

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES 1 2
2. AMENDMENT/MODIFICATION NO.: 0003	3. EFFECTIVE DATE 7 OCT 04	4. REQUISITION/PURCHASE REQ. NO. W81W3G-4218-2914	PROJECT NO. (If applicable)	
6. ISSUED BY USAED-Baltimore District Contracting Division, Civil P.O. Box 1715 Baltimore MD 21203-1715	CODE W912DR	ADMINISTERED BY: CODE		
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)		(x)	9A. AMENDMENT OF SOLICITATION NO. W912DR-04-R-0071	
		X	9B. DATED (SEE ITEM 11) 10 SEP 04	
			10A. MODIFICATION OF CONTRACT/ ORDER NO.	
			10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE			

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers X is extended ___ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
(a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER No. ITEM 10A
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR43.103(b)
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

FACILITY MANAGEMENT, OPERATION & MAINTENANCE SERVICES IN SUPPORT OF THE ARCHITECT OF THE CAPITOL (AOC), LIBRARY OF CONGRESS (LOC), NATIONAL AUDIO VISUAL CONSERVATION CENTER (NAVCC), CULPEPER, VIRGINIA

- SF 33, Block No. 9 - Proposal due date for subject RFP is hereby extended to 27 October 2004 at 4:00 p.m.
- Section C - Descriptions & Specifications: C.4.3.1 (L) - Delete paragraph in its entirety and replace with the following paragraph "CAFM Coordinator/Maintenance Planner: Five (5) years experience with an automated maintenance management software package and proficient with Microsoft Office applications."
- Section C - Descriptions & Specifications: C.5.7 - Delete the first sentence of this paragraph and replace it with the following sentence "The Contractor, at his own expense, shall furnish a CAFM software package that meets the requirements outlined in Section J, Attachment 23, Computer Assisted Facilities Management System Requirements."

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
BY _____ (signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)	

4. Section J - List of Documents, Exhibits & Other Attachments: Delete Attachment J.7, entitled "MEP Systems Narrative" in its entirety and replace with the attached revised Attachment J.7. Changes are reflected in bold.

5. Section J - List of Documents, Exhibits & Other Attachments: Delete Attachment J.8, entitled "Principle Building Equipment" in its entirety and replace with the attached revised Attachment J.8. Changes are reflected in bold.

6. Section J - List of Documents, Exhibits & Other Attachments: Incorporate the attached Attachment J.23, entitled "Computer Assisted Facilities Management (CAFM) System Requirements."

Attachments: Attachment J.7
Attachment J.8
Attachment J.23

LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER MEP SYSTEMS NARRATIVE

PHASE I

MECHANICAL

- Central glycol chilled water plant consisting of 2 - **450** ton centrifugal chillers, 2 - 175 ton screw type chillers, a **29** ton scroll type chiller, 4 - single cell cooling towers, fan coil units, supply/return lines, pumps, re-cool coils, air separators, **water softening**, valves, gages and controls.
- Central oil fired steam boiler heating plant consisting of 2 - 600 hp boilers at 150 psig operating pressure, deaerators, heat exchangers, filtration, **water softening**, pumps, air separators, PRV stations, flash tank, expansion tanks, medium/low pressure steam and hot water supply/return piping, steam traps, valves, gages, and controls.
- HVAC distribution system consisting of 6 - 20,000 cfm desiccant AHUs and 2 - 9,000 cfm desiccant AHUs for the collections vaults; a 33,300 cfm, 22,500 cfm, 9,500 cfm and a 2,000 cfm **AHU** for the collections office and conservation building 3rd floor areas; sound attenuation for all AHUs, supply/return ducts, fire dampers, steam to steam humidifiers, pumps, fans, air filters, diffusers, returns, VAV boxes, and controls.
- Air exhaust systems with fans, ducts, carbon scrubbers and louvers for restrooms, kitchen, locker areas, specialized equipment in lab areas, and mechanical/electrical spaces in the building. Separate exhaust/ventilation systems for the generator and fuel storage buildings.
- Five acclimatization chamber units for temperature and humidity control in the collections area.
- Hot water, gas fired and electric unit heaters as well as hot water cabinet unit heaters.
- Electric domestic water heaters.
- Two passenger elevators and a freight elevator.
- Portable fire extinguishers

