. Required certificates shall be signed by an authorized representative of manufacturer or supplier of material, and by Contractor.
 - C. If submittal samples have been disapproved, resubmit new samples as soon as possible after notification of disapproval. Such new samples shall be

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marked "Resubmitted Sample" in addition to containing other previously specified information required on label and in transmittal letter.

- D. Approved samples will be kept on file by the Project Engineer (COTR) at the site until completion of contract, at which time such samples will be delivered to Contractor as Contractor's property. Where noted in technical sections of specifications, approved samples in good condition may be used in their proper locations in contract work. At completion of contract, samples that are not approved will be returned to Contractor only upon request and at Contractor's expense. Such request should be made prior to completion of the contract. Disapproved samples that are not requested for return by Contractor will be discarded after completion of contract.
- E. Submittal drawings (shop, erection or setting drawings) and schedules, required for work of various trades, shall be checked before submission by technically qualified employees of Contractor for accuracy, completeness and compliance with contract requirements. These drawings and schedules shall be stamped and signed by Contractor certifying to such check.
1. For each drawing required, submit one legible photographic paper or vellum reproducible.
 2. Reproducible shall be full size.
 3. Each drawing shall have marked thereon, proper descriptive title, including Medical Center location, project number, manufacturer's number, reference to contract drawing number, detail Section Number, and Specification Section Number.
 4. A space 120 mm by 125 mm (4-3/4 by 5 inches) shall be reserved on each drawing to accommodate approval or disapproval stamp.
 5. Submit drawings, ROLLED WITHIN A MAILING TUBE, fully protected for shipment.
 6. One reproducible print of approved or disapproved shop drawings will be forwarded to Contractor.
 7. When work is directly related and involves more than one trade, shop drawings shall be submitted to VAMC Architect/Engineer under one cover.
- 1-10. Samples, shop drawings, test reports, certificates and manufacturers' literature and data, shall be submitted for approval to:

Mr. Ernie Graham
Facilities Management Service (138)
Aleda E. Lutz Veterans Affairs Medical Center
1500 Weiss Street
Saginaw, Michigan 48602

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SECTION 01 42 19
REFERENCE STANDARDS

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies the availability and source of references and standards specified in the project manual under paragraphs APPLICABLE PUBLICATIONS and/or shown on the drawings.

1.2 AVAILABILITY OF SPECIFICATIONS LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS FPMR PART 101-29 (FAR 52.211-1) (AUG 1998)

- A. The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29 and copies of specifications, standards, and commercial item descriptions cited in the solicitation may be obtained for a fee by submitting a request to - GSA Federal Supply Service, Specifications Section, Suite 8100, 470 East L'Enfant Plaza, SW, Washington, DC 20407, Telephone (202) 619-8925, Facsimile (202) 619-8978.
- B. If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (a) of this provision. Additional copies will be issued for a fee.

1.3 AVAILABILITY FOR EXAMINATION OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (FAR 52.211-4) (JUN 1988)

The specifications and standards cited in this solicitation can be examined at the following location:

DEPARTMENT OF VETERANS AFFAIRS
Office of Construction & Facilities Management
Facilities Quality Service (00CFM1A)
425 Eye Street N.W, (sixth floor)
Washington, DC 20001
Telephone Numbers: (202) 632-5249 or (202) 632-5178
Between 9:00 AM - 3:00 PM

1.4 AVAILABILITY OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (FAR 52.211-3) (JUN 1988)

The specifications cited in this solicitation may be obtained from the associations or organizations listed below.

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AA	Aluminum Association Inc. http://www.aluminum.org
AAMA	American Architectural Manufacturer's Association http://www.aamanet.org
ACGIH	American Conference of Governmental Industrial Hygienists http://www.acgih.org
AGC	Associated General Contractors of America http://www.agc.org
AISC	American Institute of Steel Construction http://www.aisc.org
AISI	American Iron and Steel Institute http://www.steel.org
ANSI	American National Standards Institute, Inc. http://www.ansi.org
ASTM	American Society for Testing and Materials http://www.astm.org
CISCA	Ceilings and Interior Systems Construction Association http://www.cisca.org
EPA	Environmental Protection Agency http://www.epa.gov
ETL	ETL Testing Laboratories, Inc. http://www.etl.com
FM	Factory Mutual Insurance http://www.fmglobal.com
GA	Gypsum Association http://www.gypsum.org
GSA	General Services Administration http://www.gsa.gov
ICBO	International Conference of Building Officials http://www.icbo.org
NAAMM	National Association of Architectural Metal Manufacturers http://www.naamm.org
NBS	National Bureau of Standards See - NIST
NFPA	National Fire Protection Association http://www.nfpa.org
NIH	National Institute of Health http://www.nih.gov

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NIST National Institute of Standards and Technology
<http://www.nist.gov>

OSHA Occupational Safety and Health Administration
Department of Labor
<http://www.osha.gov>

RFCI The Resilient Floor Covering Institute
<http://www.rfci.com>

UBC The Uniform Building Code
See ICBO

UL Underwriters' Laboratories Incorporated
<http://www.ul.com>

ULC Underwriters' Laboratories of Canada
<http://www.ulc.ca>

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SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies the requirements for the management of non-hazardous building construction and demolition waste.
- B. Waste disposal in landfills shall be minimized to the greatest extent possible. Of the inevitable waste that is generated, as much of the waste material as economically feasible shall be salvaged, recycled or reused.
- C. Contractor shall use all reasonable means to divert construction and demolition waste from landfills and incinerators, and facilitate their salvage and recycle not limited to the following:
 - 1. Waste Management Plan development and implementation.
 - 2. Techniques to minimize waste generation.
 - 3. Sorting and separating of waste materials.
 - 4. Salvage of existing materials and items for reuse or resale.
 - 5. Recycling of materials that cannot be reused or sold.
- D. At a minimum the following waste categories shall be diverted from landfills:
 - 1. Inerts (eg, concrete and masonry).
 - 2. Clean dimensional wood and palette wood.
 - 3. Engineered wood products (plywood and particle board, etc).
 - 4. Metal products (eg, steel, wire, beverage containers, copper, etc).
 - 5. Cardboard, paper and packaging.
 - 6. Plastics (eg, ABS, PVC).
 - 7. Gypsum board.
 - 8. Insulation.
 - 9. Paint.

1.2 RELATED WORK

- A. Section 01 00 00, GENERAL REQUIREMENTS.

1.3 QUALITY ASSURANCE

- A. Contractor shall practice efficient waste management when sizing, cutting and installing building products. Processes shall be employed to ensure the generation of as little waste as possible. Construction /Demolition waste includes products of the following:

1. Excess or unusable construction materials.
 2. Packaging used for construction products.
 3. Poor planning and/or layout.
 4. Construction error.
 5. Over ordering.
 6. Weather damage.
 7. Contamination.
 8. Mishandling.
 9. Breakage.
- B. Establish and maintain the management of non-hazardous building construction and demolition waste set forth herein. Conduct a site assessment to estimate the types of materials that will be generated by demolition and construction.
- C. Contractor shall develop and implement procedures to reuse and recycle new materials to a minimum of 50 percent.
- D. Contractor shall be responsible for implementation of any special programs involving rebates or similar incentives related to recycling. Any revenues or savings obtained from salvage or recycling shall accrue to the contractor.
- E. Contractor shall provide all demolition, removal and legal disposal of materials. Contractor shall ensure that facilities used for recycling, reuse and disposal shall be permitted for the intended use to the extent required by local, state, federal regulations. The Whole Building Design Guide website <http://www.wbdg.org> provides a Construction Waste Management Database that contains information on companies that haul, collect, and process recyclable debris from construction projects.
- F. Contractor shall assign a specific area to facilitate separation of materials for reuse, salvage, recycling, and return. Such areas are to be kept neat and clean and clearly marked in order to avoid contamination or mixing of materials.
- G. Contractor shall provide on-site instructions and supervision of separation, handling, salvaging, recycling, reuse and return methods to be used by all parties during waste generating stages.
- H. Record on daily reports any problems in complying with laws, regulations and ordinances with corrective action taken.

