

R.F.I.

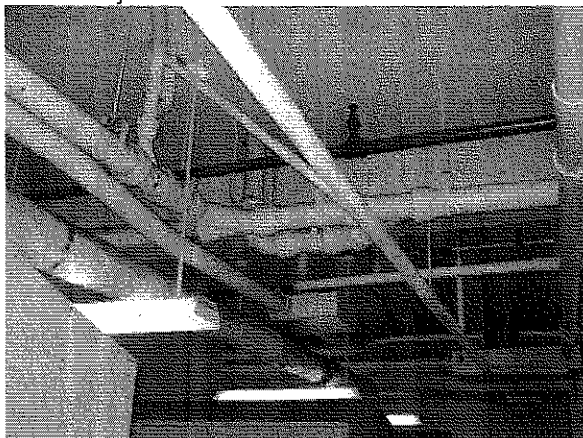
(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	01
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	FIELD CONDITIONS
Drawing:	drawings FX100, FX101, FX102, and FX103	Specification Section:	

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

Please be as specific as possible.

On Sheet GI105, the fire legend note indicates for GC to "provide fire sprinklers to area that are currently not protected. On the job walk I noticed that the Male Locker Room #58D area currently HAS fire sprinkler protection:



Can you please provide us a current as-built for the current fire sprinkler system? Please confirm that the design/build fire protection system is only for those areas/rooms that are specifically designated as Phase 1-3 construction on Sheets GI104-GI108.

OWNER RESPONSE

Fire sprinklers shall be provided to Building 2 for all areas that currently do not have fire sprinklers. Refer to drawings FX100, FX101, FX102, and FX103 for areas that required fire sprinklers and the associated occupancy per legend on F001. Please note that these drawings show the fire sprinkler main piping and various risers per the drawings available from the VA. Drawings available from the VA with this information are 2-P11, 2-P12, and 2-P13.

Kevin Gustin, d'Autremont-Helms & Associates, 04/22/2013

VALBHS RESPONSE: Concur with the above A/E Response. Field conditions to prevail for "As-Built".

OWNER TRACKING No.:

AMEND No.:

Geoffrey Wan

Geoffrey Wan, Architect | COR, VALBHS

Date: April 22, 2013

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	02
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:	AE601, AE100	Specification Section:	

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

Please be as specific as possible.

Door Schedule on Sheet AE601 calls out Door D50D-B as a Type C single swing door. However on Sheet AE-100 at Gridline GG-22, this door is shown as a 7'6"h x 8'6"w Overhead Coiling Door. Please confirm.

OWNER RESPONSE

LAD Response: Door should be type D with Steel Frame

VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:	AMEND No.:
VA Project Engineer/Manager: Geoffrey Wan Geoffrey Wan, Architect COR, VALBHS	Date: April 19, 2013

R.F.I.

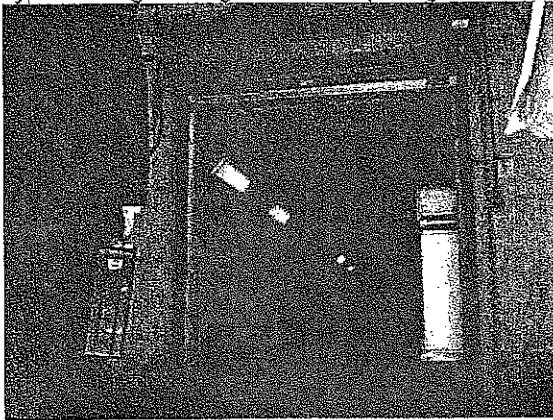
(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	03
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:	AE601, AE100	Specification Section:	

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

Please be as specific as possible.

Door Schedule on Sheet AE601 calls out Loading Dock Door DCC2-B2 (@grid EE30 on Sht AD100) as a new Type A1 single swing door. This opening is currently a coiling door (7'6"h x 6'4"w):



Please confirm if this door gets demo'd and replaced with a double swing door instead.

OWNER RESPONSE

LAD Response: Confirmed- a double swing door is required for exiting.

VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:**AMEND No.:****VA Project Engineer/Manager:****Date:****Geoffrey Wan****April 19, 2013**

Geoffrey Wan, Architect | COR, VALBHS

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	04
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:	AE601, AE100	Specification Section:	

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

Please be as specific as possible.

Sheet AE100 shows Door D48-A as a coiling door. However on Sheet AE601, Door D48-A is shown as a single swing Door Type C. Please confirm that this door is indeed a coiling door.

OWNER RESPONSE

LAD Response: Per AE100, Door should be a 1-hr rated coiling door w/ Steel Frame. (E) wall condition will require infill.

VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:	AMEND No.:
VA Project Engineer/Manager: Geoffrey Wan Geoffrey Wan, Architect COR, VALBHS	Date: April 19, 2013

R.F.I.
(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	05
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:	1/SF301	Specification Section:	03 01 30.72 (missing)

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

Please be as specific as possible.

Please provide number of required (carbon fiber reinforcement) layer wraps around the FOUR (not three as indicated) 10" diameter concrete columns at the loading dock. Please provide specs for Carbon Fiber Wrap Reinforcement (see attached section 03 01 30.72 Strengthening of CIP Concrete for example).

OWNER RESPONSE

NYA Response 04/17/13 - Per note 3 on 1/SF301, fiber wrap repair will be required if corrosion of existing reinforcing is encountered during demolition of spalled/loose concrete. If corrosion of existing rebar is non-existent or minimal (surface rusting), then fiber wrap repair is not required. If fiber wrap repair is required, contractor to submit product data and procedures as a submittal for review and approval by the VA, AOR, & SEOR.

VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:

AMEND No.:

VA Project Engineer/Manager:

Date:

Geoffrey Wan

April 19, 2013

Geoffrey Wan, Architect | COR, VALBHS

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	06
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:	SF204	Specification Section:	

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

Please be as specific as possible.

Sheet SF204 indicates that the AHU S/10 and AHU S/12 will be BY OTHERS. Please confirm if these units will be provided outside of this contract.

OWNER RESPONSE

NYA Response 04/17/13 - AHU units are not part of the structural scope, please refer to architectural and MEP drawings for equipment information.

VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:	AMEND No.:
VA Project Engineer/Manager: Geoffrey Wan Geoffrey Wan, Architect COR, VALBHS	Date: April 19, 2013

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	07
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:	SF101, SF203, SF204	Specification Section:	

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

Please be as specific as possible.

On Sheet SF101, there is a callout to detail 1/SF204. This should be corrected to 1/SF203.

OWNER RESPONSE

NYA Response 04/17/13 - Above is correct, detail reference should be 1/SF203.

VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:	AMEND No.:
VA Project Engineer/Manager: Geoffrey Wan Geoffrey Wan, Architect COR, VALBHS	Date: April 19, 2013

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	08
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:		Specification Section:	

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

Please be as specific as possible.

In section 075100 Builtup Roofing, para 2.1.B.1, please specify thickness of plywood substrate, and fire rating, if applicable. Please confirm requirement for roof insulation (para 2.1.B.3) for this open air roof condition.

OWNER RESPONSE

LAD Response: Provide 3/4" plywood substrate. No insulation is required for open roof overhangs - slope required to drain. Fire rating not required on open roof overhangs. Provide elastomeric surface / coating for walkable roofs and overhangs.

VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:	AMEND No.:
VA Project Engineer/Manager: Geoffrey Wan Geoffrey Wan, Architect COR, VALBHS	Date: April 19, 2013

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	09
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:		Specification Section:	

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

Please be as specific as possible.

On the jobwalk, it was indicated by the Architect that the entire exterior of Bldg 2 would get painted. This is NOT explained properly in the current plans. Please provide appropriate elevations plans showing this



requirement.

OWNER RESPONSE

LAD Response: Refer to Phasing Plan GI.106- Phase III for sequencing. See AE201 & 202 (Sheet Note 1: Patch and Paint Entire Exterior of Building). Refer to the project Specs for VA procedures and requirements for Building Prep., Paint and coatings.

VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:**AMEND No.:****VA Project Engineer/Manager:****Date:****Geoffrey Wan****April 19, 2013****Geoffrey Wan, Architect | COR, VALBHS**

R.F.I. (REQUEST FOR INFORMATION)			
Project #:	600-12-163	RFI #:	10
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:	SF204	Specification Section:	
DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED			
<p>Please be as specific as possible.</p> <p>Please provide missing spec section 283100 for Fire Detection and Alarm, or is this part of the design/build package requirement for this trade? (Note: the RFP DOES include the specs for section 211313 Wet Pipe Sprinkler System, design/build!). What system (Make/Model) will we be tying into?</p>			
OWNER RESPONSE			
<div style="border: 1px solid black; padding: 5px;"> <p>LAD Response: The spec section should be part of the construction documents. Please see attached section 283100.</p> </div>			
<p><i>VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.</i></p>			
OWNER TRACKING No.:		AMEND No.:	
VA Project Engineer/Manager: Geoffrey Wan Geoffrey Wan, Architect COR, VALBHS		Date: April 25, 2013 April 25, 2013	

SECTION 28 31 00
FIRE DETECTION AND ALARM (DESIGN BUILD)

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section of the specifications includes the work of designing, furnishing, installation and connection of the new fire alarm equipment, made by EST, to form a complete coordinated system ready for operation. It shall include, but not be limited to, alarm initiating devices, alarm notification appliances, control units, fire safety control devices, annunciators, power supplies, and wiring as required. The fire alarm system shall not be combined with other systems such as building automation, energy management, security, etc.
- B. The design of fire alarm systems shall comply with requirements of the most recent VA FIRE PROTECTION DESIGN MANUAL and NFPA 72 unless variations to NFPA 72 are specifically identified within these contract documents by the following notation: "variation". The design, system layout, document submittal preparation, and supervision of installation and testing shall be provided by a certified NICET level III technician or a registered fire protection engineer. The NICET certified technician shall be on site for the supervision and testing of the system. Factory engineers from the equipment manufacturer, thoroughly familiar and knowledgeable with all equipment utilized, shall provide additional technical support at the site as required by the COTR or his authorized representative. Installers shall have a minimum of 2 years experience installing fire alarm systems.
- C. Fire alarm signals:
The building is to be totally evacuated when an alarm sounds.
1. Part of the building, based on the occupancy type and load, shall have a general evacuation fire alarm signal in accordance with ASA S3.41 to notify all occupants in the respective spaces of the building to evacuate.
 2. Part of the building, based on the occupancy type and load, shall have an automatic digitized voice fire alarm signal with emergency manual voice override to notify occupants to evacuate.
- D. Alarm signals (by device), supervisory signals (by device) and system trouble signals (by device not reporting) shall be distinctly

transmitted to the existing EST-3 main fire alarm system control unit located in the basement of Building 1.

- E. The main fire alarm control unit shall automatically transmit alarm signals to a listed central station using a digital alarm communicator transmitter in accordance with NFPA 72.
- F. In general the building is a mixed occupancy:
 - 1. Basement: NFPA-101 Storage with incidental Industrial; IBC S-1. Load-191.
 - 2. Level 1: NFPA-101 Mixed Occupancy (Assembly/Business/Mercantile), Assembly >300 to ≤1000; IBC A-2. Load: Assembly-557; Business-175; Mercantile-161.
 - 3. Level 2: NFPA-101 Mixed Occupancy (Assembly/Business), Assembly >300 to ≤1000; IBC A-3. Load: Assembly-475; Business-108.
 - 4. Level 3: NFPA-101 Mixed Occupancy (Assembly/Business), Assembly ≤300; IBC A-3. Load: Assembly-84; Business-4.

1.2 SCOPE

- A. Work under this section consists of all engineering, installation labor, materials, equipment, programming, services and transportation necessary for, and/or reasonably incidental to, the construction and completion in working order of the work specified herein for a fully automatic addressable fire alarm system.
- B. Work includes, but is not limited to the following:
 - 1. Complete system design, engineering, testing and final acceptance by COTR and authority having jurisdiction.
 - 2. Life safety fire alarm detection and signaling system.
 - 3. Shop drawings and system components approval.
 - 4. Furnishing and installation of equipment and devices.
 - 5. Wiring in conduit and connections.
 - 6. Interface with elevator controls.
 - 7. Programming, testing per NFPA 72, cleaning, adjusting of completed work.
 - 8. Connection to and reprogramming of existing EST-3 system.
 - 9. Wiring diagrams, shop drawings, equipment data.
 - 10. Complete warranty for one year. Proposal for subsequent maintenance contract including service, testing and repair or replacement.

11. All work and material for complete and operable systems as indicated or specified.
 12. As installed record drawings.
 13. Identification and instruction in writing.
 14. Coordination with existing conditions and work of other trades.
 15. Furnishing of special back boxes.
 16. Extending 120 volt power from electrical panelboard and coordinating load requirements with the electrical engineer.
- C. Unless otherwise noted, all existing fire alarm equipment, wiring, devices and sub-systems shall be removed. All existing fire alarm conduit not reused shall be removed.
- D. Existing 120 VAC duct smoke detectors, waterflow/pressure switches, and valve tamper switches reused by the Contractor shall be equipped with an addressable interface device compatible with the new equipment being installed.
- E. Existing reused equipment shall be covered as new equipment under the Warranty specified herein.
- F. Include, but not limited to, existing and new fire sprinkler system flow and tamper switches, new outdoor backflow preventer tamper switches and new duct smoke detectors in the 4th floor mechanical room.
- G. Basic Performance:
1. Alarm and trouble signals from the fire alarm control panel shall be digitally encoded by UL listed electronic devices onto a multiplexed communication system.
 2. Response time between alarm initiation (contact closure) and recording at the main fire alarm control unit (appearance on alphanumeric read out) shall not exceed 5 seconds.
 3. The signaling line circuits (SLC) between building fire alarm control units shall be wired Style 7 in accordance with NFPA 72. Isolation shall be provided so that no more than one building can be lost due to a short circuit fault.
 4. Initiating device circuits (IDC) shall be wired Style C in accordance with NFPA 72.
 5. Signaling line circuits (SLC) within buildings shall be wired Style 4 in accordance with NFPA 72. Individual signaling line circuits shall be limited to covering 22,500 square feet (2,090 square meters) of floor space or 3 floors whichever is less.

6. Notification appliance circuits (NAC) shall be wired Style Y in accordance with NFPA 72.

H. System Features:

1. Fire alarm system status and control, air handling system status and control, fire alarm annunciation, transmitters, relays and batteries. Additional controls include elevator status and control panel.
2. Remote graphic type annunciator at the building lobby and as indicated or required by the authority having jurisdiction.
3. Alarm/trouble point annunciators in fire alarm control panel.
4. Addressable manual alarm reporting stations at stair shafts including roof, at elevator lobbies and as required.
5. Addressable smoke detectors in mechanical, electrical, telephone equipment rooms and as indicated.
6. Addressable smoke detectors in elevator lobbies, elevator machine rooms and the top of each elevator hoist way. Provide two contacts on elevator lobby detectors. Wire one to fire alarm panel and second to elevator control panel for recall.
7. Addressable smoke detectors in but not limited to the following locations:
 - a. Private offices
 - b. Open offices
 - c. Laboratories
 - d. Public areas
 - e. Storerooms and closets
8. Addressable duct smoke detectors with remote LED indicators at smoke dampers, fans and as shown on electrical and mechanical drawings.
9. Fixed temperature heat detectors as required.
10. Electromagnetic door hold open devices as required.
11. Combination speaker/visual alarm signal devices. Visual alarm signal devices.
12. Combination speaker/visual alarm signal devices for installation in elevator cars.
13. Voice paging in all areas, in stairs and in elevator cars.
14. Audible / Visual alarm in all areas, in stairs, corridors and elevator lobbies.
15. Connection to sprinkler waterflow and tamper switches.
16. Sprinkler valve supervision.

17. Cabling and connections.
18. Provision for connection to central station via the existing EST-3 panel.
19. Interface with the elevator system for elevator capture, status and control.
20. Interface with the fire protection system (sprinklers) for alarm supervisory and trouble reporting.
21. Operating and supervising electrical power for the system at 120 volt single phase, three wire from the emergency system. Internal battery backup. Additional circuits for powering smoke dampers from emergency system.
22. Release of exit door locks, roll down fire doors and shutters under alarm conditions as applicable.

1.3 RELATED WORK

- A. Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES. Requirements for procedures for submittals.
- B. Section 07 84 00 - FIRESTOPPING. Requirements for fire proofing wall penetrations.
- C. Section 08 71 00 - DOOR HARDWARE. For combination Closer-Holders.
- D. Section 21 13 13 - WET-PIPE SPRINKLER SYSTEMS. Requirements for sprinkler systems.
- E. Section 28 05 00 - COMMON WORK RESULTS FOR ELECTRONIC SAFETY AND SECURITY. Requirements for general requirements that are common to more than one section in Division 28.
- F. Section 28 05 13 - CONDUCTORS AND CABLES FOR ELECTRONIC SAFETY AND SECURITY. Requirements for conductors and cables.
- G. Section 28 05 26 - GROUNDING AND BONDING FOR ELECTRONIC SAFETY AND SECURITY. Requirements for grounding of equipment.
- H. Section 28 05 28.33 - CONDUITS AND BACKBOXES FOR ELECTRONIC SAFETY AND SECURITY. Requirements for infrastructure.
- I. Section 28 05 13 - CONDUCTORS AND CABLES FOR ELECTRONIC SAFETY AND SECURITY. Requirements for conductors and cables.
- J. Section 28 08 00, COMMISSIONING OF ELECTRONIC SAFETY AND SECURITY SYSTEMS. Requirements for commissioning - systems readiness checklists, and training.
- K. Section 28 13 00, PHYSICAL ACCESS CONTROL SYSTEMS (PACS). Requirements for integration with physical access control system.

1.4 COORDINATION

- A. Refer to the electrical and mechanical drawings and specifications to determine quantities and locations of devices and required scope of work and coordinate work with mechanical and electrical installers.
- B. Provide function described under Mechanical Section Sequence of Control, for Fire and/or Emergency Conditions.
- C. Preinstallation Conference:
 - 1. Conduct conference at the VA Long Beach site.
 - 2. Review methods and procedures related to the fire alarm system including, but not limited to, the following:
 - a. Construction schedule.
 - b. Coordination for interruption of existing fire alarm service.
 - c. Coordination for connection to existing EST-3 panel.