ELECTRICAL

- Electrically operated gate with controller.
- Exterior area lighting to include: pole mounted, canopy, bollard, bracket, in grade and wall mounted landscape lighting, with photo cells, timers, direct buried conduit and wiring.
- Site power supply in concrete encased duct bank with hand holes.
- Emergency power system comprised of four 600 KW emergency generators housed in a separate building with automatic transfer switches to power NEC 700 and 701 loads.
- Telecommunications, security, and control wiring with duct banks and service manholes/hand holes. Managing Contractor is not responsible for telecommunications or security wiring (only infrastructure maintenance.)
- Grounding and bonding system for chainlink fencing and all structures to include a ground bus in the central plant electrical room, grounding for the communications system, electrical panels/rooms, equipment panels, and bonding for the emergency

LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER MEP SYSTEMS NARRATIVE

- generators and fuel storage tanks.
- Fuel oil storage area with a Class I, Division 2 rated electrical system.
- Power supply from 35KV, 480/277V, 3 phase 4 wire transformers (primary transformers and meters maintained by power company). Includes two 4000 amp service entrances, 1200 and 1600 amp switchgear, 9 to 225 KVA dry type transformers, 40 to 800 amp panels, breakers, 600 amp motor control centers, variable frequency drives, conduit, cable trays, conductors, connectors to various equipment, disconnects, and wiring devices.
- Uninterruptible power supply (UPS) units for various equipment.
- Low voltage wiring for various building systems controls.
- Low voltage wiring for security systems (by others.)
- Communications systems infrastructure (conduit and cable trays) for telecommunications/data lines.
- Telecommunications wiring, connections and equipment (by others.)
- Emergency and normal power interior lighting.
- Electrically operated automatic sliding doors.
- Fire alarm system to include heat, smoke and duct detection, pull stations, strobes, horns, remote alarm indicators, wiring, conduit, controls, annunciator panel with battery backup, and fire command center. Fire alarm system is tied in to other building systems as necessary (HVAC, electric, elevator, etc.)
- Fire door holders and magnetic locks connected to gas fire suppression and fire alarm systems.
- Heat trace system for piping.
- DDC building automation system.

PLUMBING

- Storm drainage system to include garden roof system drains, areaway drains, porous paving, curbs, trench drains, swales, culverts, catch basins, inlets, manholes, PVC piping , 15-36" RCP piping and outlets.
- Small waterworks system consisting of three wells, pumps, screens, a pump house (vault,) 3-3" DL-11 lines to a 350,000 gallon precast concrete storage tank, various system controls, and a 6" DIP domestic W/L to the building.
- Exterior sanitary sewer system of 8" PVC pipe from the building to municipal pump station.
- Foundation drains and clean outs for the building and water storage tank.
- Central irrigation system with 120 VAC controller with master valve, flow sensors, and remote control valves.
- Building water systems to include: domestic use, hot and cold water, cooling tower make-up, mechanical make-up/specialized equipment softened cold water, tempered cold water, ~~and reverse osmosis~~ with various valves, gauges, booster pumps and back flow

LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER MEP SYSTEMS NARRATIVE

- prevention.
- Interior sanitary sewer system with venting, floor drains, and cleanouts throughout the facility.
- Central house vacuum system.
- Central compressed air system with compressor, air dryer and piping.
- Fuel oil supply system composed of 5 each 20,000 gallon storage tanks housed in a separate building with a refill system, fuel pumps, strainers, filters, supply / return lines, leak detection, level sensors, valves, controls, transfer pumps, 4 each 100 gallon day tanks for generators, and a 400 gallon day tank for boilers.
- A 40 gallon electric water heater.
- Plumbing fixtures to include: water closets, lavatories, urinals, water coolers and showers.
- Emergency eyewash/safety showers.
- A fire protection system supplied by a 16" DIP W/M for fire service to the building and a 12" DIP Class 52 W/M for the fire site loop (with fire hydrants) pressurized by a 2,500 gpm fire pump with an intermittent jockey pump and back flow prevention. A 2,000 gpm fire pump with a jockey pump will be installed to service Phase II.
- Automatic wet and dry pipe sprinkler systems for light hazard; ordinary hazard, group 1; and extra hazard, group 2 locations. System includes 2,000 gpm fire pump, an intermittent jockey pump, air compressor, piping, sprinkler heads, valves, drains, and inspection test headers.
- FM 200 clean agent fire suppression system for the collections storage area.
- A foam fire suppression system for the fuel storage building.

PHASE II

MECHANICAL

- Heating and cooling provided by central plant in phase I.
- HVAC distribution system consisting of 2 - 20,000 cfm desiccant AHUs for nitrate storage vaults; 2 -30,000 cfm AHUs for the film labs; 1 - 16,000 cfm, 2 - 14,500 cfm and 1 - 12,000 cfm AHUs for the conservation building office areas; 1 - 4,000 cfm AHU for the theater; and one 1,400 cfm AHU for the holding room. All AHUs to have sound attenuation. Distribution systems include supply/return ducts, fire dampers, steam to steam humidifiers, pumps fans, air filters/scrubbers, diffusers, returns, VAV boxes, and controls.
- Air curtain system consisting of 4 - 4,680 CFM units for loading dock operations.
- Air exhaust systems with fume hoods, fans, ducts, scrubbers and louvers for restrooms, specialized equipment in lab areas, and mechanical/electrical spaces in the building.
- Hot water unit heater for the nitrate vault area.
- Electric domestic water heaters.

LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER MEP SYSTEMS NARRATIVE

- Three passenger elevators, handicap chair lifts, and a stage lift.
- Acoustical controls for listening booths and recording areas.
- A raised floor system throughout much of the conservation building.
- Portable fire extinguishers.

ELECTRICAL

- Exterior architectural/landscape lighting (see Phase I.)
- Grounding and bonding system for all structures to include grounding for the communications system, electrical panels/rooms, equipment panels, storage and production areas.
- Power supply fed from service entrance switchgear in central electrical room in Phase I. Power supply system composed of 9 to 225 KVA dry type transformers, 40 to 800 amp panels, breakers, motor control centers, variable frequency drives, conduit, cable trays, conductors, connectors to various equipment, disconnects, and wiring devices.
- Uninterruptible power supply (UPS) units for various equipment.
- Low voltage wiring for various building systems controls.
- Low voltage wiring for security systems (by others.)
- Communications systems infrastructure (conduit and cable trays) for telecommunications/data lines.
- Telecommunications wiring, connections and equipment (by others.)
- Emergency and normal power interior lighting.
- Special purpose lighting for dark rooms, labs, screening rooms, projection booths/rooms, meeting rooms, atrium/lobby, and a theater.
- Specialized tenant equipment for NAVCC operational use (maintenance by others.)
- Electrically operated automatic sliding doors.
- Electrically operated kitchen equipment.
- Fire alarm system to include heat, smoke and duct detection, pull stations, strobes, horns, remote alarm indicators, wiring, conduit, controls, annunciator panel with battery backup, and fire command center. Fire alarm system is tied in to other building systems as necessary (HVAC, electric, elevator, etc.)
- Fire door holders and magnetic locks connected to gas fire suppression and fire alarm systems.
- Heat trace system for piping.
- DDC building automation system.

PLUMBING

- Storm drainage system to include floor drains, garden roof system drains, areaway drains, porous paving, curbs, trench drains, swales, culverts, catch basins, inlets, manholes, PVC piping, 15-36" RCP piping and outlets.

**LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER
MEP SYSTEMS NARRATIVE**

- Foundation drains and clean outs for the building and water storage tank.
- Central irrigation system with 120 VAC controller with master valve, flow sensors, and remote control valves.
- Building water systems to include: domestic use, hot and cold water, mechanical make-up/specialized equipment softened cold water, tempered cold water, ~~and reverse osmosis~~ with various valves, gauges, booster pumps and back flow prevention.
- Interior sanitary sewer system with venting, floor drains, and clean outs throughout the facility.
- Central house vacuum system using continuous and intermittent vacuum pumps.
- Compressed air for deluge system and other equipment using continuous and intermittent compressors.
- Electric water heaters.
- Plumbing fixtures to include: water closets, lavatories, lab sinks, urinals, water coolers and showers.
- Emergency eyewash/safety showers.
- The fire protection system is fed from the collections storage building (see Phase I.)
- Automatic wet and dry pipe sprinkler/deluge systems for light hazard; ordinary hazard, group 1; and extra hazard, group 2 locations. System includes deluge cabinets, piping, sprinkler heads, valves and drains.
- Lab waste neutralization system.
- Perchloroethylene chemical process system for consisting of a double walled supply tank and dual containment piping.

**LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER
PRINCIPLE BUILDING EQUIPMENT**

Equipment	Type / Service	Size(s) / Capacities	Ref. Dwg.
Hydrants	Fire Protection System	Std. Municipal	C300
Valves	Fire Protection System	4/6/12/16 Inch	C300
Water Storage Tank	Domestic and Fire System	350,000 GAL	C800
Irrigation Controller and Valves	Irrigation System	47 GPM	L112
Cabinets	Fire Hose Valve/Extinguishers	2-1/2 Inch	Arch.
Overhead Doors	Coiling, Loading Dock	12 FT x 16 FT	A931
Doors	Automatic Operating	N/A	A931
Elevators	Hydraulic Passenger/Freight	Class C1	A630/1
Wheel Chair Lifts	Hydraulic/Chain Drive for Chair Lift and Stairs	Unknown	A632/ AV001
Stage Lift	Vertical Compression	Unknown	AV001
Self Contained Levelers	Pneumatic/Loading Dock	6 FT x 10 FT / 12,000#	A101.2 B
Fume Extraction System	Snorkel Mounted on Rail With Gantry (Nederman N62)	1,000 CFM	A755/ M602
Kitchen Equipment	Counter Type	N/A	A1011
Nailor 1200NAVCC Isolation/Fire Dampers	Nitrate Vault SA/RA Systems	10x10	M003
Chemical Tanks/Feeds	Duplicate Entry	Deleted	N/A
Dehumidifiers	Acclimatization Chambers	7.3 Lbs/Hr	M605
Expansion Tank/Air Separator	Closed Loop Make-up Water	< 4" / > 4" Lines	M501
Chemical Tanks/Feeds	Boilers	50 Gal Tanks	M501
Chemical Tanks/Feeds	Cooling Towers	50 Gal Tanks	M501

**LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER
PRINCIPLE BUILDING EQUIPMENT**

Equipment	Type / Service	Size(s) / Capacities	Ref. Dwg.
Coupon Racks	Chem. Treated Water System	Various	M501
Glycol Charging System	Chillers	Unknown	M501
Steam Safety Valves	Boilers	> 60 PSI	M502
Smoke Dampers	SA/RA Systems	Various	M502
Shot Chemical Feeder	Chilled/Hot Water S/R	5 GAL	M502
AHUs	Desiccant	9,000 - 20,000 CFM	M601
AHUs	Standard	2,000 - 33,300 CFM	M601
Water Chillers	Centrifugal	450 Tons	M601
Water Chillers	Screw	175 Tons	M601
Water Chiller	Scroll	29.1 Tons	M601
Cooling Towers	Open-Cell	300 Tons/Cell, 905 GPM	M601
Boilers	Oil Fired Steam	600 HP / 20,087 MBH	M601
Deaerator/Feed Pumps	Split Tank System	1812 GAL	M602
Humidifiers	Steam to Steam	31-826 LBS/HRS	M602
Fan Coil Units	Cooling	500 - 2,400 CFM	M602
Heat Exchangers	Shell & Tube (Steam to Liquid)	6,000 MBH	M602
Fans	Return Air & Exhaust	90 - 40,000 CFM	M602
Condensate Receiver/Pump Sets	AHU Steam Condensate	6-60 GPM	M602
Heat Exchanger	Plate and Frame	Deleted	M603
VAV Boxes	Air Distribution	0 - 2,000 CFM	M603

**LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER
PRINCIPLE BUILDING EQUIPMENT**

Unit Heaters	Hot Water	28.4 - 103.2 MBH	M603
Equipment	Type / Service	Size(s) / Capacities	Ref. Dwg.
Cabinet Unit Heater	Hot Water	38.95 MBH	M603
Diffuser/Return	Linear	4' - 4'-6" Long	M603
Diffuser/Grill/Register	Round and Rectangular	0-5,000CFM	M603
Dessicant Unit	Water Cooled	300 CFM	M603
Re-Cool Coils	Chilled Water	250 - 15,200 CFM	M603
Two Stage PRVs	High Pressure Steam	37,000 LBS/HR	M604
Expansion Tanks	Chilled/Hot/Condenser Water	40 - 370 GAL	M604
Flash Tank	Low Pressure Steam	19 GAL/125 PSI	M604
Air Separators	Chilled/Hot/Condenser Water	108 - 300 GPM	M604
Scrubbers	Dry Type, Return Air System	16,000 - 40,000 CFM	M604
Blow Down Tank	Boilers	2,108 LBS/HR	M604
Steam Traps	Float & Thermostatic and Inverted Bucket	70 - 12,000 LBS/HR	M604
Electric Heaters	Generator & Collections Bldg.	11,200 / 6,826 BTUH	M604
Air Curtain	Electric Heat	4,680 CFM / 110 MBH	M604
Room AC Unit	Water Cooled	14,500 CFM	M605
Terminal Boxes	Fan Powered	250 - 1,400 CFM	M605
VAV Box	w/Reheat Coil	200 - 7,000 CFM	M605
Acclimatization Chamber Unit	Packaged Unit w/Temperature and Humidity Control	1,000/2,250 CFM	M605
Sidestream Filtration	Condenser Water	525 GPM	M605
Condensate Pumps	A/C, Fan Coil & Dessicant Units	105 GPH	M605

**LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER
PRINCIPLE BUILDING EQUIPMENT**

Pumps	Chilled, Condenser & Hot Water	112 - 2,350 GPM	M605
Equipment	Type / Service	Size(s) / Capacities	Ref. Dwg.
Air Filters	Pre/Gas Adsorber /Post/Final	3.1-107.3 SF Face Area	M605
Sound Attenuator	FCUs/AHUs/A1 Rooms	350-5,300 CFM	M606
Terminal Units	Supply Air Valve	45 - 4,200 CFM	M606
Terminal Units	General Exhaust Valve	45 - 4,200 CFM	M606
Fans	Penthouse	27,500/32,000 CFM	M606
Transformers	Dry Type, Trapeze Mounted (K-Rated and Shielded)	9 - 225 KVA	E002
Fluorescent Fixtures	3/4/8/12 FT Pendant / Wall / Recessed / Surface / Open / Compact	120 / 277 Volts	E003
Halogen Fixtures	3/4/8/12 FT Wall / Track / Clamp Mounted / Recessed	120 / 277 Volts	E003
Incandescent Fixtures	Compact Open Down / Wall Mounted / Sconces / Recessed	120 / 277 Volts	E003
Exit Signs	LED Std. / Class 1, Div. 2	277 Volts	E003
Luminaires	Exterior in Grade	277 Volts	E003
Parking Lot Lights	Exterior Pole Mounted, 12 FT	277 Volts	E003
Theater Lights	Seating / Aisle	24V / 120V	E003
Photo Cell Controllers	Lighting Systems	24VDC	E502
Occupancy Sensors	Lighting Systems	24VDC	E502
Time Switch Controllers	Lighting Systems	Multiple Volts	E502
Ground Bus	Data / Elec. / Comm. / Utility	N/A	E503

**LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER
PRINCIPLE BUILDING EQUIPMENT**

	Production Rooms		
Digital Monitoring Syst.	Electrical Switch Gear	N/A	E502
Generators	Emergency Power	600 KW	E601
Equipment	Type / Service	Size(s) / Capacities	Ref. Dwg.
Fire Alarm Devices	Fire Alarm System	N/A	E604
Motor Control Centers	AHUs, 480V, 3PH, 4W	600 AMP	E616
Switch Gear	277/480V, Various Systems	1,200-4,000 AMPS	E618
Panels	120/208 Volt 3 PH, 4W & 277/480 Volt 3 PH, 4W	40-800 AMPS	E618 - E633
Valves	Various Types	½ - 16 Inch	P001
Perchloroethylene Chemical Storage	Dual Containment Tank	30 GAL	P121
Roof Drains	Engineered Soil Roof Drain System	4"	P501
Back Flow Preventor	CW/HW Reduced Pressure	Various	P501
Back Flow Preventor	Domestic and Fire Service	Various	P501
Drains	Various Spaces	4-6 Inch	P601/2
Water Heaters	Electric	1-119 Gallons	P601/2
Pumps	Intermittent Submersible	14 GPM	P601
Pumps	Intermittent Fuel Oil System	5/10 GPM	P601
Booster Pumps	Domestic Water	250 - 500 GPM	P601
Pumps	Circulation	1-4 / 40 GPM	P602
Water Softener System	Mechanical Make-up Water	77 GPM	P601
Trap - Primer	Electronic/Automatic	N/A	P602
Water Coolers	Electric	115V	P602

**LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER
PRINCIPLE BUILDING EQUIPMENT**

Water Filters	Water Cooler	1-4 GPM	P602
Pipe Expansion Joints	Loop / Telescoping Systems	2"-6"	P602
Water Heater	Semi-Instantaneous, Steam	2,000 LBS/HR	P602
Equipment	Type / Service	Size(s) / Capacities	Ref. Dwg.
Water Closets	Rest Rooms	N/A	P602
Lavatories	Rest Rooms	N/A	P602
Urinals	Rest Rooms	N/A	P602
Showers	Locker Rooms	N/A	P602
Sinks	Kitchen/Lab Areas	N/A	P602
Eyewash Stations	Eyewash / Shower Type	½" Supply	P602
Mixing Valves	Emergency/Thermostatic	½" HW/CW	P602
Water Hammer Arrester	Various	N/A	P602
Waste Disposer	In Sink Type	1-1/2" Waste Line	P602
Lab Waste Neutralization System	Pre-packaged System	5/1,200 GAL Capacity	P602
Air Compressor	Continuous, Oil Free Reciprocating for Labs	56 ACFM	P602
Air Compressor	Intermittent, Reciprocating for Deluge System	7.2 ACFM	P602
Vacuum Pumps	Central House Vac System	200/520 ACFM	P602
Water Treatment	Humidification System	5 GPM	P502
Refrigerated Air Dryer	Compressed Air System	230V, 1PH	P602
Fuel Oil Day Tanks	Generators / Boilers	100 / 400 GAL	P701
Fire Suppression	FM 200 Clean Agent System	N/A	FP2.0
Package Deluge System	Nitrate Vault Area	N/A	FP003