1.4 TERMINOLOGY

- A. Class III Landfill: A landfill that accepts non-hazardous resources such as household, commercial and industrial waste resulting from construction, remodeling, repair and demolition operations.
- B. Clean: Untreated and unpainted; uncontaminated with adhesives, oils, solvents, mastics and like products.
- C. Construction and Demolition Waste: Includes all non-hazardous resources resulting from construction, remodeling, alterations, repair and demolition operations.
- D. Dismantle: The process of parting out a building in such a way as to preserve the usefulness of its materials and components.
- E. Disposal: Acceptance of solid wastes at a legally operating facility for the purpose of land filling (includes Class III landfills and inert fills).
- F. Inert Fill: A facility that can legally accept inert waste, such as concrete exclusively for the purpose of disposal.
- G. Inert Solids/Inert Waste: Non-liquid solid resources including, but not limited to, concrete that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board, and does not contain significant quantities of decomposable solid resources.
- H. Mixed Debris: Loads that include co-mingled recyclable and non-recyclable materials generated at the construction site.
- I. Mixed Debris Recycling Facility: A solid resource processing facility that accepts loads of mixed construction and demolition debris for the purpose of recovering re-usable and recyclable materials and disposing non-recyclable materials.
- J. Permitted Waste Hauler: A company that holds a valid permit to collect and transport solid wastes from individuals or businesses for the purpose of recycling or disposal.
- K. Recycling: The process of sorting, cleansing, treating, and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating or thermally destroying solid waste.
 - 1. Off-site Recycling - Materials hauled to a location and used in an altered form in the manufacture of new products.

- L. Recycling Facility: An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of new products. Depending on the types of materials accepted and operating procedures, a recycling facility may or may not be required to have a solid waste facilities permit or be regulated by the local enforcement agency.
- M. Reuse: Materials that are recovered for use in the same form, on-site or off-site.
- N. Return: To give back reusable items or unused products to vendors for credit.
- O. Salvage: To remove waste materials from the site for resale or re-use by a third party.
- P. Source-Separated Materials: Materials that are sorted by type at the site for the purpose of reuse and recycling.
- Q. Solid Waste: Materials that have been designated as non-recyclable and are discarded for the purposes of disposal.
- R. Transfer Station: A facility that can legally accept solid waste for the purpose of temporarily storing the materials for re-loading onto other trucks and transporting them to a landfill for disposal, or recovering some materials for re-use or recycling.

1.5 SUBMITTALS

- A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES, furnish the following:
- B. Prepare and submit to the COR Project Engineer a written demolition debris management plan. The plan shall include, but not be limited to, the following information:
 - 1. Procedures to be used for debris management.
 - 2. Techniques to be used to minimize waste generation.
 - 3. Analysis of the estimated job site waste to be generated:
 - a. List of each material and quantity to be salvaged, reused, recycled.
 - b. List of each material and quantity proposed to be taken to a landfill.
 - 4. Detailed description of the Means/Methods to be used for material handling.

- a. On site: Material separation, storage, protection where applicable.
 - b. Off site: Transportation means and destination. Include list of materials.
 - 1) Description of materials to be site-separated and self-hauled to designated facilities.
 - 2) Description of mixed materials to be collected by designated waste haulers and removed from the site.
 - c. The names and locations of mixed debris reuse and recycling facilities or sites.
 - d. The names and locations of trash disposal landfill facilities or sites.
 - e. Documentation that the facilities or sites are approved to receive the materials.
- C. Designated Manager responsible for instructing personnel, supervising, documenting and administer over meetings relevant to the Waste Management Plan.
- D. 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.

1.6 APPLICABLE PUBLICATIONS

- A Publications listed below form a part of this specification to the extent referenced. Publications are referenced by the basic designation only. In the event that criteria requirements conflict, the most stringent requirements shall be met.
- B. U.S. Green Building Council (USGBC):
 - LEED Green Building Rating System for New Construction

1.7 RECORDS

Maintain records to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill or incineration. Records shall be kept in accordance with the LEED Reference Guide and LEED Template.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. List of each material and quantity to be salvaged, recycled, reused.
- B. List of each material and quantity proposed to be taken to a landfill.

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- C. Material tracking data: Receiving parties, dates removed, transportation costs, weight tickets, tipping fees, manifests, invoices, net total costs or savings.

PART 3 - EXECUTION

3.1 COLLECTION

- A. Provide all necessary containers, bins and storage areas to facilitate effective waste management.
- B. Clearly identify containers, bins and storage areas so that recyclable materials are separated from trash and can be transported to respective recycling facility for processing.
- C. Hazardous wastes shall be separated, stored, disposed of according to local, state, federal regulations.

3.2 DISPOSAL

- A. Contractor shall be responsible for transporting and disposing of materials that cannot be delivered to a source-separated or mixed materials recycling facility to a transfer station or disposal facility that can accept the materials in accordance with state and federal regulations.
- B. Construction or demolition materials with no practical reuse or that cannot be salvaged or recycled shall be disposed of at a landfill or incinerator.

3.3 REPORT

- A. With each application for progress payment, submit a summary of construction and demolition debris diversion and disposal including beginning and ending dates of period covered.
- B. Quantify all materials diverted from landfill disposal through salvage or recycling during the period with the receiving parties, dates removed, transportation costs, weight tickets, manifests, invoices. Include the net total costs or savings for each salvaged or recycled material.
- C. Quantify all materials disposed of during the period with the receiving parties, dates removed, transportation costs, weight tickets, tipping fees, manifests, invoices. Include the net total costs for each disposal.

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SECTION 03 30 53
CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 DESCRIPTION:

This section specifies material and mixes for concrete toppings.

1.3 TOLERANCES:

A. ACI 117.

1.4 REGULATORY REQUIREMENTS:

A. ACI SP-66 ACI Detailing Manual

1.5 SUBMITTALS:

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Concrete Mix Design.

1.6 APPLICABLE PUBLICATIONS:

A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.

B. American Concrete Institute (ACI):

117R-06.....Tolerances for Concrete Construction and
Materials

C. American Society for Testing And Materials (ASTM):

C33-07.....Concrete Aggregates

C94/C94M-07.....Ready-Mixed Concrete

C150-07.....Portland Cement

C172-07.....Sampling Freshly Mixed Concrete

PART 2 - PRODUCTS

2.1 MATERIALS:

A. Portland Cement: ASTM C150, Type I or II.

B. Coarse Aggregate: ASTM C33, Coarse aggregate for applied topping shall be Size 7.

C. Fine Aggregate: ASTM C33.

D. Lightweight Aggregate for Structural Concrete: ASTM C330, Table 1

E. Mixing Water: Fresh, clean, and potable.

F. Grout, Non-Shrinking: Premixed ferrous or non-ferrous, mixed and applied in accordance with manufacturer's recommendations. Grout shall show no settlement or vertical drying shrinkage at 3 days or thereafter based on initial measurement made at time of placement, and produce a compressive

strength of at least 18mpa (2500 psi) at 3 days and 35mpa (5000 psi) at 28 days.

2.3 CONCRETE MIXES:

- A. Design of concrete mixes using materials specified shall be the responsibility of the Contractor as set forth under Option C of ASTM C94.

2.4 BATCHING & MIXING:

- A. Store, batch, and mix materials as specified in ASTM C94.
 - 1. Job-Mixed: Concrete mixed at job site shall be mixed in a batch mixer in manner specified for stationary mixers in ASTM C94.

PART 3 - EXECUTION

3.1 PLACING CONCRETE:

- A. Remove hardened concrete, debris and other foreign materials from interior of expansion joint blockouts. Obtain approval of VA Project Engineer (COR) before placing concrete topping.
- B. Before placing new concrete topping on or against concrete which has set, existing surfaces shall be roughened and cleaned free from all laitance, foreign matter, and loose particles.

3.2 PROTECTION AND CURING:

Protect exposed surfaces of concrete from premature drying. Curing method shall be subject to approval by VA Project Engineer (COR).

3.3 FINISHES:

- B. Slab Finishes:
 - 1. Scratch Finish: Slab surfaces to receive a bonded applied cementitious application shall all be thoroughly raked or wire broomed after partial setting (within 2 hours after placing) to roughen surface to insure a permanent bond between base slab and applied cementitious materials.
 - 2. Floating: Allow water brought to surface by float used for rough finishing to evaporate before surface is again floated or troweled. Do not sprinkle dry cement on surface to absorb water.
 - 3. Float Finish: Slabs to receive non-cementitious materials, except as specified, shall be screened and floated to a smooth dense finish. After first floating, while surface is still soft, surfaces shall be checked for alignment using a straightedge or template. Correct high spots by cutting down with a trowel or similar tool and correct low spots by filling in with material of same composition as floor finish. Remove any surface projections on floated finish by rubbing or dry grinding. Refloat the slab to a uniform sandy texture.

4. Steel Trowel Finish: Applied toppings, concrete surfaces to receive resilient floor covering, and all monolithic concrete floor slabs exposed in finished work and for which no other finish is shown or specified shall be steel troweled. Final steel troweling to secure a smooth, dense surface shall be delayed as long as possible, generally when the surface can no longer be dented with finger. During final troweling, tilt steel trowel at a slight angle and exert heavy pressure on trowel to compact cement paste and form a dense, smooth surface. Finished surface shall be free of trowel marks, uniform in texture and appearance.