1.5 SUBMITTALS

- A. General: Submit 5 copies in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, and Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS.
- B. Shop Drawings:
 - 1. Prepare drawings using AutoCAD Release 14 software and include all contractor's information. Layering shall be by VA criteria as provided by the Contracting Officer's Technical Representative (COTR). Bid drawing files on AutoCAD will be provided to the Contractor at the pre-construction meeting. The contractor shall be responsible for verifying all critical dimensions shown on the drawings provided by VA.
 - 2. The contractor shall identify all smoke barriers, fire barriers and fire rating of the floors before starting the design.
 - 3. Floor plans: Provide locations of all devices (with device number at each addressable device corresponding to control unit programming), appliances, panels, equipment, junction/terminal cabinets/boxes, risers, electrical power connections, individual circuits and raceway routing, system zoning; number, size, and type of raceways and conductors in each raceway; conduit fill calculations with cross section area percent fill for each type and size of conductor and raceway. Properly space the detectors with dimensions on the drawings. Only those devices connected and incorporated into the final system shall be on these floor plans. Do not show any removed devices on the floor plans. Show all interfaces for all fire safety

functions. Include written sequence of operation or matrix table and voltage drop calculations. Indicate through penetration fire stopping details and specifications.

4. Riser diagrams: Provide, for the entire system, the number, size and type of riser raceways and conductors in each riser raceway and number of each type device per floor and zone. Show door holder interface, elevator control interface, HVAC shutdown interface, fire extinguishing system interface, and all other fire safety interfaces. Show wiring Styles on the riser diagram for all circuits. Provide diagrams on a per building basis.
5. Detailed wiring diagrams: Provide for control panels, modules, power supplies, electrical power connections, auxiliary relays and annunciators showing termination identifications, size and type conductors, circuit boards, LED lamps, indicators, adjustable controls, switches, ribbon connectors, wiring harnesses, terminal strips and connectors, spare zones/circuits. Diagrams shall be drawn to a scale sufficient to show spatial relationships between components, enclosures and equipment configuration.
6. Two weeks prior to final inspection, the Contractor shall deliver to the COTR 3 sets of as-built drawings and one set of the as-built drawing computer files (using AutoCAD 2007 or later). As-built drawings (floor plans) shall show all new and/or existing conduit used for the fire alarm system.

C. Product Data:

1. For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes. Include rated capacities, operating characteristics, electrical characteristics and furnished specialties and accessories.
2. Fire Alarm Equipment
 - a. Include manufacturer's specification sheets for all components.
 - b. Identify equipment application per listing and approvals.
 - c. Include CSFM listing sheets for all required systems and components numbers.

D. Manuals:

1. Submit simultaneously with the shop drawings, companion copies of complete maintenance and operating manuals including technical data sheets for all items used in the system, power requirements, and

device wiring diagrams, dimensions, and information for ordering replacement parts.

- a. Wiring diagrams shall have their terminals identified to facilitate installation, operation, expansion and maintenance.
 - b. Wiring diagrams shall indicate internal wiring for each item of equipment and the interconnections between the items of equipment.
 - c. Include complete listing of all software used and installation and operation instructions including the input/output matrix chart.
 - d. Provide a clear and concise description of operation that gives, in detail, the information required to properly operate, inspect, test and maintain the equipment and system. Provide all manufacturer's installation limitations including but not limited to circuit length limitations.
 - e. Complete listing of all digitized voice messages.
 - f. Provide standby battery calculations under normal operating and alarm modes. Battery calculations shall include the magnets for holding the doors open for one minute.
 - g. Include information indicating who will provide emergency service and perform post contract maintenance.
 - h. Provide a replacement parts list with current prices. Include a list of recommended spare parts, tools, and instruments for testing and maintenance purposes.
 - i. A computerized preventive maintenance schedule for all equipment. The schedule shall be provided on disk in a computer format acceptable to the VAMC and shall describe the protocol for preventive maintenance of all equipment. The schedule shall include the required times for systematic examination, adjustment and cleaning of all equipment. A print out of the schedule shall also be provided in the manual. Provide the disk in a pocket within the manual.
 - j. Furnish manuals in 3 ring loose-leaf binder or manufacturer's standard binder.
 - k. A print out for all devices proposed on each signaling line circuit with spare capacity indicated.
2. Two weeks prior to final inspection, deliver 4 copies of the final updated maintenance and operating manual to the COTR.

- a. The manual shall be updated to include any information necessitated by the maintenance and operating manual approval.
 - b. Complete "As installed" wiring and schematic diagrams shall be included that shows all items of equipment and their interconnecting wiring. Show all final terminal identifications.
 - c. Complete listing of all programming information, including all control events per device including an updated input/output matrix.
 - d. Certificate of Installation as required by NFPA 72. The certificate shall identify any variations from the National Fire Alarm Code.
 - e. Certificate from equipment manufacturer assuring compliance with all manufacturers installation requirements and satisfactory system operation.
- E. Certifications:
1. Together with the shop drawing submittal, submit the technician's NICET level III fire alarm certification as well as certification from the control unit manufacturer that the proposed performer of contract maintenance is an authorized representative of the major equipment manufacturer. Include in the certification the names and addresses of the proposed supervisor of installation and the proposed performer of contract maintenance. Also include the name and title of the manufacturer's representative who makes the certification.
 2. Together with the shop drawing submittal, submit a certification from either the control unit manufacturer or the manufacturer of each component (e.g., smoke detector) that the components being furnished are compatible with the control unit.
 3. Together with the shop drawing submittal, submit a certification from the major equipment manufacturer that the wiring and connection diagrams meet this specification, UL and NFPA 72 requirements.

1.6 APPROVALS

- A. Prepare complete plans, risers, wiring diagrams, and installation drawings, coordinated with the work of other trades, for the fire alarm system stamped by a registered engineer.
- B. Obtain governing agency approval for fire alarm system after submitting shop drawings and before installing any portion of the system.

- C. Obtain and incorporate the architectural and COTR review comments and submit modifications to authority having jurisdiction for final approval, bring any conflicts to the architect and COTR attention. Install system per approved shop drawings.

1.7 WARRANTY

All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of one year from the date of acceptance of the entire installation by the Contracting Officer.

1.8 GUARANTY PERIOD SERVICES

- A. Complete inspection, testing, maintenance and repair service for the fire alarm system shall be provided by a factory trained authorized representative of the manufacturer of the major equipment for a period of 5 years from the date of acceptance of the entire installation by the Contracting Officer.
- B. Contractor shall provide all necessary test equipment, parts and labor to perform required inspection, testing, maintenance and repair.
- C. All inspection, testing, maintenance and permanent records required by NFPA 72, and recommended by the equipment manufacturer shall be provided by the contractor. Work shall include operation of sprinkler system alarm and supervisory devices as well as all reused existing equipment connected to the fire alarm system. It shall include all interfaced equipment including but not limited to elevators, HVAC shutdown, and extinguishing systems.
- D. Maintenance and testing shall be performed in accordance with NFPA 72. A computerized preventive maintenance schedule shall be provided and shall describe the protocol for preventive maintenance of equipment. The schedule shall include a systematic examination, adjustment and cleaning of all equipment.
- E. Non-included Work: Repair service shall not include the performance of any work due to improper use, accidents, or negligence for which the contractor is not responsible.
- F. Service and emergency personnel shall report to the Engineering Office or their authorized representative upon arrival at the hospital and again upon the completion of the required work. A copy of the work ticket containing a complete description of the work performed and parts replaced shall be provided to the VA COTR or his authorized representative.

G. Emergency Service:

1. Warranty Period Service: Service other than the preventative maintenance, inspection, and testing required by NFPA 72 shall be considered emergency call-back service and covered under the warranty of the installation during the first year of the warranty period, unless the required service is a result of abuse or misuse by the Government. Written notification shall not be required for emergency warranty period service and the contractor shall respond as outlined in the following sections on Normal and Overtime Emergency Call-Back Service. Warranty period service can be required during normal or overtime emergency call-back service time periods at the discretion of the COTR or his authorized representative.
 2. Normal and overtime emergency call-back service shall consist of an on-site response within 2 hours of notification of a system trouble.
 3. Normal emergency call-back service times are between the hours of 7:30 a.m. and 4:00 p.m., Monday through Friday, exclusive of federal holidays. Service performed during all other times shall be considered to be overtime emergency call-back service. The cost of all normal emergency call-back service for years 2 through 5 shall be included in the cost of this contract.
 4. Overtime emergency call-back service shall be provided for the system when requested by the Government. The cost of the first 40 man-hours per year of overtime call-back service during years 2 through 5 of this contract shall be provided under this contract. Payment for overtime emergency call-back service in excess of the 40 man hours per year requirement will be handled through separate purchase orders. The method of calculating overtime emergency call-back hours is based on actual time spent on site and does not include travel time.
- H. The contractor shall maintain a log at each fire alarm control unit. The log shall list the date and time of all examinations and trouble calls, condition of the system, and name of the technician. Each trouble call shall be fully described, including the nature of the trouble, necessary correction performed, and parts replaced.
- I. In the event that VA modifies the fire alarm system post-Acceptance but during the 5 year Guaranty Period Service period, Contractor shall be required to verify that the system, as newly modified or added, is consistent with the manufacturer's requirements; any verification

performed will be equitably adjusted under the Changes clause. The post-Acceptance modification or addition to the fire alarm system shall not void the continuing requirements under this contract set forth in the Guarantee Period Service provision for the fire alarm system as modified or added. The contract will be equitably adjusted under the Changes clause for such additional performance.

