

# REQUEST FOR QUOTE

For

**AUDIO VISUAL**



**11-1996.00**

**Mandatory Pre-bid Meeting Wednesday, 2-15-12  
At 9:00 AM Central Standard Time (CST)  
1200 Market Street, Room 324  
St Louis, MO 63103**

**All pre-bid questions due by Noon (CST) Wednesday, 2-8-12  
Submit to [crawfordl@stlouiscity.com](mailto:crawfordl@stlouiscity.com)**

**Sealed Bids due Wednesday, 2-29-12 by Noon (CST)  
(same address as pre-bid meeting)**

## **Request for Quote**

January 31, 2012

### **This Request for Quote (RFQ) contains the following information:**

Program and goals  
Schedule  
General Bid Clarifications  
Bid Coordination

### **Program and Goals**

St. Louis Development Corporation (SLDC) Agencies are relocating their offices to 1520 Market Street, 2<sup>nd</sup> floor. SLDC's goal is to accommodate Rooms 214, 278 and Lobby with the AV needs outlined in the AV specifications included.

Specific goals outlined by SLDC are listed below for Room 278:

As well as all of the specifications supplied in the included packet, SLDC wants to stress the importance of the below functions of Room 278 to be accommodated.

SLDC wants each microphone at the board table **AND** podium to allow the audience to hear them, each person at microphones are to be recorded during meetings, and allow each person at microphones to be heard through teleconferencing calls.

### **Schedule**

It is anticipated that construction will be finalized at the end of April 2012. A final construction schedule will be supplied by the Board of Public Service (BPS). A final schedule for AV installation is yet to be determined.

### **General Bid Clarifications**

**General Conditions Clarifications** – Refer to AV specifications manual for additional information.

**Tax** – The City of St Louis is a tax exempt organization.

**Prevailing Wage** – All equipment installation must comply with prevailing wage rates currently in effect.

**Project Coordination** – Final coordination with engineering documentation will be the responsibility of the AV Contractor.

### **Bid Coordination**

All questions are to be directed to Ms. Lynn Crawford (Buyer), [crawfordl@stlouiscity.com](mailto:crawfordl@stlouiscity.com). The City of St. Louis is requesting the final submittal via sealed bid prior to NOON CST on Wednesday, February 29, 2012.

Please submit sealed bids in triplicate to: City of St. Louis, Supply Division, 1200 Market Street, Room 324, St. Louis, MO 63103.

On the outside, top left corner of the envelope indicate: Bid for AV Equipment due 2/29/12.

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Requirements for the St. Louis Development Corporation Audio Visual (AV) systems. The work covered under this section consists of furnishing all labor, material, and services to install a complete audio-visual system based on the recommended acceptable equipment list.
- B. Clarification of Audio Visual System Installation work responsibilities is noted in Appendix A
- C. The acceptable equipment list is noted in Appendix B.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including all requirements and instructions listed in the "Instructions to Bidders," General and Supplementary Conditions, and Division One (1) Specifications, apply to work specified in this section.

1.3 ALTERNATES/ALTERNATIVES

- A. All related electrical work by the project Electrical Contractor, as defined herein and/or on the drawings, shall be a portion of the building electrical Base Bid, and shall not include any work by the Audio Video Integrator.
- B. The Audio Video Consultant has made every effort in providing an accurate equipment list. It will be the responsibility of the AV Integrator to provide a complete working system based on the design intent. Products included in the suggested list have been designed to integrate with the building design, electrical infrastructure, telecommunication infrastructure, and design intent by the owner. Therefore equipment manufacturer (brand) approved equals will be considered and evaluated.

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1.4 REFERENCES

- A. InfoComm International and Building Industry Consulting Service International (BiCSi), "AV Design Reference Manual."
- B. InfoComm International, "Basics of Audio and Visual Systems Design", Revised Edition.
- C. Building Industry Consulting Service International (BiCSi), "Telecommunications Distributions Methods Manual" (TDMM), 11<sup>th</sup> Edition.
- D. Telecommunications Industry Association/Electronic Industries Alliance (TIA/EIA), "TIA/EIA Wiring Standards" (Includes TIA/EIA-568-1, TIA/EIA-568-2, TIA/EIA-568-3, TIA-569, TIA-570, TIA-598, TIA/EIA-606, J-STD-607, TIA-758, 526-7 & TIA-526-14).
- E. National Fire Protection Agency (NFPA) 70, "National Electric Code 2005" F McGraw Hill, "Architectural Acoustics", M. David Egan.
- F. McGraw Hill, "Master handbook of Acoustics", 4th Ed., F. Alton Everest. Focal Press, "Audio Systems Design and Installation", Philip Giddings I Focal Press, "Sound System Engineering", 3rd Ed., Don Davis & Eugene Patronis, Jr.