3.9 SURFACE TREATMENTS:

- A. Surface treatments shall be mixed and applied in accordance with manufacturer's printed instructions.

3.10 APPLIED TOPPING:

- A. Separate concrete topping with thickness and strength shown with only enough water to insure a stiff, workable, plastic mix.
- B. Continuously place applied topping until entire section is complete, struck off with straightedge, compact by rolling or tamping, float and steel trowel to a hard smooth finish.

3.11 RESURFACING FLOOR AND PREPARATION OF EXISTING BLOCKOUT TO RECEIVE NEW FLOOR TO FLOOR EXPANSION JOINT:

Remove existing floor to floor expansion joint, in areas to receive resurfacing, to expose existing structural slab and to extend not more than 25 mm (1 inch) below new finished floor level. Prepare exposed structural slab surface by roughening, broom cleaning, wetting, and grouting. Apply topping as specified.

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SECTION 07 84 00
FIRESTOPPING

PART 1 GENERAL

1.1 DESCRIPTION

- A. Closures of openings in walls, floors, and roof decks against penetration of flame, heat, and smoke or gases in fire resistant rated construction.
- B. Closure of openings in walls against penetration of gases or smoke in smoke partitions.

1.2 RELATED WORK

- A. Sealants and application: Section 07 92 00, JOINT SEALANTS.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturers literature, data, and installation instructions for types of firestopping and smoke stopping used.
- C. List of FM, UL, or WH classification number of systems installed.
- D. Certified laboratory test reports for ASTM E814 tests for systems not listed by FM, UL, or WH proposed for use.

1.4 DELIVERY AND STORAGE

- A. Deliver materials in their original unopened containers with manufacturer's name and product identification.
- B. Store in a location providing protection from damage and exposure to the elements.

1.5 WARRANTY

Firestopping work subject to the terms of the Article "Warranty of Construction", FAR clause 52.246-21, except extend the warranty period to five years.

1.6 QUALITY ASSURANCE

FM, UL, or WH or other approved laboratory tested products will be acceptable.

1.7 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM):

E84-07.....Surface Burning Characteristics of Building
Materials

E814-06.....Fire Tests of Through-Penetration Fire Stops

C. Factory Mutual Engineering and Research Corporation (FM):

Annual Issue Approval Guide Building Materials

D. Underwriters Laboratories, Inc. (UL):

Annual Issue Building Materials Directory

Annual Issue Fire Resistance Directory

1479-03.....Fire Tests of Through-Penetration Firestops

E. Warnock Hersey (WH):

Annual Issue Certification Listings

PART 2 - PRODUCTS

2.1 FIRESTOP SYSTEMS

- A. Use either factory built (Firestop Devices) or field erected (through-Penetration Firestop Systems) to form a specific building system maintaining required integrity of the fire barrier and stop the passage of gases or smoke.
- B. Through-penetration firestop systems and firestop devices tested in accordance with ASTM E814 or UL 1479 using the "F" or "T" rating to maintain the same rating and integrity as the fire barrier being sealed shall be red in color for easy identification by varies medical center safety and accreditation inspection teams. "T" ratings are not required for penetrations smaller than or equal to 100 mm (4 in) nominal pipe or 0.01 m² (16 sq. in.) in overall cross sectional area.
- C. Products requiring heat activation to seal an opening by its intumescence shall exhibit a demonstrated ability to function as designed to maintain the fire barrier.
- D. Firestop sealants used for firestopping or smoke sealing shall have following properties:
 - 1. Contain no flammable or toxic solvents.
 - 2. Have no dangerous or flammable out gassing during the drying or curing of products.
 - 3. Water-resistant after drying or curing and unaffected by high humidity, condensation or transient water exposure.
 - 4. When used in exposed areas, shall be capable of being sanded and finished with similar surface treatments as used on the surrounding wall or floor surface.

- E. Firestopping system or devices used for penetrations by conduits, unenclosed cables, or other non-metallic materials shall have following properties:
 - 1. Classified for use with the particular type of penetrating material used.
 - 2. Penetrations containing loose electrical cables, computer data cables, and communications cables protected using firestopping systems that allow unrestricted cable changes without damage to the seal.
 - 3. Intumescent products which would expand to seal the opening and act as fire, smoke, toxic fumes, and, water sealant.
- F. Maximum flame spread of 25 and smoke development of 50 when tested in accordance with ASTM E84.
- G. FM, UL, or WH rated or tested by an approved laboratory in accordance with ASTM E814.
- H. Materials to be asbestos free.

2.2 SMOKE STOPPING IN SMOKE PARTITIONS

- A. Use silicone sealant in smoke partitions as specified in Section 07 92 00, JOINT SEALANTS.
- B. Use mineral fiber filler and bond breaker behind sealant.
- C. Sealants shall have a maximum flame spread of 25 and smoke developed of 50 when tested in accordance with E84.
- D. When used in exposed areas capable of being sanded and finished with similar surface treatments as used on the surrounding wall or floor surface.

PART 3 - EXECUTION

3.1 EXAMINATION

Submit product data and installation instructions, as required by article, submittals, after an on site examination of areas to receive firestopping.

3.2 PREPARATION

- A. Remove dirt, grease, oil, loose materials, or other substances that prevent adherence and bonding or application of the firestopping or smoke stopping materials.
- B. Remove insulation on insulated pipe for a distance of 150 mm (six inches) on either side of the fire rated assembly prior to applying the

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firestopping materials unless the firestopping materials are tested and approved for use on insulated pipes.

3.3 INSTALLATION

- A. Do not begin work until the specified material data and installation instructions of the proposed firestopping systems have been submitted and approved.
- B. Install firestopping systems with smoke stopping in accordance with FM, UL, WH, or other approved system details and installation instructions.
- C. Install smoke stopping seals in smoke partitions.

3.4 CLEAN-UP AND ACCEPTANCE OF WORK

- A. As work on each floor is completed, remove materials, litter, and debris.
- B. Do not move materials and equipment to the next-scheduled work area until completed work is inspected and accepted by the VA (COTR).
- C. Clean up spills of liquid type materials.

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SECTION 07 92 00
JOINT SEALANTS

PART 1 - GENERAL

1.1 DESCRIPTION:

Section covers all sealant and caulking materials and their application, wherever required for complete installation of building materials or systems.

1.2 RELATED WORK:

A. Firestopping penetrations: Section 07 84 00, FIRESTOPPING.

1.3 QUALITY CONTROL:

- A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.
- C. VOC: Acrylic latex and Silicon sealants shall have less than 50g/l VOC content.

1.4 SUBMITTALS:

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's installation instructions for each product used.
- C. Manufacturer's Literature and Data:
 - 1. Caulking compound
 - 2. Primers
 - 3. Sealing compound, each type, including compatibility when different sealants are in contact with each other.

1.5 PROJECT CONDITIONS:

- A. Environmental Limitations:
 - 1. Do not proceed with installation of joint sealants under following conditions:
 - a. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4.4 °C (40 °F).
 - b. When joint substrates are wet.

B. Joint-Width Conditions:

1. Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.

C. Joint-Substrate Conditions:

1. Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.6 DELIVERY, HANDLING, AND STORAGE:

- A. Deliver materials in manufacturers' original unopened containers, with brand names, date of manufacture, shelf life, and material designation clearly marked thereon.
- B. Carefully handle and store to prevent inclusion of foreign materials.
- C. Do not subject to sustained temperatures exceeding 32° C (90° F) or less than 5° C (40° F).

1.7 DEFINITIONS:

- A. Definitions of terms in accordance with ASTM C717 and as specified.
- B. Back-up Rod: A type of sealant backing.
- C. Bond Breakers: A type of sealant backing.
- D. Filler: A sealant backing used behind a back-up rod.

1.8 WARRANTY:

- A. Warranty interior sealing against leaks, adhesion, and cohesive failure, and subject to terms of "Warranty of Construction", FAR clause 52.246-21, except that warranty period shall be extended to two years.
- B. General Warranty: Special warranty specified in this Article shall not deprive Government of other rights Government may have under other provisions of Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of Contract Documents.

1.9 APPLICABLE PUBLICATIONS:

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.
- B. American Society for Testing and Materials (ASTM):
C509-06.....Elastomeric Cellular Preformed Gasket and
Sealing Material.