1.9 APPLICABLE PUBLICATIONS

- A. The publications listed below (including amendments, addenda, revisions, supplements and errata) form a part of this specification to the extent referenced. The publications are referenced in text by the basic designation only and the latest editions of these publications shall be applicable.
- B. National Fire Protection Association (NFPA):
 - NFPA 13Standard for the Installation of Sprinkler Systems, 2010 edition
 - NFPA 14 Standard for the Installation of Standpipes and Hose Systems, 2010 edition
 - NFPA 70.....National Electrical Code (NEC), 2010 edition
 - NFPA 72.....National Fire Alarm Code, 2010 edition
 - NFPA 90A.....Standard for the Installation of Air Conditioning and Ventilating Systems, 2009 edition
 - NFPA 101.....Life Safety Code, 2009 edition
- C. Underwriters Laboratories, Inc. (UL): Fire Protection Equipment Directory
- D. Factory Mutual Research Corp (FM): Approval Guide, 2007-2011
- E. American National Standards Institute (ANSI):
 - S3.41.....Audible Emergency Evacuation Signal, 1990 edition, reaffirmed 2008
- F. International Code Council, International Building Code (IBC), 2009 edition

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIALS, GENERAL

- A. All equipment and components shall be new and the manufacturer's current model. All equipment shall be tested and listed by Underwriters Laboratories, Inc. or Factory Mutual Research Corporation for use as part of a fire alarm system. The authorized representative of the

manufacturer of the major equipment shall certify that the installation complies with all manufacturers' requirements and that satisfactory total system operation has been achieved.

2.2 CONDUIT, BOXES, AND WIRE

A. Conduit shall be in accordance with Section 28 05 28.33 CONDUIT AND BACKBOXES FOR ELECTRONIC SAFETY AND SECURITY and as follows:

1. All new conduits shall be installed in accordance with NFPA 70.
2. Conduit fill shall not exceed 40 percent of interior cross sectional area.
3. All new conduits shall be 3/4 inch (19 mm) minimum.

B. Wire:

1. Wiring shall be in accordance with NEC article 760, Section 28 05 13, CONDUCTORS AND CABLES FOR ELECTRONIC SAFETY AND SECURITY, and as recommended by the manufacturer of the fire alarm system. All wires shall be color coded. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 18 AWG for initiating device circuits and 14 AWG for notification device circuits.
2. Addressable circuits and wiring used for the multiplex communication loop shall be twisted and shielded unless specifically accepted by the fire alarm equipment manufacturer in writing.
3. Any fire alarm system wiring that extends outside of a building shall have additional power surge protection to protect equipment from physical damage and false signals due to lightning, voltage and current induced transients. Protection devices shall be shown on the submittal drawings and shall be UL listed or in accordance with written manufacturer's requirements.
4. All wire or cable used in underground conduits including those in concrete shall be listed for wet locations.

C. Terminal Boxes, Junction Boxes, and Cabinets:

1. Shall be galvanized steel in accordance with UL requirements.
2. All boxes shall be sized and installed in accordance with NFPA 70.
3. Covers shall be repainted red in accordance with Section 09 91 00, PAINTING and shall be identified with white markings as "FA" for junction boxes and as "FIRE ALARM SYSTEM" for cabinets and terminal boxes. Lettering shall be a minimum of 3/4 inch (19 mm) high.

4. Terminal boxes and cabinets shall have a volume 50 percent greater than required by the NFPA 70. Minimum sized wire shall be considered as 14 AWG for calculation purposes.
5. Terminal boxes and cabinets shall have identified pressure type terminal strips and shall be located at the base of each riser. Terminal strips shall be labeled as specified or as approved by the COTR.

2.3 FIRE ALARM CONTROL UNIT

A. General:

1. The building shall be provided with a fire alarm control unit and shall operate as a supervised zoned fire alarm system.
2. Each power source shall be supervised from the other source for loss of power.
3. All circuits shall be monitored for integrity.
4. Visually and audibly annunciate any trouble condition including, but not limited to main power failure, grounds and system wiring derangement.
5. Transmit digital alarm information to the main fire alarm control unit.

B. Enclosure:

1. The control unit shall be housed in a cabinet suitable for both recessed and surface mounting. Cabinet and front shall be corrosion protected, given a rust-resistant prime coat, and manufacturer's standard finish.
2. Cabinet shall contain all necessary relays, terminals, lamps, and legend plates to provide control for the system.

C. Power Supply:

1. The control unit shall derive its normal power from a 120 volt, 60 Hz dedicated supply connected to the emergency power system. Standby power shall be provided by a 24 volt DC battery as hereinafter specified. The normal power shall be transformed, rectified, coordinated, and interfaced with the standby battery and charger.
2. The door holder power shall be arranged so that momentary or sustained loss of main operating power shall not cause the release of any door.
3. Power supply for smoke detectors shall be taken from the fire alarm control unit.

4. Provide protectors to protect the fire alarm equipment from damage due to lightning or voltage and current transients.
 5. Provide new separate and direct ground lines to the outside to protect the equipment from unwanted grounds.
- D. Circuit Supervision: Each alarm initiating device circuit, signaling line circuit, and notification appliance circuit, shall be supervised against the occurrence of a break or ground fault condition in the field wiring. These conditions shall cause a trouble signal to sound in the control unit until manually silenced by an off switch.
- E. Supervisory Devices: All sprinkler system valves, standpipe control valves, post indicator valves (PIV), and main gate valves shall be supervised for off-normal position. Closing a valve shall sound a supervisory signal at the control unit until silenced by an off switch. The specific location of all closed valves shall be identified at the control unit. Valve operation shall not cause an alarm signal. Duct detectors shall be monitored as supervisory signals. The power supply to the elevator shunt trip breaker shall be monitored by the fire alarm system as a supervisory signal.
- F. Trouble signals:
1. Arrange the trouble signals for automatic reset (non-latching).
 2. System trouble switch off and on lamps shall be visible through the control unit door.
- G. Function Switches: Provide the following switches in addition to any other switches required for the system:
1. Remote Alarm Transmission By-pass Switch: Shall prevent transmission of all signals to the main fire alarm control unit when in the "off" position. A system trouble signal shall be energized when switch is in the off position.
 2. Alarm Off Switch: Shall disconnect power to alarm notification circuits on the local building alarm system. A system trouble signal shall be activated when switch is in the off position.
 3. Trouble Silence Switch: Shall silence the trouble signal whenever the trouble silence switch is operated. This switch shall not reset the trouble signal.
 4. Reset Switch: Shall reset the system after an alarm, provided the initiating device has been reset. The system shall lock in alarm until reset.

5. Lamp Test Switch: A test switch or other approved convenient means shall be provided to test the indicator lamps.
 6. Drill Switch: Shall activate all notification devices without tripping the remote alarm transmitter. This switch is required only for general evacuation systems specified herein.
 7. Door Holder By-Pass Switch: Shall prevent doors from releasing during fire alarm tests. A system trouble alarm shall be energized when switch is in the abnormal position.
 8. Elevator recall By-Pass Switch: Shall prevent the elevators from recalling upon operation of any of the devices installed to perform that function. A system trouble alarm shall be energized when the switch is in the abnormal position.
 9. HVAC/Smoke Damper By-Pass: Provide a means to disable HVAC fans from shutting down and/or smoke dampers from closing upon operation of an initiating device designed to interconnect with these devices.
- H. Remote Transmissions:
1. Provide capability and equipment for transmission of alarm, supervisory and trouble signals to the main fire alarm control unit.
 2. Transmitters shall be compatible with the systems and equipment they are connected to such as timing, operation and other required features.
- I. Remote Control Capability: The building fire alarm control unit shall be installed and programmed so that it must be reset locally after an alarm, before the main fire alarm control unit can be reset. After the building fire alarm control unit has been reset, then the system acknowledge, reset, silence or disabling functions can be operated by the main fire alarm control unit
- J. System Expansion: Design the control units and enclosures so that the system can be expanded in the future (to include the addition of 20 percent more alarm initiating, alarm notification and door holder circuits) without disruption or replacement of the existing control unit and secondary power supply.

2.4 ANNUNCIATION

- A. Annunciator, Alphanumeric Type (System):
1. Shall be a supervised, LCD display containing a minimum of 2 lines of 40 characters for alarm annunciation in clear English text.

2. Message shall identify floor, zone, etc on the first line and device description and status (pull station, smoke detector, waterflow alarm or trouble condition) on the second line.
3. The initial alarm received shall be indicated as such.
4. A selector switch shall be provided for viewing subsequent alarm messages.
5. The display shall be UL listed for fire alarm application.
6. Local building annunciators, for general evacuation system building, shall be permitted when required and approved by the COTR.

2.5 VOICE COMMUNICATION SYSTEM (VCS)

Consult with the VA Fire Protection Design Guide, the facility safety staff and the facility fire plan before selecting the appropriate options in A.2. and A.4. below.

A. General:

1. An emergency voice communication system shall be installed based on the occupancy type and load of that part of the building as required.
2. Upon receipt of an alarm signal from the building fire alarm system, the VCS shall automatically transmit a pre-recorded fire alarm message either throughout the required spaces.
3. A digitized voice module shall be used to store each prerecorded message.
4. The VCS shall be arranged as either a dual channel system capable of transmitting 2 different messages simultaneously or single channel system.
5. The VCS shall supervise all speaker circuits, control equipment, remote audio control equipment, and amplifiers.