**LIBRARY OF CONGRESS NATIONAL AUDIO VISUAL CONSERVATION CENTER
PRINCIPLE BUILDING EQUIPMENT**

Cabinet			
Inspector Test Drain	Sprinkler System	2 Inch	FP110
Flow Switches	Sprinkler System	Various	FP301
Alarm Valve	Dry Pipe Sprinkler System	Various	FP501
Equipment	Type / Service	Size(s) / Capacities	Ref. Dwg.
Test Connections	Fire Pumps	8/10 Inch	FP401
Various Valves	FP System (Supervised)	4/10 Inch	FP401
Control Panels	Fire/Jockey Pumps	N/A	FP401
Fire Pumps	Fire Protection System	2,000/2,500 GPM	FP601
Jockey Pumps	Fire Protection System	8 / 30 GPM	FP601
Class B Foam/Water Deluge Sprinkler System	Fuel Storage Building Fire Protection System	0.16 GPM/SF/Min	FP102/501

Computer Assisted Facilities Management (CAFM) System Requirements

J.23

1.0 Introduction

This is a high-level requirements document that provides a mechanism for NAVCC Operations and Maintenance Contract bidders to understand the minimum components required of the CAFM system they propose to meet the operational needs of the AOC. The system solution will need to address the areas of demand and PM work order management, project management, space inventory, integrated handheld barcode scanners for asset management as well as reporting/management dashboards.

1.2 System Scope

The CAFM system will be a local solution to supporting AOC's business operations at the NAVCC. It will need to support a 20 or more direct system users, and will affect one to two hundred customers. It will have to interface with a number of major applications.

1.3 Reference Documents

The following documents are applicable to the use of a CAFM system:

- AOC IT Security Risk Management Policy
- AOC Data Sensitivity Policy

1.4 Assumptions and System Supplier Constraints

The following Assumptions and Constraints pertain to the CAFM system acquisition, implementation and deployment:

- The solution will be centered on a commercial off the shelf (COTS) package, and will not be a custom solution.
- The system will have deep classic facilities management functionality, but will interface with other systems to share asset, CAD and financial and other information.
- Acceptable suppliers are TMA, Tririga, Archibus, Maximo, Maximus, and Tiscor.

1.5 Goals and Objectives

The proposed system will primarily automate the work order process and will support demand, project and preventive maintenance (PM) work orders. It will include a robust workflow component that will support an automated work order process from the initial submission of a work request to the completion of the work order. The system will have a user friendly reporting tool. The system must support the use of handheld devices and have Internet capabilities. The CAFM system must also support space management, material/parts inventory management, asset management, and project management. In order to support AOC Facilities Management processes, the CAFM system has the following overall goals and objectives:

- Increased efficiency in responding to a work request
- Improved transparency in work order process
- Integrated project work order scheduling

Computer Assisted Facilities Management (CAFM) System Requirements J.23

- Accurate and complete data collection/integrity
- Integrated handheld/barcoding application
- Standardized and adhoc report writing capability

1.6 High Level Features and Interfaces

The high level features are broken down into four feature categories: Work Order Management, Project Management, Space Inventory, and Reporting/Management Dashboards. These features are listed below in descending order of importance:

Work Order Management

- Support Demand Work Orders
- Support Project Work Orders
- Support Preventive Maintenance (PM) work orders, including:
 - Schedule the PMs
 - View the future work
- Work Order closeout
- Work Order status update
- Work Order submission
- Provide auto alerts on late Work Orders
- Support the Work Order approval process
 - 1 to 5 percent of Work Requests (such as keys) need to be approved
- Provide Comprehensive Workflow Management Capabilities to support the work order process
- Support the move of Work Orders from printed form to electronic notification to wireless
- Support for hand held devices (integration)
- Provide flexible printing capability
- Provide Resource Scheduling capabilities for work orders
- Support Equipment and Material tracking

Space Inventory

- Support the assignment of space
- Provide move management capabilities
- Provide furniture and other asset tracking capabilities