C717-10.....Standard Terminology of Building Seals and
Sealants.
C834-10.....Latex Sealants.
C920-10.....Elastomeric Joint Sealants.
C1193-09.....Standard Guide for Use of Joint Sealants.
C1330-02 (R2007).....Cylindrical Sealant Backing for Use with Cold
Liquid Applied Sealants.
D1056-07.....Specification for Flexible Cellular Materials-
Sponge or Expanded Rubber.
E84-09.....Surface Burning Characteristics of Building
Materials.

C. Sealant, Waterproofing and Restoration Institute (SWRI).
The Professionals' Guide

PART 2 - PRODUCTS

2.1 SEALANTS:

- A. S-1:
1. ASTM C920, silicone, neutral cure.
 2. Type S.
 3. Class: Joint movement range of plus 100 percent to minus 50 percent.
 4. Grade NS.
 5. Shore A hardness of 15-20.
 6. Minimum elongation of 1200 percent.
- B. S-2:
1. ASTM C920 silicone.
 2. Type S.
 3. Class 25.
 4. Grade NS.
 5. Shore A hardness of 25-30.
 6. Non-yellowing, mildew resistant.
- C. S-3:
1. ASTM C920, coal tar extended fuel resistance polyurethane.
 2. Type M/S.
 3. Class 25.
 4. Grade P/NS.
 5. Shore A hardness of 15-20.
- D. S-4:
1. ASTM C920 polyurethane.

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2. Type M/S.
3. Class 25.
4. Grade P/NS.
5. Shore A hardness of 35 to 50.

E. S-5:

1. ASTM C920, polyurethane.
2. Type M/S.
3. Class 25, joint movement range of plus or minus 50 percent.
4. Grade P/NS.
5. Shore A hardness of 25 to 50.

2.2 CAULKING COMPOUND:

- A. C-1: ASTM C834, acrylic latex.

2.3 COLOR:

- A. Sealants used with exposed masonry shall match color of mortar joints.
- B. Sealants used with unpainted concrete shall match color of adjacent concrete.
- C. Color of sealants for other locations shall be light gray or aluminum, unless specified otherwise.
- D. Caulking shall be light gray or white, unless specified otherwise.

2.4 JOINT SEALANT BACKING:

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
1. Type C: Closed-cell material with a surface skin.
- C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 32° C (minus 26° F). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.
- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid,

inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.5 CLEANERS-NON POUROUS SURFACES:

Chemical cleaners acceptable to manufacturer of sealants and sealant backing material, free of oily residues and other substances capable of staining or harming joint substrates and adjacent non-porous surfaces and formulated to promote adhesion of sealant and substrates.

PART 3 - EXECUTION

3.1 INSPECTION:

- A. Inspect substrate surface for bond breaker contamination and unsound materials at adherent faces of sealant.
- B. Coordinate for repair and resolution of unsound substrate materials.
- C. Inspect for uniform joint widths and that dimensions are within tolerance established by sealant manufacturer.

3.2 PREPARATIONS:

- A. Prepare joints in accordance with manufacturer's instructions and SWRI.
- B. Clean surfaces of joint to receive caulking or sealants leaving joint dry to the touch, free from moisture, grease, oil, wax, or other foreign matter that would tend to destroy or impair adhesion.
 - 1. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants.
 - 2. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include the following:
 - a. Concrete.
 - b. Masonry.
- C. Do not cut or damage joint edges.
- D. Apply masking tape to face of surfaces adjacent to joints before applying primers, caulking, or sealing compounds.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

- E. Apply primer to sides of joints wherever required by compound manufacturer's printed instructions.
 - 1. Apply primer prior to installation of back-up rod or bond breaker tape.
 - 2. Use brush or other approved means that will reach all parts of joints.
- F. Take all necessary steps to prevent three sided adhesion of sealants.

3.3 BACKING INSTALLATION:

- A. Install back-up material, to form joints enclosed on three sides as required for specified depth of sealant.
- B. Where deep joints occur, install filler to fill space behind the back-up rod and position the rod at proper depth.
- C. Cut fillers installed by others to proper depth for installation of back-up rod and sealants.
- D. Install back-up rod, without puncturing the material, to a uniform depth, within plus or minus 3 mm (1/8 inch) for sealant depths specified.
- E. Where space for back-up rod does not exist, install bond breaker tape strip at bottom (or back) of joint so sealant bonds only to two opposing surfaces.
- F. Take all necessary steps to prevent three sided adhesion of sealants.

3.4 SEALANT DEPTHS AND GEOMETRY:

- A. At widths up to 6 mm (1/4 inch), sealant depth equal to width.
- B. At widths over 6 mm (1/4 inch), sealant depth 1/2 of width up to 13 mm (1/2 inch) maximum depth at center of joint with sealant thickness at center of joint approximately 1/2 of depth at adhesion surface.

3.5 INSTALLATION:

- A. General:
 - 1. Apply sealants and caulking only when ambient temperature is between 5° C and 38° C (40° and 100° F).
 - 2. Do not use sealant type listed by manufacture as not suitable for use in locations specified.
 - 3. Apply caulking and sealing compound in accordance with manufacturer's printed instructions.
 - 4. Avoid dropping or smearing compound on adjacent surfaces.
 - 5. Fill joints solidly with compound and finish compound smooth.
 - 6. Tool joints to concave surface unless shown or specified otherwise.

7. Finish floor joints flush unless joint is otherwise detailed.
8. Apply compounds with nozzle size to fit joint width.
9. Test sealants for compatibility with each other and substrate. Use only compatible sealant.
- B. For application of sealants, follow requirements of ASTM C1193 unless specified otherwise.
- C. Where gypsum board partitions are of fire rated, or smoke barrier construction, follow requirements of ASTM C919 only to seal all cut-outs and intersections with the adjoining construction unless specified otherwise.
1. Control Joints: Before control joints are installed, apply sealant in back of control joint to reduce flanking path for sound through control joint.

3.6 CLEANING:

- A. Fresh compound accidentally smeared on adjoining surfaces: Scrape off immediately and rub clean with a solvent as recommended by the caulking or sealant manufacturer.
- B. After filling and finishing joints, remove masking tape.
- C. Leave adjacent surfaces in a clean and unstained condition.

3.7 LOCATIONS:

- A. Interior Caulking:
 1. Typical Narrow Joint 6 mm, (1/4 inch) or less at Walls and Adjacent Components: Types C-1 and C-2.
 2. Joints at Masonry Walls and Concrete Walls or Exterior Walls: Types C-1 and C-2.

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SECTION 07 95 13
EXPANSION JOINT COVER ASSEMBLIES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Section specifies building interior floor expansion joint assemblies.

B. Types of assemblies:

Aluminum Metal Plate Covers

1.2 RELATED WORK

A. Cast-In-Place Concrete: Section 03 30 53

B. Mosaic Stone Flooring: Section 09 63 40

C. Floor tile: Section 09 65 19

1.3 QUALITY ASSURANCE

A. Manufacturer: Furnish assemblies from one (1) manufacturer with a minimum of five (5) years of experience in the design, engineering and fabrication of expansion joint systems.

B. Installer: Firm with not less than three (3) years of successful experience in the installation of systems similar to those required by this project and acceptable to the manufacturer of the system.

C. Project Conditions:

1. Check actual locations of existing floor slabs, walls and other construction, to which work must fit, by accurate field measurements before fabrication.

2. Show recorded measurements on final shop drawings.

1.4 DELIVERY STORAGE AND HANDLING

A. Provide temporary protective covers on anodized aluminum finished surfaces.

B. Deliver joint systems to jobsite in new, clean, unopened cartons or crates of sufficient size and strength to protect materials during transit.

C. Store components in original containers in a clean, dry location.

D. Take care in handling of materials so as not to injure finished surface and components.

E. Remove materials which are damaged or otherwise not suitable for installation from job site and replace with acceptable materials.

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1.5 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
 - 1. Submit copies of Manufacturer's current specifications, technical data, installation instructions, and detail drawings for each system.
 - 2. Clearly indicate movement capability of cover assemblies.
- C. Shop Drawings:
 - 1. Showing full extent of expansion joint cover assemblies; include large-scale details indicating profiles of each type of expansion joint cover assembly, splice joints between sections, joiners with other type assemblies, special end conditions, anchorages, fasteners, and relationship to adjoining work and finishes.
 - 2. Include description of materials and finishes and installation instructions.
- D. Samples:
 - 1. Samples of each type and color of metal finish on metal of same thickness and alloy used in work.
 - 2. Samples of each type and color of flexible seal used in work.