B. Speaker Circuit Control Unit:

1. The speaker circuit control unit shall include switches to manually activate or deactivate speaker circuits in the system.
2. Speaker circuit control switches shall provide on, off, and automatic positions and indications.
3. The speaker circuit control unit shall include visual indication of active or trouble status for each group of speaker circuits in the system.
4. A trouble indication shall be provided if a speaker circuit group is disabled.
5. A lamp test switch shall be provided to test all indicator lamps.

6. A single "all call" switch shall be provided to activate all speaker circuit groups simultaneously.
7. A push-to-talk microphone shall be provided for manual voice messages.
8. Remote microphones shall be provided for manual "all call" messages.
9. A voice message disconnect switch shall be provided to disconnect automatic digitized voice messages from the system. The system shall be arranged to allow manual voice messages and indicate a system trouble condition when activated.

C. Speaker Circuit Arrangement:

1. Speaker circuits shall be arranged such that there is one speaker circuit per smoke zone.
2. Audio amplifiers and control equipment shall be electrically supervised for normal and abnormal conditions.
3. Speaker circuits shall be either 25 VRMS or 70.7 VRMS with a minimum of 50 percent spare power available.
4. Speaker circuits and control equipment shall be arranged such that loss of any one speaker circuit will not cause the loss of any other speaker circuit in the system.

D. Digitized Voice Module (DVM):

1. The Digitized Voice Module shall provide prerecorded digitized evacuation and instructional messages. The messages shall be professionally recorded and approved by the COTR prior to programming.
2. The DVM shall be configured to automatically output to the desired circuits following a 10-second slow whoop alert tone.
3. Prerecorded magnetic taped messages and tape players are not permitted.
4. The digitized message capacity shall be no less than 15 second in length.
5. The digitized message shall be transmitted 3 times.
6. The DVM shall be supervised for operational status.
7. Failure of the DVM shall result in the transmission of a constant alarm tone.
8. The DVM memory shall have a minimum 50 percent spare capacity after those messages identified in this section are recorded. Multiple DVM's may be used to obtain the required capacity.

E. Audio Amplifiers:

1. Audio Amplifiers shall provide a minimum of 50 Watts at either 25 or 70.7 VRMS output voltage levels.
2. Amplifiers shall be continuously supervised for operational status.
3. Amplifiers shall be configured for either single or dual channel application.
4. Each audio output circuit connection shall be configurable for Style X.
5. A minimum of 50 percent spare output capacity shall be available for each amplifier.

F. Tone Generator(s):

1. Tone Generator(s) shall be capable of providing a distinctive 3-pulse temporal pattern fire alarm signal as well as a slow whoop.
2. Tone Generator(s) shall be continuously supervised for operational status.

2.6 ALARM NOTIFICATION APPLIANCES

A. Bells:

1. Shall be electric, single-stroke or vibrating, heavy-duty, under-dome, solenoid type.
2. Unless otherwise shown on the drawings, shall be 6 inches (150 mm) diameter and have a minimum nominal rating of 80 dBA at 10 feet (3,000 mm).
3. Mount on removable adapter plates on outlet boxes.
4. Bells located outdoors shall be weatherproof type with metal housing and protective grille.
5. Each bell circuit shall have a minimum of 20 percent spare capacity.

B. Speakers:

1. Locate speakers in the required spaces in accordance with the Fire Protection Design Manual with a maximum spacing of 1000 square feet per speaker and the required areas shall have fire alarm signals that are delivered at 15 to 20 dBA above ambient sound levels. Where sound pressure must pass through more than one partition, additional speakers should be installed.
2. Speakers shall operate on either 25 VRMS or 70.7 VRMS with field selectable output taps from 0.5 to 2.0W and originally installed at the 1/2 watt tap. Speakers shall provide a minimum sound output of 80 dBA at 10 feet (3,000 mm) with the 1/2 watt tap.
3. Frequency response shall be a minimum of 400 HZ to 4,000 HZ.

4. Four inches (100 mm) or 8 inches (200 mm) cone type speakers ceiling mounted with white colored baffles in areas with suspended ceilings and wall mounted in areas without ceilings.

C. Strobes:

1. Xenon flash tube type minimum 15 candela in toilet rooms and 75 candela in all other areas with a flash rate of 1 HZ. Strobes shall be synchronized where required by the National Fire Alarm Code (NFPA 72).
2. Backplate shall be red with 1/2 inch (13 mm) permanent red letters. Lettering to read "Fire", be oriented on the wall or ceiling properly, and be visible from all viewing directions.
3. Each strobe circuit shall have a minimum of 20 percent spare capacity.
4. Strobes may be combined with the audible notification appliances specified herein.

D. Fire Alarm Horns:

1. Shall be electric, utilizing solid state electronic technology operating on a nominal 24 VDC.
2. Shall be a minimum nominal rating of 80 dBA at 10 feet (3,000 mm).
3. Mount on removable adapter plates on conduit boxes.
4. Horns located outdoors shall be of weatherproof type with metal housing and protective grille.
5. Each horn circuit shall have a minimum of 20 percent spare capacity.

2.7 ALARM INITIATING DEVICES

A. Manual Fire Alarm Stations:

1. Shall be non-breakglass, address reporting type.
2. Station front shall be constructed of a durable material such as cast or extruded metal or high impact plastic. Stations shall be semi-flush type.
3. Stations shall be of single action pull down type with suitable operating instructions provided on front in raised or depressed letters, and clearly labeled "FIRE."
4. Operating handles shall be constructed of a durable material. On operation, the lever shall lock in alarm position and remain so until reset. A key shall be required to gain front access for resetting, or conducting tests and drills.
5. Unless otherwise specified, all exposed parts shall be red in color and have a smooth, hard, durable finish.

B. Smoke Detectors:

1. Smoke detectors shall be photoelectric type and UL listed for use with the fire alarm control unit being furnished.
2. Smoke detectors shall be addressable type complying with applicable UL Standards for system type detectors. Smoke detectors shall be installed in accordance with the manufacturer's recommendations and NFPA 72.
3. Detectors shall have an indication lamp to denote an alarm condition. Provide remote indicator lamps and identification plates where detectors are concealed from view. Locate the remote indicator lamps and identification plates flush mounted on walls so they can be observed from a normal standing position.
4. All spot type and duct type detectors installed shall be of the photoelectric type.
5. Photoelectric detectors shall be factory calibrated and readily field adjustable. The sensitivity of any photoelectric detector shall be factory set at 3.0 plus or minus 0.25 percent obscuration per foot.
6. Detectors shall provide a visual trouble indication if they drift out of sensitivity range or fail internal diagnostics. Detectors shall also provide visual indication of sensitivity level upon testing. Detectors, along with the fire alarm control units shall be UL listed for testing the sensitivity of the detectors.

C. Heat Detectors:

1. Heat detectors shall be of the addressable restorable rate compensated fixed-temperature spot type.
2. Detectors shall have a minimum smooth ceiling rating of 2,500 square feet (230 square meters).
3. Ordinary temperature (135 degrees F (57 degrees C)) heat detectors shall be utilized in elevator shafts and elevator mechanical rooms. Intermediate temperature rated (200 degrees F (93 degrees C)) heat detectors shall be utilized in all other areas.
4. Provide a remote indicator lamp, key test station and identification nameplate (e.g. "Heat Detector - Elevator P-_____) for each elevator group. Locate key test station in plain view on elevator machine room wall.

D. Water Flow and Pressure Switches:

1. Wet pipe water flow switches for sprinkler systems shall be connected to the fire alarm system by way of an address reporting interface device.
2. All new water flow switches shall be of a single manufacturer and series and non-accumulative retard type. See Section 21 12 00, FIRE-SUPPRESSION STANDPIPES and Section 21 13 13, WET-PIPE SPRINKLER SYSTEMS for new switches added. Connect all switches shown on the approved design build shop drawings.
3. All new switches shall have an alarm transmission delay time that is conveniently adjustable from 0 to 60 seconds. Initial settings shall be 30-45 seconds. Timing shall be recorded and documented during testing.

E. Extinguishing System Connections:

1. Kitchen Range Hood and Duct Suppression Systems:
 - a. Each suppression system shall be equipped with a micro-switch connected to the building fire alarm control unit. Discharge of a suppression system shall automatically send an alarm signal to the building fire detection and alarm system for annunciation.
 - b. Operation of this suppression system shall also automatically shut off all sources of fuel and heat to all equipment requiring protection under the same hood.
2. Each gaseous suppression system shall be monitored for system alarm and system trouble conditions via addressable interface devices.

2.8 SUPERVISORY DEVICES

A. Duct Smoke Detectors:

1. Duct smoke detectors shall be provided and connected by way of an address reporting interface device. Detectors shall be provided with an approved duct housing mounted exterior to the duct, and shall have perforated sampling tubes extending across the full width of the duct (wall to wall). Detector placement shall be such that there is uniform airflow in the cross section of the duct.
2. Interlocking with fans shall be provided in accordance with NFPA 90A and as specified hereinafter under Part 3.2, "TYPICAL OPERATION".
3. Provide remote indicator lamps, key test stations and identification nameplates (e.g. "DUCT SMOKE DETECTOR AHU-X") for all duct detectors. Locate key test stations in plain view on walls or ceilings so that they can be observed and operated from a normal standing position.