1.5 DEFINITIONS

- A. The term "OFE" shall refer to "Owner Furnished Equipment" which will be provided by the Owner to the Installer. This equipment will be integrated as required.
- B. The term "shall" is mandatory; the term "will" is informative; the term "should" is advisory; and the term "provide" means furnish and install.
- C. The term "Consultant" refers to Conference Technologies Inc.
- D. The term "AV Integrator" refers to the Successful Audio Visual Contractor.
- E. The term "Installer" refers to the successful Audio Video Integrator.
- F. The term "Commissioning Agent" refers to the Owners designated firm to verify the system performance is functioning to the designed system specifications.
- G. The term Owner refers to St. Louis Development Corporation.

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1.6 BASE SYSTEM DESCRIPTION

- A. These specifications and the associated AV-series drawings describe the architecturally integrated Audio-Video equipment (AV Systems) to be installed at the St. Louis Development Corporation facility.

B. Conference Rooms 214

Conference room will include a ceiling mounted WXGA, 3500 ANSI lumen projectors, projector mounting hardware and 94" diagonal ceiling recessed projection screens. Table interfaces to support HDMI and VGA (analog) laptop connections. Program audio support equipment.

C. Conference Room 278

Four (4) ceiling mounted WXGA, 6000 ANSI lumen projectors, ceiling mounted 16:10, 130" diagonal ceiling recessed projection screens and projector mounting hardware. Digital video matrix system to support video analog and digital inputs and outputs. Wired table microphones, telephone conferencing, and podium microphone and distributed ceiling speakers. Wireless control system for straightforward user interfacing. Vertical equipment racks and integrated cabling.

D. Lobby Displays

Two (2) wall mounted 42" LCD flat panel displays and tilt wall mounts located next to elevators. One (1) 32" LED flat panel display to support owner furnished computer with multiple graphic outputs located in reception/waiting room. Twisted pair computer interfaces for each graphic output. Owner to provide digital content.

## PART 2 -

## 2.1 DESIGN REQUIREMENTS

- A. Work under this section of the specifications includes all labor, and installation as required providing a complete technical system in compliance with the contract documents.
- B. The technical system installation includes conduit, outlet boxes, junction boxes, pull boxes, terminal cabinets, 120-volt AC power circuits, or insulated ground cables, which shall be furnished and installed by the project Electrical Contractor. The Audio Visual Integrator shall provide low-voltage "on/off" control system wiring, low-voltage "on/off" control switches, and certain AC power/ground requirements internal to the equipment racks as specifically noted herein and/or on the drawings.
  - 1. Baseline AV requirements within this system specification will be maximized to the greatest extent possible in order to support future growth in an effective manner. Therefore part of the Installer's development efforts for successfully implementing the AV system should include:
    - a. Installing the system in a manner that allows for future AV equipment to integrate easily into the overall desired system design, properly routing all audio, video, control and structured cabling elements of the final design in an industry acceptable manner that preserves the architectural and visual integrity of the building.
  - 2. Except when plenum rated cabling is used above finished ceilings or below raised, accessible floors, it is required that cabling for microphone and line inputs, wideband RGBHV, video, control and other AV related cabling be routed inside the comprehensive system of conduit indicated on the drawings. Floor and wall boxes shall serve as the primary interface points to the AV system.
  - 3. Provide and install cover plates, connectors and associated cabling to link all floor and wall boxes to all affiliated local and remote AV components. The Owner will provide no additional conduit, power or workboxes. If additional infrastructure is required, include provisions for what is additionally required in the proposal. No wiremold or surface mounted raceway will be permitted.

## 2.2 PERFORMANCE REQUIREMENTS

- A. Performance Standards: Unless restricted by the published specification of a particular piece of equipment, or unless otherwise required, the following minimum performance standards shall be met by the AV system:
  - 1. Audio:
    - a. S/N (including crosstalk and hum): 75dB minimum.
    - b. Total Harmonic Distortion: 0.5% maximum from 30 Hz to 15,000
    - c. Frequency Response: Flat within +1.0 dB, 30 Hz to 15,000 Hz.

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2. Display:
  - a. Minimum 500:1 contrast ratio.
  
3. Video:
  - a. S/N (peak to RMS), unweighted DC to 4.2 MHz: 45 dB minimum.
  - b. Crosstalk, unweighted DC to 4.2 MHz: 45 dB minimum.
  - c. Frequency Response (RGBHV): Within +0.5 dB to 300 MHz.
  - d. Frequency Response (composite): Within +0.5 dB to 10 MHz.
  - e. Frequency Response (component): Within +0.5 dB to 100 MHz.
  - f. Line and Field Tilt: 2% maximum.
  - g. Differential Gain: 3% maximum.
  - h. Differential Phase: 2 degrees maximum.
  