1.6 APPLICABLE PUBLICATIONS

- A. Publications listed form part of this specification to extent referenced. Publications are referred to in text by basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - A36/A36M-08.....Structural Steel
 - A167-99 (R2009).....Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
 - A283/A283M-07.....Low and Intermediate Tensile Strength Carbon Steel Plates
 - A786/A786M-05(R2009)....Rolled Steel Floor Plates
 - B36/B36M-08.....Brass, Plate, Sheet, Strip, and Rolled Bar
 - B121-01(R2006).....Leaded Brass Plate, Sheet, Strip and Rolled Bar
 - B209M-07.....Aluminum and Aluminum-Alloy Sheet and Plate (Metric)
 - B221M-08.....Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes (Metric)

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- B455-10.....Copper-Zinc Lead Alloy (Leaded Brass) Extruded Shapes
- C864-05.....Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers
- C920-11.....Elastomeric Joint Sealants
- D1187-97 (R2002).....Asphalt Base Emulsions for Use as Protective Coatings for Metal
- D2287-96 (R2010).....Non-rigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds
- E119-10.....Fire Tests of Building Construction and Materials
- E814-11.....Fire Tests of Through-Penetration Fire Stops
- C. Federal Specifications (Fed. Spec):
 - TT-P-645B.....Primer, Paint, Zinc-Molybdate, Alkyd Type
- D. The National Association of Architectural Metal Manufacturers (NAAMM):
 - AMP 500 Series.....Metal Finishes Manual.
- E. National Fire Protection Association (NFPA):
 - 251-06.....Tests of Fire Endurance of Building Construction and Materials
- F. Underwriters Laboratories Inc. (UL):
 - 263-11.....Fire Tests of Building Construction and Materials

1.7 WARRANTY

- A. Standard warranty against material and manufacturing defects for a period of not less than three (3) years when installed in accordance with manufacturer's recommendations.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. As a basis of design this design uses InPro joint master architectural 222-A01-050 system.
- B. Joint systems shall permit limited movement of joint without disengagement.
 - 1. Specify x-axis joint movement 1/2 inch (horizontal).
 - 2. Specify y-axis joint movement 1/16 inch (vertical).
 - 3. Specify z-axis joint movement 1 inch (lateral).

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C. Allowable load on floor joint cover plate shall be 100 PSF uniform load and 400 pounds concentrated load with maximum 12,000 psi stress (6063-T5 aluminum extrusions) at full open position.

1. Deflection shall be 1/16 inch at neutral position.

D. Fire Rated Assemblies shall have been tested by Underwriters Laboratories, in accordance with [ANSI/U.L. No. 263 and ASTM E 119/E 814] [UL 2079] [including hose stream test at full rated period]. Underwriter's Laboratories shall classify assemblies. Fire rating shall be 2 hours.

2.2 MATERIALS

A. Stainless Steel: ASTM A167, Type 302 or 304.

B. Aluminum:

1. Extruded: ASTM B221, alloy 6063-T5.

2. Plate and Sheet: ASTM B209, alloy 6061-T6.

C. Elastomeric Seal:

1. Dual durometer Santoprene or equal. Elastomeric Seal colors to be selected by Project Engineer (COR) from manufacturer's standard range.

2. Dense Neoprene or other material standard with expansion joint manufacturers having the same physical properties.

D. Fire Barrier:

1. Mineral wool and Silicone Sealant System designed equivalent to UL2079 required for 2 hour fire resistance rating.

2. Designed for indicated dynamic structural movement without material degradation or fatigue.

3. Tested in maximum joint width condition as a component of an expansion joint cover assembly in accordance with UL 263 NFPA 251, or ASTM E119 and E814, including hose steam test at full-rated period.

E. Zinc-Molybdate Primer: Federal Specification TT-P-645.

F. Accessories:

1. Manufacturer's standard anchors, fasteners, stainless steel spring clips, set screws, spacers, flexible secondary water stops or seals and filler materials, drain tubes, adhesive and other accessories as

indicated or required for complete installation in accordance with the manufacturer's instructions.

2. Compatible with materials in contact.
3. Water stops.

2.3 FABRICATION

A. GENERAL:

1. Provide expansion joint cover assemblies of design, basic profile, materials and operation indicated required to accommodate joint size variations in adjacent surfaces, and as required for anticipated structural movement.
2. Deliver to job site ready for use and fabricated in as large sections and assemblies as practical. Assemblies identical to submitted and reviewed shop drawings, samples and certificates.
3. Furnish units in longest practicable lengths to minimize number of end joints.
4. Include closure materials and transition pieces, corners, curbs, cross-connections and other assemblies.
5. Fire Performance Characteristics:
 - a. Provide expansion joint cover assemblies identical to those of assemblies whose fire resistance has been determined per ASTM E119 and E814, NFPA 251, or UL 263 including hose stream test at full-rated period.
 - b. Fire rating: 2 hours to match the rating of the adjacent floor construction.
6. Fire Barrier Systems:
 - a. Material to carry label of approved independent testing laboratory, and be subject to follow-up system for quality assurance.
 - b. Include thermal insulation where necessary, in accordance with above tests, with factory cut miters and transitions.
 - c. For joint widths up to and including 150 mm (two inches), supply barrier in lengths up to 15000 mm (50 feet) to eliminate field splicing.
7. Seal Strip factory - formed and bonded to metal frames and anchor members.

8. Compression Seals: Prefabricate from thermoplastic rubber or dense neoprene to sizes and approximate profiles shown.

B. FLOOR-TO-FLOOR ALUMINUM METAL PLATE JOINTS:

1. Frames on each side of joint designed to support cover plate of design shown.
 - a. Continuous frame designed to finish flush with adjacent floor of profile indicated with seating surface and raised floor rim to accommodate flooring.
 - b. Provide concealed bolt and steel anchors for embedment in concrete.
 - c. Designed for filler materials between raised rim of frame and edge of cover plate where shown.
 - d. Frame and cover plates of same metal where exposed.
 - 1) Design cover plates to support 180 Kg (400 lbs) per 0.3 square meters (1-square foot).
 - 2) Cover plates free of rattle due to traffic.
 - 3) No gaps or budes occur on filler material during design movement of joint.
 - 4) Provide manufacturer's continuous standard flexible vinyl water stop under floor joint cover assemblies.
2. Frames on each side of joint designed to support cover plate of design shown.
 - a. Continuous frame designed to finish flush with adjacent floor of profile indicated with seating surface to accommodate flooring.
 - b. Provide concealed bolt and steel anchors for embedment in concrete.
 - c. Designed for flush plate where shown.
 - d. Frame and cover plates of same metal where exposed.
 - 1) Design cover plates to support 180 Kg (400 lbs) per 0.3 square meters (1-square foot).
 - 2) Cover plates free of rattle due to traffic.
 - 3) No gaps or budes occur on filler material during design movement of joint.
 - 4) Provide manufacturer's continuous standard flexible vinyl water stop under floor joint cover assemblies.

2.4 METAL FINISHES

A. General:

1. Apply finishes in factory after products are fabricated.
2. Protect finishes on exposed surfaces with protective covering before shipment.

B. Aluminum Finishes:

1. Finish letters and numbers for anodized aluminum are in accordance with the NAAMM AMP 501, Aluminum Association's Designation System).
 - a. Clear anodized finish: AA-C22A41 Chemically etched medium matte, clear anodic coating, Class I Architectural, 0.7 - mil thick.
2. Factory-Primed Concealed Surface: NAAMM AMP 505 Protect concealed aluminum surfaces that will be in contact with plaster, concrete or masonry surfaces when installed by applying a shop coat of zinc-molybdate primer to contact surfaces. Provide minimum dry film thickness of 2.0 mils.

C. Stainless Steel: NAAMM AMP 503, finish No. 2B.

D. Carbon Steel: NAAMM AMP 504, Galvanized 690.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Manufacturer's representative shall make a thorough examination of surfaces receiving work of this section.
- B. Before starting installation, notify prime contractor of defects which would affect satisfactory completion of work.

3.2 PREPARATION

- A. Verify measurements and dimensions at job site and cooperate in coordination and scheduling of work with work of related trades.
- B. Give particular attention to installation of items embedded in concrete and masonry so as not to delay job progress.
- C. Provide templates to related trade for location of support and anchorage items.

3.3 INSTALLATION

- A. Install in accordance with manufacturers installation instructions unless specified otherwise.
- B. Provide anchorage devices and fasteners for securing expansion joint assemblies to in-place construction including threaded fasteners with drilled-in fasteners for concrete where anchoring members are not

embedded in concrete. Provide metal fasteners of type and size to suit type of construction indicated and provide for secure attachment of expansion joint cover assemblies.