B. Sprinkler and Standpipe System Supervisory Switches:

1. Each sprinkler system water supply control valve, riser valve or zone control valve, and each standpipe system riser control valve shall be equipped with a supervisory switch. Standpipe hose valves, and test and drain valves shall not be equipped with supervisory switches.
2. PIV (post indicator valve) or main gate valve shall be equipped with a supervisory switch.
3. Valve supervisory switches shall be connected to the fire alarm system by way of address reporting interface device. See Section 21 13 13, WET-PIPE SPRINKLER SYSTEMS for new switches to be added. Connect tamper switches for all control valves shown on the approved shop drawings.
4. The mechanism shall be contained in a weatherproof die-cast aluminum housing that shall provide a 3/4 inch (19 mm) tapped conduit entrance and incorporate the necessary facilities for attachment to the valves.
5. The entire installed assembly shall be tamper-proof and arranged to cause a switch operation if the housing cover is removed or if the unit is removed from its mounting.

2.9 ADDRESS REPORTING INTERFACE DEVICE

- A. Shall have unique addresses that reports directly to the building fire alarm panel.
- B. Shall be configurable to monitor normally open or normally closed devices for both alarm and trouble conditions.
- C. Shall have terminal designations clearly differentiating between the circuit to which they are reporting from and the device that they are monitoring.
- D. Shall be UL listed for fire alarm use and compatibility with the panel to which they are connected.
- E. Shall be mounted in weatherproof housings if mounted exterior to a building.

2.10 SMOKE BARRIER DOOR CONTROL

- A. Electromagnetic Door Holders:
 1. New Door Holders shall be standard wall mounted electromagnetic type. In locations where doors do not come in contact with the wall when in the full open position, an extension post shall be added to the door bracket.

2. Operation shall be by 24 volt DC supplied from a battery located at the fire alarm control unit. Door holders shall be coordinated as to voltage, ampere drain, and voltage drop with the battery, battery charger, wiring and fire alarm system for operation as specified.
- B. A maximum of twelve door holders shall be provided for each circuit. Door holders shall be wired to allow releasing doors by smoke zone.
- C. Door holder control circuits shall be electrically supervised.
- D. Smoke detectors shall not be incorporated as an integral part of door holders.

2.11 UTILITY LOCKS AND KEYS:

- A. All key operated test switches, control units, annunciator panels and lockable cabinets shall be provided with a single standardized utility lock and key.
- B. All keys shall be delivered to the COTR.

2.12 SPARE AND REPLACEMENT PARTS

- A. Provide spare and replacement parts, quantity not less than 5% of the total installed in the work or as noted below for the following:
 1. Manual pull stations
 2. Heat detectors - for each type
 3. Fire alarm
 4. Fire alarm
 5. Fire alarm speakers
 6. Smoke detectors
 7. Duct smoke detectors with all appurtenances - 1
 8. Sprinkler system water flow switch - 1 of each size
 9. Sprinkler system water pressure switch - 1 of each type
 10. Sprinkler valve tamper switch - 1 of each type
 11. Control equipment utility locksets
 12. Control equipment keys
 13. 2.5 oz containers aerosol smoke - 3
 14. Monitor modules
 15. Control modules
 16. Fire alarm SLC cable (same as installed)
- B. Spare and replacement parts shall be in original packaging and submitted to the COTR.
- C. Furnish and install a storage cabinet of sufficient size and suitable for storing spare equipment. Doors shall include a pad locking device.

Padlock to be provided by the VA. Location of the cabinet is to be determined by the COTR.

- D. Provide to the VA, all hardware, software, programming tools, license and documentation necessary to permanently modify the fire alarm system on site. The minimum level of modification includes addition and deletion of devices, circuits, zones and changes to system description, system operation, and digitized evacuation and instructional messages.

2.13 INSTRUCTION CHART:

Provide typewritten instruction card mounted behind a Lexan plastic or glass cover in a stainless steel or aluminum frame with a backplate. Install the frame in a conspicuous location observable from the control unit where operations are performed. The card shall show those steps to be taken by an operator when a signal is received under all conditions, normal, alarm, supervisory, and trouble. Provide an additional copy with the binder for the input output matrix for the sequence of operation. The instructions shall be approved by the COTR before being posted.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Installation shall be in accordance with NFPA 70, 72, 90A, and 101 as shown on the approved design build drawings, and as recommended by the major equipment manufacturer. Fire alarm wiring shall be installed in conduit. All conduit and wire shall be installed in accordance with, Section 28 05 13 CONDUCTORS AND CABLES FOR ELECTRONIC SAFETY AND SECURITY, Section 28 05 26 GROUNDING AND BONDING FOR ELECTRONIC SAFETY AND SECURITY, Section 28 05 28.33 CONDUIT AND BACKBOXES FOR ELECTRONIC SAFETY AND SECURITY, and all penetrations of smoke and fire barriers shall be protected as required by Section 07 84 00, FIRESTOPPING.
- B. All conduits, junction boxes, conduit supports and hangers shall be concealed in finished areas and may be exposed in unfinished areas.
- C. All new and reused exposed conduits shall be painted in accordance with Section 09 91 00, PAINTING to match surrounding finished areas and red in unfinished areas.
- D. All existing accessible fire alarm conduit not reused shall be removed.
- E. All fire detection and alarm system devices, control units and remote annunciators shall be flush mounted when located in finished areas and

may be surface mounted when located in unfinished areas. Exact locations are to be approved by the COTR.

- F. Speakers shall be ceiling mounted and fully recessed in areas with suspended ceilings. Speakers shall be wall mounted and recessed in finished areas without suspended ceilings. Speakers may be surface mounted in unfinished areas.
- G. Strobes shall be flush wall mounted with the bottom of the unit located 80 inches (2,000 mm) above the floor or 6 inches (150 mm) below ceiling, whichever is lower. Locate and mount to maintain a minimum 36 inches (900 mm) clearance from side obstructions.
- H. Manual pull stations shall be installed not less than 42 inches (1,050 mm) or more than 48 inches (1,200 mm) from finished floor to bottom of device and within 60 inches (1,500 mm) of a stairway or an exit door.
- I. Where possible, locate water flow and pressure switches a minimum of 12 inches (300 mm) from a fitting that changes the direction of the flow and a minimum of 36 inches (900 mm) from a valve.
- J. Mount valve tamper switches so as not to interfere with the normal operation of the valve and adjust to operate within 2 revolutions toward the closed position of the valve control, or when the stem has moved no more than 1/5 of the distance from its normal position.
- K. Connect flow and tamper switches installed under Section 21 13 13, WET-PIPE SPRINKLER SYSTEMS.
- L. Connect combination closer-holders installed under Section 08 71 00, DOOR HARDWARE.

3.2 TYPICAL OPERATION

- A. Discuss with VA personnel to determine if the detectors in elevator lobbies should sound the building alarm. They may opt to sound a supervisory signal in accordance with the Fire Protection Design Manual for the elevator lobby smoke detectors if there is a known problem with activation of these detectors. If the option to sound a supervisory alarm is utilized, adjust the design and installation as required.
- B. Activation of any manual pull station, water flow or pressure switch, heat detector, kitchen hood suppression system, gaseous suppression system, or smoke detector shall cause the following operations to occur:
 - 1. Operate the emergency voice communication system in the building.
For sprinkler protected buildings, flash strobes continuously only in the zone of alarm.

2. Continuously sound a temporal pattern general alarm and flash all strobes in the building in alarm until reset at the local fire alarm control unit.
 3. Release only the magnetic door holders on the floor from which alarm was initiated after the alert signal.
 4. Transmit a separate alarm signal, via the main fire alarm control unit to the fire department.
 5. Unlock the electrically locked exit doors within the zone of alarm.
- C. Heat detectors in elevator machine rooms shall, in addition to the above functions, disconnect all power to all elevators served by that machine room after a time delay. The time delay shall be programmed within the fire alarm system programming and be equal to the time it takes for the car to travel from the highest to the lowest level, plus 10 seconds.
- D. Smoke detectors in the primary elevator lobby of the building shall, in addition to the above functions, return all elevators in the bank to the secondary floor.
- E. Smoke detectors in the remaining elevator lobbies, elevator machine room, or top of hoistway shall, in addition to the above functions, return all elevators in the bank to the primary floor.
- F. Operation of a smoke detector at a corridor door used for automatic closing shall also release only the magnetic door holders on that floor. Operation of a smoke detector at a shutter used for automatic closing shall also release only the shutters on that floor.
- G. Operation of duct smoke detectors shall cause a system supervisory condition and shut down the ventilation system and close the associated smoke dampers as appropriate.
- H. Operation of any sprinkler or standpipe system valve supervisory switch shall cause a system supervisory condition.
- I. Alarm verification shall not be used for smoke detectors installed for the purpose of early warning.

3.3 TESTS

- A. Provide the service of a NICET level III, competent, factory-trained engineer or technician authorized by the manufacturer of the fire alarm equipment to technically supervise and participate during all of the adjustments and tests for the system. Make all adjustments and tests in the presence of the COTR.