4. Performance Test Signal Paths: The signal paths for the above Performance Standards shall be as follows:
  - a. Audio: From any and all source inputs (microphones, audiotape units, videotape units, etc.) through all audio mixers, switchers, distribution amplifiers, codec's, etc., to all signal destinations.
  - b. Video: From all source inputs (cameras, computers, videotape units, etc.) through all switchers, processors, distribution amplifiers, etc., to all signal destinations.

2.3 SUBMITTALS REQUIRED BY THE AV INTEGRATOR

A. Shop Drawings

1. Sufficiently prior to installation of each respective portion of work, the AV Integrator will provide the following Shop Drawings for approval from the Commissioning Agent, Owner and Architect:
  - a. Updated loudspeaker and video projector mounting, suspension, and rigging details.
  - b. All panel and plate layouts (such as for wall boxes and for rack/cart-mounting) indicating locations of connectors, engraving, labeling, nomenclature, panel material, and finish.
  - c. All Equipment racks, cabinets, consoles, tables and cart front elevations showing equipment and panel layout.
  - d. Mobile cart millwork details, and related equipment and panel layout.
  - e. All non-factory equipment modifications.
  - f. All cable labeling plans.
  - g. For any permanent exposed cable applications, written authorization from the Architect (or Architect's designated Engineer) as to which locations are approved in addition to cable pathway being utilized
  - h. Updated point to point wiring functional system signal diagrams separated by Video, Audio, and Control per system.
  - i. Shop drawings as indicated elsewhere in these specifications and/or on the project drawings.
  - j. Copies of all reviewed submittals shall be kept at the project site during the construction of the project, for reference.

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B. Test Plan Documentation

1. Submit a complete testing plan for all systems for approval within (30) days of receipt of approved shop drawings to the Commissioning Agent, Owner and Architect.
2. Plan submitted must include shop and field-testing of each and every field device and control function.
3. Plan Submitted must include examples of testing documentation. Shop testing documentation must be submitted for approval prior to the control system shipment to the job site. Field testing documentation must be submitted when requesting final Demonstration/Inspection (described below).
4. Detailed testing agenda and testing documentation forms for all systems. Detailed agenda outlining the "hands-on" training sessions to be provided to the Owner/User. The operation, programming/debugging, troubleshooting, repair and maintenance of all systems shall be covered

C. Training Plan Documentation

1. Submit a training plan for all systems for approval from the Commissioning Agent, Owner and Architect.
2. As a minimum, the plan must included individualized training paths for the following personnel on all aspects of the Audio/Visual system
  - a. Administrators
  - b. Operators
  - c. Maintenance Personnel
3. As a minimum, the plan submitted must include the following:
  - a. Proposed Classes or Sessions
  - b. Proposed Class or session objectives
  - c. Proposed class or session agenda and duration
  - d. Proposed supported materials of each class or session.
4. Do not commence training until the Commissioning Agent has approved the plan.
5. Plan Submittal must include names of technical instructors. The AV Integrator must provide the engineer responsible for the project as a instructor. The AV Integrator shall submit evidence of factory training on system provided.

2.4 QUALITY ASSURANCE

A. Contractor Qualifications:

1. Work in this section shall be performed by a AV Integrator that complies with the requirements of Division 1, and is licensed to perform work of this type in the project jurisdiction, has at least five (5) years of verifiable direct experience with the devices, equipment and systems of the type and scope specified herein, and has a minimum of one full-time InfoComm CTS-D system Designer employed on staff, one InfoComm CTS-I (Certified Technology Specialist- Installation) systems technician employed on staff, one Biamp Audia certified programmer employed on staff and one technician or senior staff member who has attended Audio system training within the last 5 years.
  - a. The Audio Video Integrator shall include, with his bid, a list of credentialed staff that will be actively involved in this project including specific tasks each will perform.
  - b. The Audio Video Integrator shall use sufficient numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are

completely familiar with the specified requirements and the methods needed for proper performance of the work in this section. These personnel shall have at least three (3) years direct experience in similar work, evidence of which shall be verified in writing with appropriate references.