- C. Perform cutting, drilling and fitting required for installation of expansion joint cover assemblies.
- D. Install joint cover assemblies in true alignment and proper relationship to expansion joint opening and adjoining finished surfaces measured from established lines and levels.
- E. Allow for thermal expansion and contraction of metal to avoid buckling.
- F. Set floor covers at elevations flush with adjacent finished floor materials unless shown otherwise.
- G. Material and method of grouting floor frames set in prepared recesses in accordance with manufacturer's instructions.
- H. Locate anchors at interval recommended by manufacturer, but not less than 75 mm (3-inches) from each ends, and, not more than 600 mm (18 inches) on centers.
- I. Maintain continuity of expansion joint cover assemblies with end joints held to a minimum and metal members aligned mechanically using splice joints.
- J. Cut and fit ends to produce joints that will accommodate thermal expansion and contraction of metal to avoid buckling of frames or plates.
- K. Flush Metal Cover Plates:
 - 1. Secure flexible filler between frames so that it will compress and expand.
 - 2. Adhere flexible filler materials to frames with adhesive or pressure-sensitive tape as recommended by manufacturer.
- L. Waterstops:
 - 1. Install in conjunction with floor joints and where shown, run continuously to prevent water damage to finish spaces.
 - 2. Provide seal with frame to prevent water leakage.
 - 3. Provide outlet tubes from waterstops to drain to prevent damage to finish spaces.
- M. Fire Barriers:
 - 1. Install in compliance with tested assembly.
 - 2. Install in floors.

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3. Use fire barrier sealant or caulk supplied with system.

N. Sealants:

Install to prevent water and air infiltration.

O. Installation of Extruded Thermoplastic Rubber or Seals:

1. For straight sections, provide preformed seals in continuous lengths.
2. Vulcanize or heat-seal field splice joints to provide watertight joints using manufacturer's recommended procedures.

3.4 PROTECTION

- A. Take proper precautions to protect the expansion joint covers from damage after they are in place.
- B. Cover floor joints with plywood where grouting infill as been required to allow grout to have adequate time to reach full set strength in accordance with grout manufacturer's recommendation.

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SECTION 09 63 40
MOSAIC STONE FLOORING

PART 1 - GENERAL

1.1 DESCRIPTION

The requirements for interior stone flooring, set in mortar on a rigid base are covered in this section.

1.2 RELATED WORK

A. Concrete Subfloors: Section 03 30 53, CAST-IN-PLACE CONCRETE

1.3 ALLOWABLE TOLERANCES

- A. Floor surface true to plane within 1mm in 1000mm (1/8-inch in 10 feet) not cumulative.
- B. Joint width deviation not greater than 10 percent of dimension of existing Joint width.

1.4 SUBMITTAL

- A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES, furnish the following:
- B. Samples: Five individual samples of stone showing extreme variations in color and texture.
- C. Shop Drawings: Special stone shapes.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver masonry materials in original sealed containers marked with name of manufacturer and identification of contents.
- B. Store masonry materials on planking clear of existing floor, and protect from handling damage, dirt stain, water and wind.

1.6 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - C144-04.....Aggregate for Masonry Mortar
 - C150-09.....Portland Cement
 - C241-09.....Abrasion Resistance of Stone Subjected to Foot Traffic
 - C270-10.....Mortar for Unit Masonry

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Stone Slabs: mosaic tile stone with abrasion resistance of at least 25 as measured by ASTM C241. Stone slabs to be uniform in quality and

texture, free from shale, excess mica, seams, sealing and disintegration.

- B. Portland Cement: ASTM C150.
- C. Coloring Pigments: Pure mineral pigments, lime proof and non-fading; added to grout and mortar by the manufacturer. Job colored grout and mortar is not acceptable.
- D. Color and texture of existing grout, mortar, and stone: Contractor to match existing by field investigation.
- E. Paving pattern: Contractor to match existing by field investigation.

2.2 MORTAR

ASTM C270, Type S. No admixtures permitted. Type N lime is not permitted.

2.3 GROUT

One part Portland cement and three parts sand by volume. Mix with enough water for flowability.

PART 3 - EXECUTION

3.1 APPLICABLE

- A. General: Do not use tiles with chips, cracks, discoloration or other visible defects.
- B. Installation with Portland Cement Grout:
 - 1. Spread and screed mortar setting bed mixture 13 mm to 25 mm (1/2-inch to 1-inch) in thickness true to plane.
 - 2. Limit setting bed to minimum amount which can be covered with mosaic tile before initial set.
 - 3. Apply 1 mm (1/32-inch) layer of neat cement paste over setting bed. Set and level each stone immediately. Tamp stone to completely contact setting bed.
 - 4. Grout joints as soon as initial set is achieved. Place grout in joints, strike flush and tool slightly concave.
 - 5. Cure grout by maintaining in a damp condition for seven days.
- C. Installation with Portland Cement Mortar:
 - 1. Install in full bed joint. Remove excess mortar. Strike joints flush with top surface of stone and tool slightly concave.
 - 2. Cure mortar by maintaining in a damp condition for seven days.

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SECTION 09 65 19
RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies the installation of solid vinyl tile flooring,
vinyl composition tile flooring, rubber tile flooring, and accessories.

1.2 COLOR AND PATTERN AND LOCATION

A. Existing tile reference chart for Color, pattern and location to be
match as required for all related renovation work under this project.

BASEMENT			
Tile Color	Tile Pattern	Tile Size	Building Unit
Not Applicable (NA)			A
White	Armstrong Excelon	12" X 12"	B
NA			C
NA			D
NA			E
NA			F
FIRST FLOOR			
Tile Color	Tile Pattern	Tile Size	Building Unit
Gray	Armstrong Excelon	12" X 12"	A
White	Armstrong Excelon	12" X 12"	B
White	Armstrong Excelon	12" X 12"	C
White	Armstrong Excelon	12" X 12"	D
NA			E
NA			F

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SECOND FLOOR			
Tile Color	Tile Pattern	Tile Size	Building Unit
White	Armstrong Excelon	12" X 12"	A
White	Armstrong Excelon	12" X 12"	B
White	Armstrong Excelon	12" X 12"	C
White	Armstrong Excelon	12" X 12"	D
THIRD FLOOR			
Tile Color	Tile Pattern	Tile Size	Building Unit
White	Armstrong Excelon	12" X 12"	A
White	Armstrong Excelon	12" X 12"	B
White	Armstrong Excelon	12" X 12"	C
Gray	Armstrong Excelon	12" X 12"	D
FOURTH FLOOR			
Tile Color	Tile Pattern	Tile Size	Building Unit
		12" X 12"	A
White	Armstrong Excelon	12" X 12"	B
White	Armstrong Excelon	12" X 12"	C
FIFTH FLOOR			
Tile Color	Tile Pattern	Tile Size	Building Unit
White	Armstrong Excelon	12" X 12"	A
White	Armstrong Excelon	12" X 12"	B
White	Armstrong Excelon	12" X 12"	C

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1.3 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
 - 1. Description of each product.
 - 2. Resilient material manufacturers recommendations for adhesives, underlayment, primers and polish.
 - 3. Application and installation instructions.
- C. Samples:
 - 1. Tile: 300 mm by 300 mm (12 inches by 12 inches) for each type, pattern and color.

1.4 DELIVERY

- A. Deliver materials to the site in original sealed packages or containers, clearly marked with the manufacturer's name or brand, type and color, production run number and date of manufacture.
- B. Materials from containers which have been distorted, damaged or opened prior to installation will be rejected.

1.5 STORAGE

- A. Store materials in weathertight and dry storage facility.
- B. Protect from damage from handling, water, and temperature.

1.6 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - D4078-02 (2008).....Water Emulsion Floor Finish
 - E648-10.....Critical Radiant Flux of Floor Covering Systems
Using a Radiant Energy Source
 - E662-09.....Specific Optical Density of Smoke Generated by
Solid Materials
 - F510-93 (R 2008).....Resistance to Abrasion of Resilient Floor
Coverings Using an Abrader with a Grit Feed
Method
 - F710-08.....Preparing Concrete Floors to Receive Resilient
Flooring
 - F1066-04 (R2010).....Vinyl Composition Floor Tile
 - F1344-10.....Rubber Floor Tile
 - F1700-04 (R2010).....Solid Vinyl Floor Tile
- C. Resilient Floor Covering Institute (RFCI):

IP #2.....Installation Practice for Vinyl Composition Tile
(VCT)

D. Federal Specifications (Fed. Spec.):

SS-T-312.....Tile Floor: Asphalt, Rubber, Vinyl and Vinyl
Composition

PART 2 - PRODUCTS

2.1 GENERAL

- A. Furnish product type, materials of the same production run and meeting following criteria.
- B. Use adhesives, underlayment, primers and polish recommended by the floor resilient material manufacturer.
- C. Critical Radiant Flux: 0.45 watts per sq. cm or more, Class I, per ASTM E 648.
- D. Smoke density: Less than 450 per ASTM E662.