Project Management

- Provide the capability to associate and group work orders by project
- Support work scheduling (work flow) and dependencies
- Provide an interface with RS Means (planning and estimating tool)
- Support the development of Gantt Charts and provide:
 - An Export interface to MS Project
 - Project scheduling support

Reporting / Management Dashboards

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There is a need for comprehensive and robust capability, including the following reporting features:

- Ability to setup and run canned reports
- Ability to develop and run Ad Hoc reports
- Provide Integrate with 3rd party reporting products
- Provide Dashboard capabilities
- Ability to provide key facilities management and work order metrics

1.7 Key Conceptual System Interfaces

The system will need to interface with a number of systems including, but not limited to:

System to interface with	Information shared
Inventory Control System	Asset and spare parts information
Microsoft Project	Project schedule information
CAD System Integrator	Microstation record drawings and associated information

1.8 Non-functional Requirements

Non-Functional requirements are constraints on the services the CAFM system will provide including: performance, accessibility, reliability etc. Key non functional requirements for the system include:

Performance

- Support over 20 active users
- Handle 100,000 or more work orders per year
- Support over 20 handheld devices

Accessibility

The system will adhere on all appropriate US Government standards including section 503 of the Disability Act.

Security

- The system should adhere to all relevant AOC security policies and procedures.

System survivability

- The system should be backed up daily with data stored on tape or disk in a separate location within the facility.

Reliability

- The system should be available 24/7.
- Planned upgrades should have minimum impact on the availability and operations of the system.

Usability

- The user interface should be intuitive to the user, and should be easy to understand.
- The system should use AOC terms and definitions on its screens.

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- The system's workflow capabilities should map closely with AOC business processes.

1.9 Major Processes to be Automated

This section describes the major process and the functions or steps performed during each work process. The major process describe include, but are not limited to:

- Submission of a Work Request by a Customer
- Creation of Demand Work Order by the Contracting Officer's Representative, a Technician, Supervisor or Service Center Representative
- Creation of Preventative Maintenance Work Orders by Supervisor or CAFM Coordinators
- Manage a Project
- Resource Management / Scheduling by Shop Supervisor
- Inventory Control / Reordering
- Space Inventory
- Generation of Work Order Metrics and Measurements

2.0 Project Management Process

The objective is to have an efficient work management system for projects, to capture metrics on the work order effort and to better plan future projects through resource scheduling. Attributes of the project management module include:

- Project Plan is developed within or is tightly integrated with the Facilities Management System (will have automated association between projects and work orders)
- Work Orders are associated with tasks in the project plan
- Work Orders are tracked against the plan.
- As Work Orders are completed, effort and resource information is recorded against project plan.
- Ability to view Gantt charts, project plans, and drawings.

2.1 Resource Management / Scheduling

The objective is to efficiently utilize resources as well as to be able to collect a history task efforts for future estimations, work planning and budget preparation. Supervisor views online work orders that need to be scheduled. The Supervisor views online the available employees and their work load. The supervisor assigns, based on this information, the appropriate employee(s) to perform the work. The COR can run canned reports as well as query the system to see current work order status.

2.2 Inventory Control / Reordering

Characteristics of the processes include:

- Inventory automatically reflects parts/material reduction as they are issued to support a work order or project.

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- Parts issue is facilitated by use of a bar code scanning system.
- The system generates a notice or purchase order when the specified minimum on-hand quantity is reached.
- Parts numbers are linked to specific equipment or systems.
- Parts can be designated as critical or not.
- A parts lookup/search capability.
- Turn rate monitoring.

2.3 Space Inventory

Characteristics of the processes include:

- Identify support class and class type (as defined by the AOC standards)
- Capture square footage
- Charge backs to organizations
- Graphical and text captures

The process should:

- Direct review of drawing to the users within the application
- Review a Drawing, not just numbers
- Markup/Redline drawings for such things as space and asset changes

2.4 Ability to Generate Required Metrics and Measurements

CAFM system needs to be able to capture the data required to automatically generate the metrics and measurement that must be reported per the statement of work.