- B. When the systems have been completed and prior to the scheduling of the final inspection, furnish testing equipment and perform the following tests in the presence of the COTR. When any defects are detected, make repairs or install replacement components, and repeat the tests until such time that the complete fire alarm systems meet all contract requirements. After the system has passed the initial test and been approved by the COTR, the contractor may request a final inspection.
1. Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.
 2. Test the insulation on all installed cable and wiring by standard methods as recommended by the equipment manufacturer.
 3. Run water through all flow switches. Check time delay on water flow switches. Submit a report listing all water flow switch operations and their retard time in seconds.
 4. Open each alarm initiating and notification circuit to see if trouble signal actuates.
 5. Ground each alarm initiation and notification circuit and verify response of trouble signals.

3.4 FINAL INSPECTION AND ACCEPTANCE

- A. Prior to final acceptance a minimum 30 day "burn-in" period shall be provided. The purpose shall be to allow equipment to stabilize and potential installation and software problems and equipment malfunctions to be identified and corrected. During this diagnostic period, all system operations and malfunctions shall be recorded. Final acceptance will be made upon successful completion of the "burn-in" period and where the last 14 days is without a system or equipment malfunction.
- B. At the final inspection a factory trained representative of the manufacturer of the major equipment shall repeat the tests in Article 3.3 TESTS and those required by NFPA 72. In addition the representative shall demonstrate that the systems function properly in every respect. The demonstration shall be made in the presence of a VA representative.

3.5 INSTRUCTION

- A. The manufacturer's authorized representative shall provide instruction and training to the VA as follows:
1. Six 1-hour sessions to engineering staff, security police and central attendant personnel for simple operation of the system. Two sessions at the start of installation, 2 sessions at the completion

- of installation and 2 sessions 3 months after the completion of installation.
2. Four 2-hour sessions to engineering staff for detailed operation of the system. Two sessions at the completion of installation and 2 sessions 3 months after the completion of installation.
 3. Three 8-hour sessions to electrical technicians for maintaining, programming, modifying, and repairing the system at the completion of installation and one 8-hour refresher session 3 months after the completion of installation.
- B. The Contractor and/or the Systems Manufacturer's representative shall provide a typewritten "Sequence of Operation" including a trouble shooting guide of the entire system for submittal to the VA. The sequence of operation will be shown for each input in the system in a matrix format and provided in a loose leaf binder. When reading the sequence of operation, the reader will be able to quickly and easily determine what output will occur upon activation of any input in the system. The INPUT/OUTPUT matrix format shall be as shown in Appendix A to NFPA 72.
- C. Furnish the services of a competent instructor for instructing personnel in the programming requirements necessary for system expansion. Such programming shall include addition or deletion of devices, zones, indicating circuits and display text.

PART 4 - SCHEDULES

4.1 DIGITIZED VOICE MESSAGES:

- A. Digitized voice messages shall be provided for the required areas of the building. The messages shall be arranged with a 3 second alert tone and a fire alarm message as required.

4.2 LOCATION OF VOICE MESSAGES:

Upon receipt of an alarm signal from the building fire alarm system, the voice communication system shall automatically transmit a 3 second tone alert and a pre-recorded fire alarm message to the areas which require voice fire alarm signal.

- - END - -

R.F.I. (REQUEST FOR INFORMATION)			
Project #:	600-12-163	RFI #:	11
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:	AD100/ AE401	Specification Section:	
DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED			
<p>Please be as specific as possible.</p> <p>Will the Owner be responsible for moving out all existing FFE furniture in rooms such as the Lounge Room #58 on Basement level? Will the Owner want to salvage any materials such as the existing lockers and/or benches on Basement level (Sheet AE401)?</p>			
OWNER RESPONSE			
<p>VALBHS RESPONSE: "YES" to both questions above. In all SOW areas, the VA /Owner will be responsible for the removal, storage, salvage, recycling and disposal of all FFE furniture / furnishings / equipment / accessories and bar-coded properties. Normal coordination efforts by the Contractor will be expected.</p>			
OWNER TRACKING No.:		AMEND No.:	
VA Project Engineer/Manager: Geoffrey Wan Geoffrey Wan, Architect COR, VALBHS		Date: April 25, 2013 April 25, 2013	

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	12
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/17/13
Solicitation No.:	VA262-13-B-0184	Reference:	
Drawing:		Specification Section:	092300

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

Please be as specific as possible.

Please delete spec section 092300 Gypsum Plastering, if this does not apply to this project – could not locate on plans or narrative.

OWNER RESPONSE

LAD Response: Gypsum Plastering may be required at some areas. Many existing walls are plastered and some plaster infill may be required. Spec section is included to address these conditions should they be encountered in the field.

VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:	AMEND No.:
VA Project Engineer/Manager: Geoffrey Wan Geoffrey Wan, Architect COR, VALBHS	Date: April 19, 2013

R.F.I. (REQUEST FOR INFORMATION)			
Project #:	600-12-163	RFI #:	001 / 3
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/24/13
Solicitation No.:	VA262-13-B-0184	Reference:	Asbestos Abatement
Drawing:	PD 100 Note 4	Specification Section:	N/A
DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED			
1. What is the extend of the abatement? 2. Could you clarify the location of the asbestos insulation? 3. What is the type and length of insulation ductwork and/or piping?			
OWNER RESPONSE			
<div style="border: 1px solid black; padding: 5px;"> <p>LAD Response:</p> <p>Hazardous materials testing was not part of the scope of this project. The drawings address any hazardous materials noted in the VA FCA (Facility Condition Assessment). Contractor is to refer to the General Notes (Note 44) on GI.003 and to the VA. Any hazardous materials encountered but not previously identified will be considered a differing field condition and shall be addressed accordingly with the VA.</p> </div>			
<p>VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.</p>			
OWNER TRACKING No.:		AMEND No.:	
VA Project Engineer/Manager: Geoffrey Wan Geoffrey Wan, Architect COR, VALBHS		Date: April 25, 2013 April 25, 2013	

R.F.I. (REQUEST FOR INFORMATION)			
Project #:	600-12-163	RFI #:	#14
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/15/13
Solicitation No.:	VA262-13-B-0184	Reference:	Plaster Ceilings
Drawing:	AE110	Specification Section:	09 23 00.03
DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED			
<ol style="list-style-type: none"> 1. Keynote Legend – Sheet Specific 09 23 00.03 on Sheet AE110 states "Provide and install new plaster ceiling". The drawing is calling for an 8'-0" ceiling height. The Sheet Notes – Reflected Ceiling Plan Legend shows a hatch pattern for the restrooms that states "New gypsum board ceiling / soffit". Please provide additional information on the extent of this scope of work. Are the new ceilings to include metal studs or is it just gypsum board, texture and paint? 2. The demolition drawings do not show any demolition of ceilings in this area. Does this scope of work require demolition metal studs, drywall, both or neither? 3. Do the answers above related to the other upgraded bathrooms on this project? 			
OWNER RESPONSE			
<p>LAD Response:</p> <ol style="list-style-type: none"> 1. The ceilings are to be replaced with Gypsum board ceilings. The new ceilings will be gypsum board on metal studs. 2. The (E) ceilings in this area are plaster and are to fully demo'd (framing, lath, etc..). 3. All ceilings in the restrooms are to follow this same logic- ceilings in the upper floor restrooms will be suspended gypsum board unless (E) conditions do not permit suspension (in this case, gypsum board on metal stud). 			
<p>VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.</p>			
OWNER TRACKING No.:		AMEND No.:	
VA Project Engineer/Manager:		Date:	
Geoffrey Wan Geoffrey Wan, Architect COR, VALBHS		April 25, 2013 April 25, 2013	

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	815
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/15/13
Solicitation No.:	VA262-13-B-0184	Reference:	Coiling Door
Drawing:	AD100, AE100	Specification Section:	08 33 00

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

1. Does the 1 Hr. rated metal overhead coiling door, 08 33 00.01 on AE100, require any structural supports or framing members? Please provide a detail.
2. The Demolition Plan – Basement Level, AD100, does not mention to cut an opening for the coiling door. Is this required?

LAD Response:

1. The overhead door should not require any structural supports, there is an (E) opening is larger than the rated coiling door specified, so in fill will be required.
2. The opening exists- cutting an opening is not required.

OWNER RESPONSE

VALBHS RESPONSE: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:**AMEND No.:****VA Project Engineer/Manager:****Date:****Geoffrey Wan**

April 25, 2013 April 25, 2013

Geoffrey Wan, Architect | COR, VALBHS

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	A 16
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/25
Solicitation No.:	VA262-13-B-0184	Reference:	Existing Roof Demo
Drawing:	AD106, AE406	Specification Section:	02 41 00

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

1. Please see the Sheet Index on drawing number GI001. The Drawing Index is calling for a drawing AD106 that was not provided as part of the architectural drawing package. Please provide.
2. Please provide additional information on the existing roofing system as described on AD106 and AE406.
 - a. How many layers?
 - b. What is the existing deck?
 - c. What is the existing insulation and thickness?

OWNER RESPONSE**LAD Response:**

1. Drawing AD106 is not required and this sheet reference will be removed from the index. A demo plan would not show any additional information. AE106 is provided in order to show all roof areas included in the scope. AE106 references all enlarged plans for the demolition and roof replacement work.
2. The only existing information for the roofing system shown on the VA provided As-Builts states the (E) roofing is 'Built-up Roofing' over 6" conc. slab. For roof replacement, refer to spec. section 075100 for standard VA Built-up roofing requirements.