2.2 VINYL COMPOSITION TILE

- A. ASTM F1066, Composition 1, Class 2 (through pattern), 300 mm (12 inches) square, 3 mm (1/8 inch) thick.
- B. Color and pattern uniformly distributed throughout thickness.

2.3 RUBBER TILE

- A. ASTM F1344, Class 1, homogenous rubber tile, B, through mottled, 300 mm (12 inches) square, 3 mm (1/8 inch) thick.
- B. Color and pattern uniformly distributed throughout tile.
- C. Molded pattern wearing surface base thickness 3 mm (1/8 inch) thick.
- D. Where rubber tile is used provide tiles with a minimum of 90% post consumer rubber.

2.4 ADHESIVES

- A. Comply with applicable regulations regarding toxic and hazardous materials Green Seal (GS-36) for commercial adhesive.
- B. Use low-VOC adhesive during installation. Water based is preferred over solvent based adhesives.

2.5 PRIMER (FOR CONCRETE SUBFLOORS)

As recommended by the adhesive and tile manufacturer.

2.6 LEVELING COMPOUND (FOR CONCRETE FLOORS)

- A. Provide cementitious products with latex or polyvinyl acetate resins in the mix.
- B. Determine the type of underlayment selected for use by the condition to be corrected.

2.7 CLEANERS

- A. Cleaners RFCI CL-1.

PART 3 - EXECUTION

3.1 PROJECT CONDITIONS

- A. Maintain temperature of materials a minimum of 22 °C (70 °F,) for 48 hours before installation.
- B. Maintain temperature of rooms where work occurs between 21 °C and 27 °C (70 °F and 80 °F), for at least 48 hours, before, during and after installation.
- C. Do not install flooring until wet construction in or near areas to receive tile materials is complete, dry and cured.
- D. Existing flooring:
 - 1. Where extension or replacement of existing flooring occur, match existing.
 - 2. Comply with specifications for new tile units for new units required to match appearance of existing units.

3.2 SUBFLOOR PREPARATION

- A. Correct conditions which will impair proper installation.
- C. Fill cracks, joints and other irregularities in concrete with leveling compound:
 - 1. Do not use adhesive for filling or leveling purposes.
 - 2. Do not use leveling compound to correct imperfections which can be corrected by spot grinding.
 - 3. Trowel to smooth surface free of trowel marks, pits, dents, protrusions, cracks or joints.
- D. Clean floor of oil, paint, dust, and deleterious substances: Leave floor dry and cured free of residue from existing curing or cleaning agents.
- E. Prime the concrete subfloor if the primer will seal slab conditions that would inhibit bonding, or if priming is recommended by the tile or adhesive manufacturers.
- F. Preparation of existing installation shall include the removal of existing resilient floor and existing adhesive. Do not use solvents to remove adhesives.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions for application and installation unless specified otherwise.
- B. Mix tile from at least two containers. An apparent line either of shades or pattern variance will not be accepted.
- C. Tile Layout:
 - 1. Lay tile symmetrically about center of room or space with joints aligned to match existing layout.

2. No tile shall be less than 150 mm (6 inches) and of equal width at walls.
3. Place tile pattern in the same direction; do not alternate tiles.
- D. Trim tiles to touch for the length of intersections at pipes and vertical projections, seal joints at pipes with waterproof cement.
- E. Application:
 1. Apply adhesive uniformly with no bare spots.
 - a. Conform to RFC1-TM-6 for joint tightness and for corner intersection unless layout pattern shows random corner intersection.
 - b. More than 5 percent of the joints not touching will not be accepted.
 2. Roll tile floor with a minimum 45 kg (100 pound) roller. No exceptions.

3.4 CLEANING AND PROTECTION

- A. Clean adhesive marks on exposed surfaces during the application of resilient materials before the adhesive sets. Exposed adhesive is not acceptable.
- B. Keep traffic off resilient material for a minimum 72 hours after installation.
- C. Clean and buff materials in the following order:
 1. For the first two weeks sweep and damp mopped only.
 2. After two weeks, scrub resilient materials with a minimum amount of water and a mild detergent. Leave surface clean and free of detergent residue.
 3. Apply polish to the floors in accordance with the polish manufacturer's instructions.
- D. When construction traffic occurs over tile, cover resilient materials with reinforced kraft paper properly secured and maintained until removal is directed by Project Engineer.
- E. When protective materials are removed and immediately prior to acceptance, replace any damage tile, re-clean resilient materials, lightly buff floors.

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SECTION 09 91 00
PAINTING

PART 1-GENERAL

1.1 DESCRIPTION

- A. Section specifies field painting.
- B. Painting includes coatings specified.
- C. Type of Finish, Color, and Gloss Level of Finish Coat.

1.2 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
Before work is started submit manufacturer's literature, the current Master Painters Institute (MPI) "Approved Product List" indicating brand label, product name and product code as of the date of contract award, will be used to determine compliance with the submittal requirements of this specification. The Contractor may choose to use subsequent MPI "Approved Product List", however, only one list may be used for the entire contract and each coating system is to be from a single manufacturer. All coats on a particular substrate must be from a single manufacturer. No variation from the MPI "Approved Product List" where applicable is acceptable.

1.3 DELIVERY AND STORAGE

- A. Deliver materials to site in manufacturer's sealed container marked to show following:
 - 1. Name of manufacturer.
 - 2. Product type.
 - 3. Batch number.
 - 4. Instructions for use.
 - 5. Safety precautions.
- B. In addition to manufacturer's label, provide a label legibly printed as following:
 - 1. Name of material.
 - 2. Surface upon which material is to be applied.
 - 3. If paint or other coating, state coat types; prime, body or finish.
- C. Maintain space for storage, and handling of painting materials and equipment in a neat and orderly condition to prevent spontaneous combustion from occurring or igniting adjacent items.
- D. Store materials at site at least 24 hours before using, at a temperature between 18 and 30 degrees C (65 and 85 degrees F).

1.4 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by basic designation only.
- B. American Conference of Governmental Industrial Hygienists (ACGIH):
 - ACGIH TLV-BKLT-2008.....Threshold Limit Values (TLV) for Chemical Substances and Physical Agents and Biological Exposure Indices (BEIs)
 - ACGIH TLV-DOC-2008.....Documentation of Threshold Limit Values and Biological Exposure Indices, (Seventh Edition)
- C. Master Painters Institute (MPI):
 - No. 43-07.....Interior Satin Latex, MPI Gloss Level 4
 - No. 44-07.....Interior Low Sheen Latex, MPI Gloss Level 2
 - No. 45-07.....Interior Primer Sealer
 - No. 46-07.....Interior Enamel Undercoat
 - No. 47-07.....Interior Alkyd, Semi-Gloss, MPI Gloss Level 5 (AK)
 - No. 49-07.....Interior Alkyd, Flat, MPI Gloss Level 1 (AK)
 - No. 50-07.....Interior Latex Primer Sealer
 - No. 54-07.....Interior Latex, Semi-Gloss, MPI Gloss Level 5 (LE)
 - No. 114-07.....Interior Latex, Gloss (LE) and (LG)
- D. Steel Structures Painting Council (SSPC):
 - SSPC SP 1-04 (R2004)....Solvent Cleaning
 - SSPC SP 2-04 (R2004)....Hand Tool Cleaning
 - SSPC SP 3-04 (R2004)....Power Tool Cleaning

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Interior Primer Sealer: MPI 45.
- B. Interior Alkyd, Semi-Gloss (AK): MPI 47.
- C. Interior Latex Primer Sealer: MPI 50.
- D. Interior Latex, Semi-Gloss, MPI Gloss Level 5 (LE): MPI 54.
- E. Interior latex, Gloss (LE) and (LG): MPI 114.

2.2 PAINT PROPERTIES

- A. Use ready-mixed paints including colors.
- B. Where no requirements are given in the referenced specifications for primers, use primers with pigment and vehicle, compatible with substrate and finish coats specified.

2.3 REGULATORY REQUIREMENTS/QUALITY ASSURANCE

- A. Paint materials shall conform to the restrictions of the local Environmental and Toxic Control jurisdiction.

1. Volatile Organic Compounds (VOC): VOC content of paint materials shall not exceed 10g/l for interior latex paints/primers.
2. Lead-Base Paint:
 - a. Regulations concerning prohibition against use of lead-based paint in federal and federally assisted construction, or rehabilitation of residential structures are set forth in Subpart F, Title 24, Code of Federal Regulations, Department of Housing and Urban Development.
3. Asbestos: Materials shall not contain asbestos.
4. Chromate, Cadmium, Mercury, and Silica: Materials shall not contain zinc-chromate, strontium-chromate, Cadmium, mercury or mercury compounds or free crystalline silica.
5. Human Carcinogens: Materials shall not contain any of the ACGIH-BKLT and ACGHI-DOC confirmed or suspected human carcinogens.

PART 3 - EXECUTION

3.1 JOB CONDITIONS

- A. Safety: Observe required safety regulations and manufacturer's warning and instructions for storage, handling and application of painting materials.
 1. Take necessary precautions to protect personnel and property from hazards due to falls, injuries, toxic fumes, fire, explosion, or other harm.
 2. Deposit soiled cleaning rags and waste materials in metal containers approved for that purpose. Dispose of such items off the site at end of each days work.
- B. Atmospheric and Surface Conditions:
 1. Do not apply coating when air or substrate conditions are:
 - a. Less than 3 degrees C (5 degrees F) above dew point.
 - b. Below 10 degrees C (50 degrees F) or over 35 degrees C (95 degrees F), unless specifically pre-approved by the Contracting Officer Representative (COR) and the product manufacturer. Under no circumstances shall application conditions exceed manufacturer recommendations.
 2. Maintain interior temperatures until paint dries hard.

3.2 SURFACE PREPARATION

- A. Method of surface preparation is optional, provided results of finish painting produce solid even color and texture specified with no overlays.
- B. General:
 1. Remove prefinished items not to be painted for reinstallation after paint is dried.

2. Remove items for reinstallation and complete painting of such items and adjacent areas when item or adjacent surface is not accessible or finish is different.
3. See other sections of specifications for specified surface conditions and prime coat.
4. Clean surfaces for painting with materials and methods compatible with substrate and specified finish. Remove any residue remaining from cleaning agents used.

C. Ferrous Metals:

1. Remove oil, grease, soil, drawing compounds, flux and other detrimental foreign matter in accordance with SSPC-SP 1 (Solvent Cleaning).
2. Remove loose mill scale, rust, and paint, by hand or power tool cleaning, as defined in SSPC-SP 2 (Hand Tool Cleaning) and SSPC-SP 3 (Power Tool Cleaning).
3. Fill dents, holes and similar voids and depressions in flat exposed surfaces of items specified to have semi-gloss or gloss finish with TT-F-322D (Filler, Two-Component Type, For Dents, Small Holes and Blow-Holes). Finish flush with adjacent surfaces.
 - a. This includes flat head countersunk screws used for permanent anchors.
 - b. Do not fill screws of item intended for removal.

D. Gypsum Plaster and Gypsum Board:

1. Remove efflorescence, loose and chalking plaster or finishing materials.
2. Remove dust, dirt, and other deterrents to paint adhesion.
3. Fill holes, cracks, and other depressions with CID-A-A-1272A [Plaster, Gypsum (Spackling Compound) finished flush with adjacent surface, with texture to match texture of adjacent surface. Patch holes over 25 mm (1-inch) in diameter as specified in Section for plaster or gypsum board.

3.3 PAINT PREPARATION

- A. Thoroughly mix painting materials to ensure uniformity of color, complete dispersion of pigment and uniform composition.
- B. Do not thin unless necessary for application and when finish paint is used for body and prime coats. Use materials and quantities for thinning as specified in manufacturer's printed instructions.
- C. Remove paint skins, then strain paint through commercial paint strainer to remove lumps and other particles.
- D. For tinting required to produce exact shades specified, use color pigment recommended by the paint manufacturer.

3.4 APPLICATION

- A. Start of surface preparation or painting will be construed as acceptance of the surface as satisfactory for the application of materials.
- B. Unless otherwise specified, apply paint in three coats; prime, body, and finish. When two coats applied to prime coat are the same, first coat applied over primer is body coat and second coat is finish coat.
- C. Apply each coat evenly and cover substrate completely.
- D. Allow not less than 48 hours between application of succeeding coats, except as allowed by manufacturer's printed instructions, and approved by Project Engineer (COR).
- E. Finish surfaces to show solid even color, free from runs, lumps, brushmarks, laps, holidays, or other defects.
- F. Apply by brush or roller.
- G. Do not spray paint in existing occupied spaces.

3.5 PRIME PAINTING

- A. After surface preparation prime surfaces before application of body and finish coats, except as otherwise specified.
- B. Spot prime and apply body coat to damaged and abraded painted surfaces before applying succeeding coats.
- C. Metals:
 - 1. Steel and iron: MPI 95 (Fast Drying Metal Primer).
- D. Gypsum Board:
 - 1. Surfaces scheduled to have MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5 (LE)) finish: Use MPI 11 (Exterior Latex, Semi-Gloss (AE)) MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5 (LE)).
- H. Gypsum Plaster and Veneer Plaster:
 - 1. MPI 45 (Interior Primer Sealer), except use MPI 50 (Interior Latex Primer Sealer) when an alkyd flat finish is specified.
 - 2. Surfaces scheduled to have MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5 (LE)) finish: Use MPI 11 (Exterior Latex, Semi-Gloss (AE)), MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5 (LE)).

3.6 INTERIOR FINISHES

- A. Apply following finish coats over prime coats in spaces or on surfaces specified.
- B. Metal Work:
 - 1. Apply to exposed surfaces.
 - 2. Ferrous Metal and Other Metals Scheduled:
 - a. Apply two coats of MPI 47 (Interior Alkyd, Semi-Gloss (AK)) unless specified otherwise.

C. Gypsum Board:

1. One coat of MPI 45 (Interior Primer Sealer), MPI 46 (Interior Enamel Undercoat) plus one coat of MPI 139 (Interior High Performance Latex, MPI Gloss level 3 (LL)).
2. One coat of MPI 45 (Interior Primer Sealer), MPI 46 (Interior Enamel Undercoat), plus one coat of MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5 (LE)).

D. Plaster:

1. One coat of MPI 45 (Interior Primer Sealer), MPI 46 (Interior Enamel Undercoat) or MPI 50 (Interior Latex Primer Sealer) plus one coat of 139 (Interior High Performance Latex, MPI Gloss level 3 (LL)).

3.7 REFINISHING EXISTING PAINTED SURFACES

- A. Clean, patch and repair existing surfaces as specified under surface preparation.
- B. Remove and reinstall items as specified under surface preparation.
- C. Remove existing finishes or apply separation coats to prevent non compatible coatings from having contact.
- D. Patched or Replaced Areas in Surfaces and Components: Apply spot prime and body coats as specified for new work to repaired areas or replaced components.
- E. Except where scheduled for complete painting apply finish coat over plane surface to nearest break in plane, such as corner, reveal, or frame.
- G. Refinish areas as specified for new work to match adjoining work unless specified or scheduled otherwise.
- H. Sand or dull glossy surfaces prior to painting.
- I. Sand existing coatings to a feather edge so that transition between new and existing finish will not show in finished work.

3.8 PAINT COLOR

- A. Color and gloss of finish coats is to match existing low luster semi-gloss.
- B. For additional requirements regarding color see Articles, REFINISHING EXISTING PAINTED SURFACE SCHEDULE.
- C. Coat Colors:
 1. Color of priming coat: Lighter than body coat.
 2. Color of body coat: Lighter than finish coat.
 3. Color prime and body coats to not show through the finish coat and to mask surface imperfections or contrasts.

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3.9 BUILDING WORK FIELD PAINTING

- A. Painting and finishing of interior and exterior work except as specified under paragraph 3.11 B.
 - 1. Painting of disturbed, damaged and repaired or patched surfaces when entire space is not scheduled for complete repainting or refinishing.
 - 2. Painting of ferrous metal and galvanized metal.
- B. Building and Structural Work not Painted:
 - 1. Finished surfaces:
 - a. Hardware except ferrous metal.
 - b. Anodized aluminum, stainless steel, chromium plating, copper, and brass, except as otherwise specified.
 - c. Signs, fixtures, and other similar items integrally finished.
 - 3. Labels:
 - a. Code required label, such as Underwriters Laboratories Inc., Inchcape Testing Services, Inc., or Factory Mutual Research Corporation.
 - b. Identification plates, instruction plates, performance rating, and nomenclature.

3.10 PROTECTION CLEAN UP, AND TOUCH-UP

- A. Protect work from paint droppings and spattering by use of masking, drop cloths, removal of items or by other approved methods.
- B. Upon completion, clean paint from hardware, glass and other surfaces and items not required to be painted of paint drops or smears.
- C. Before final inspection, touch-up or refinished in a manner to produce solid even color and finish texture, free from defects in work which was damaged or discolored.

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