VALBHS Response: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:**AMEND No.:****Geoffrey Wan**

Geoffrey Wan, Architect | COR, VHLBHS

Date: April 26, 2013*4-29-13
(resent)*

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	17
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/26/13
Solicitation No.:	VA262-13-B-0184	Reference:	Abatement Report
Drawing:	AD106, AE406	Specification Section:	02 41 00

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

1. Is an abatement report required for the demolition of the roofing? If so, please provide.

OWNER RESPONSE

LAD Response: No known hazardous materials have been identified in this area to date and hazardous testing was not part of the design for this project. If hazardous materials are encountered, please refer to General Notes (GI003), Note 44.

VALBHS Response: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:**AMEND No.:****Geoffrey Wan****Date: April 26, 2013****Geoffrey Wan, Architect | COR, VHLBHS**

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	18
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/26/13
Solicitation No.:	VA262-13-B-0184	Reference:	Central Loading Roofing
Drawing:	AE406	Specification Section:	07 51 00

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

1. Detail 2, Enlarged Roof Plan – Central Loading Area, on drawing number AE406 is calling for 07 51 00.01, "Provide and install new built-up roofing system", and 07 51 00.02, Apply waterproofing and deck coating system to the new built-up roofing. The waterproofing coating is a T-24 white coating and the roofing specification also calls for an energy (white) capsheet. Is this the intent for two white coatings for this roof? Please advise.

OWNER RESPONSE

LAD Response: Please see attached spec section. Cap sheet w/ white course granule surfacing is required in all areas for B/U roofing. For areas with pedestrian traffic (ie. over the central loading dock), ref. 075100 2.3- Miscellaneous Materials, B. Roof Deck waterproofing Surfacing system will be applied.

VALBHS Response: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:

AMEND No.:

Geoffrey Wan

Date: April 26, 2013

Geoffrey Wan, Architect | COR, VHLBHS

RFI #18

GLBHS - VA Long Beach HealthCare Center
Building 2 Deficiencies

VA Project No. 600-12-163
Revised: March 16, 2012
Construction Documents (100%)

- c. Asphalt Between Substrate and First Ply: 10-17.5 kg/10 sq. meters 20-35 lbs/100 sq. ft.
- d. Asphalt Between Each Ply 10-17.5 kg/10 sq. meters 20-35 lbs/100 sq. ft.
- 5. Provide asphalt quantities within the indicated ranges, unless recommended otherwise in the roofing materials manufacturer's printed data.

2.2 MATERIALS

- A. Primer: ASTM D41.
- B. Base Sheet: ASTM D4601, Type II, nonperforated, asphalt-impregnated and coated, glass-fiber sheet, dusted with fine mineral surfacing on both sides.
- C. Asphalt: ASTM D312, Type III or IV for roof membrane. Use Type I for pour coat unless specified otherwise.
- D. Ply Sheet/Backer Sheet: ASTM D2178, Type VI, heavy-duty ply sheet.
- E. Cap Sheet: ASTM D3909, asphalt-impregnated and -coated, glass-standard fiber cap sheet, with white coarse mineral-granule top surfacing and fine mineral surfacing on bottom surface.
- F. Roof Cement: ASTM D4586, Type I Type II.
- G. Flashing Sheet: ASTM D6163, Type I or II, glass-fiber-reinforced, SBS-modified asphalt sheet; granular surfaced; suitable for application method specified.

2.3-MISCELLANEOUS MATERIALS

- A. Aggregate:
 - 1. ASTM D1863, except the use of crushed stone is prohibited.
 - 2. Slag or gravel. Use slag on slopes over 1:10 (one inch per foot).
- B. Roof Deck Waterproofing Surfacing System: required at higher traffic areas (ie. over central loading dock)
 - 1. ASTM G23, Weathering; ASTM E108, Fire Safety
 - 2. Troweled applied waterproofing and wearing surface forming an elastic latex membrane with integral composition flashing and a flexible rubber-cement traffic surface.
 - 3. Total thickness of the material is 3/16 inch (4.75 mm) to 1/4 inch (6.35 mm).
 - 3. Locations for system as noted on drawings.

2.4 FASTENERS

- A. Nails and Staples: ASTM F1667.
- B. Nails for Securing built-up Flashing and Base Sheets to Wood Nailers and Deck:

R.F.I. (REQUEST FOR INFORMATION)			
Project #:	600-12-163	RFI #:	19
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/26/13
Solicitation No.:	VA262-13-B-0184	Reference:	Locker Specification
Drawing:	AE402	Specification Section:	10 51 00
DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED			
1. Please provide a specification for the wood benches in the locker areas.			
OWNER RESPONSE			
<i>LAD RESPONSE: SEE ATTACHED</i>			
<i>VALBHS Response: Concur with the above A/E Response without further comment or objection.</i>			
OWNER TRACKING No.:		AMEND No.:	
Geoffrey Wan Geoffrey Wan, Architect COR, VHLBHS		Date: April 26, 2013	

ROBINSON STEEL CO.
Locker, Storage Solutions
and Restroom Supplies
at the Right Price!

RSC
Founded 1921

Phone: (610) 279-6600
Fax: (610) 279-6646
Toll free: (800) 275-6702
Email: sales@rsclockers.com
Join Our Mailing List

WE ACCEPT ONLINE
PURCHASE ORDERS AND
MAJOR CREDIT CARDS

[PRODUCTS](#)
[SERVICES](#)
[ASAP](#)
[ABOUT US](#)
[BLOG](#)
[CONTACT US](#)

[SEARCH](#)
[CART](#)
[HOME](#)

THE LOCKER ROOM

- Request a Quote
- Lockers
- Benches
- Locks
- Repair Parts
- Lockers FAQ

THE RESTROOM

- Request a Quote
- Partitions
- Accessories
- Venilles
- Repair Parts
- FAQ

THE WAREHOUSE

- Request a Quote
- Shelving and Rack
- Mezzanine
- Wire Partitions
- Industrial Stairs
- Barrier Rail
- In Plant Offices
- Cabinets and Furniture
- FAQ

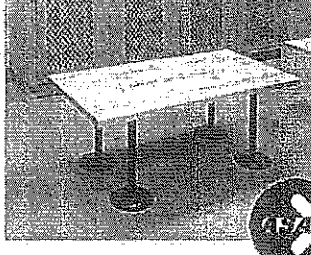
PARKS & REC

- Request a Quote
- Picnic Tables
- Plastic Benches
- ADA Compliant
- Trash Receptacles
- Bleachers

THE OTHER STUFF

- Request a Quote
- Custom Metal Shop
- Overstocks
- ASAP Products

ADA Locker Room Bench



Back to List

Custom sizes are available,
as indicated in drawings

USE 8' SPECIFIED ON
DRAWINGS WITH
ADDITIONAL PEDESTAL
SUPPORTS.

Now: \$375.00

SKU: ADABENCH

Qty:

Sizes:

- C 42" L x 20" W x 17.5" H (\$225.00)
- C 42" L x 24" W x 17.5" H (\$290.00)
- C 48" L x 24" W x 17.5" H (\$300.00)
- C 50" L x 24" W x 17.5" H (\$350.00)
- C 72" L x 24" W x 17.5" H (\$375.00)

Pedestal: ☒ Gray

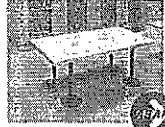


Color: ☐ Champagne ☐ Black ☐ Marine Blue ☐ White

[Add to Cart](#)

[Email a Friend](#)

ADA Bench- Basis of design

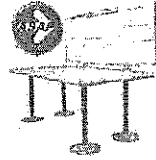
- IN STOCK - Orders placed today will ship tomorrow.
- Selected Hardwood Tops With Radius On All Sides
- Two Coat Lacquer Finish On Wood
- Seat Height is 17-1/2" high
- Heavy duty floor mounted pedestals with powder coat finish
- Hardware supplied to mount pedestals to tops
- Pedestals must be anchored to the floor
- Additional pedestal colors available from production, please call or Contact Us for more information.
- ADA and so-called "Barrier Free" guidelines are set by the Federal Government and are sometimes modified by regional or local, lower level government agencies. Please check with your architect or these agencies to confirm that this product applies to your guide lines.

02A Gray 02B Champagne

Related Products

ADA Locker Room Bench with Back Support



Now: \$485.00 - \$497.50

[Details](#)

R.F.I.

(REQUEST FOR INFORMATION)

Project #:	600-12-163	RFI #:	21
Project Name:	Bldg. 2, Correct Deficiencies	Date Requested:	4/26/13
Solicitation No.:	VA262-13-B-0184	Reference:	Relocated locker benches
Drawing:	AE401	Specification Section:	10 51 00

DESCRIPTION OF PROBLEM OR INFORMATION REQUESTED

1. Keynote Legend – Sheet Specific 02 41 00.35 on drawing AE401 is calling for the removal and relocated of existing bench in locker area. Please provide the location of where the benches are to be relocated.

OWNER RESPONSE

LAD Response: All (E) Benches in the locker area are not ADA compliant are to be demo'd. Keynote should be revised. New ADA Benches should be provided per RFI 19 as shown on AE402.

VALBHS Response: Concur with the above A/E Response without further comment or objection.

OWNER TRACKING No.:**AMEND No.:****Geoffrey Wan****Date: April 26, 2013**

Geoffrey Wan, Architect | COR, VHLBHS