- c. The Audio Video Integrator shall appoint a designated supervisor who shall have at least five (5) years direct experience in similar work. The supervisor shall be present and in responsible charge of all work in the fabrication shop and on the project site during all phases of the installation and testing of the system(s). To assure continuity, this supervisor shall be the same individual throughout the execution of the work unless illness, loss of personnel, or other reasonable circumstances intervene.
  - d. The Audio Video Integrator shall be a direct dealer representative of recommended acceptable equipment list.
  - e. Due to the engineered estimate of over 700 hours of Creston programming, the Audio Video Integrator shall provide a minimum of two on-staff full-time local Creston programmers who have completed the certification for programming class. They shall be dedicated solely to this project once touch panel control Screens are approved until completion.
2. The Owner may request a prospective Audio Video Integrator to provide additional information as desired for review by the Owner, Architect, and to make a determination of the Audio Video Integrator acceptability.
  3. Contractor's Qualifications: The Contractor shall meet the minimum requirements identified herein. Additionally, the Contractor shall have had at least three (3) years experience in the fabrication, assembly and installation of AV presentation, conferencing and remote control systems of comparable size, magnitude and quality in regards to coordinating, engineering, testing, certifying, supervising, training and documentation as specified for the subject job and shall submit documentation to this effect with the bid return. Each of these systems shall have been in successful operation for at least three (3) years after final acceptance by the Owner.
  4. Documentation of total number of employees indicating experience, longevity, InfoComm or NSCA certification shall be provided with the AV Integrator bid response.

#### B. TEST EQUIPMENT

1. Each Contractor is responsible for furnishing all test equipment required to test the system in accordance with the parameters specified. Unless otherwise stated, the test equipment shall not be considered part of the system. Each Contractor shall furnish test equipment of accuracy better than the parameters to be tested.

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2.5 PROJECT CONDITIONS

- A. This project represents construction of a new facility.
- B. During the course of project construction, the AV Integrator shall personally examine the site of the proposed work and verify the conditions which involve his/her work.
- C. The AV Integrator shall comply with all applicable national and local codes and ordinances, and obtain all required permits. AV Integrator shall be held responsible for any violations of the law within the scope of his work.
- D. The AV Integrator shall schedule and sequence the AV system rough-in work to coordinate with the established general construction sequence as updated from time to time by the Owner.
- E. Once the AV Integrator begins work at the project site, the company shall maintain a project manager for the duration of the work to supervise the work force and to provide coordination with other trades and/or the Owner.
- F. The project manager shall attend any regularly scheduled construction progress meetings. These meetings will include, but not be limited to Owner Architect Meetings, walk through meetings with the Owner and Consultant, and weekly construction meetings.
- G. The AV Integrator shall conform to all site policies regarding safety, job site hours, and any additional policy, which may affect site conditions.
- H. It is the purpose of this specification to require the furnishing of the highest quality materials, equipment and workmanship. The work shall be in accordance with this specification and in conformity with the designs, layouts and descriptions shown on the drawings.
- I. Any and all structural, mounting, or rigging details within this package is strictly conceptual. It is the responsibility of the AV Integrator to employ the services of a Structural Engineer as necessary. Calculations shop drawings, and details of any structural modifications or additions shall be submitted to the Architect for approval.
- J. Unless stated otherwise on the drawings, the work shall include everything necessary or incidental to complete the installation wire raceway (including conduit), raceway fittings, outlet boxes, pull boxes, terminal cabinets, and insulated ground cables. AV Integrator shall furnish all necessary information to the Architect and Owner to insure that a proper AV conduit system will be installed.
- K. The AV Integrator shall cooperate with all other Contractors engaged in this project and shall coordinate the installation of the AV, systems so that all work will proceed in a manner which is in the best interests of the Owner.
- L. Labor, transportation of equipment, storage of onsite equipment, incidentals, and all work needed for the installation shall be the responsibility of the AV Integrator.

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2.6 ENVIRONMENTAL REQUIREMENTS

- A. Provide every effort to accommodate LEED practices with the project and disposal of construction material.
- B. The AV Integrator will notify the Architect and Owner if the AV equipment rooms do not match physical and environmental layout as defined for Telecom IDF and MDF rooms. Any deviations from this standard to be approved through the owner and engineer. These standards are to include but not limited to:
  - 1. Operating temperature of 68-74 degrees Fahrenheit with 30% maximum average humidity
- C. Provide A/C rated plywood backboards, with the A-side facing out, on walls of equipment rooms and telecommunications rooms per detail drawings. Coordinate installation with the General Contractor and Architect.

2.7 WARRANTY

- A. Provide warranty repair or replacement for all products provided by the AV Integrator (including products having a manufacturer's warranty of less than one year) and all AV Integrator's workmanship at no additional cost, except in the case of obvious abuse. Consumable items such as lamps, batteries, tapes, etc. are not covered.
- B. During the warranty period the AV Integrator shall:
  - a. Provide telephone support within 4 hours of a call.
  - b. Provide on-site support within 24 hours of a call requesting service.
  - c. Repair or replace faulty items within 72 hours of on-site service or within manufacturer's specified repair program, whichever is quicker.
- C. The AV Integrator shall not involve the Owner with removing or reinstalling equipment, or shipping or freight charges associated with any item under warranty.
- D. The warranty period will commence no sooner than the date of the first beneficial use by the owner and no later than the date of contract close out.
- E. Included at no additional cost is 2 preventive maintenance visits to make adjustments to video projectors, check projector lamp life, check audio system settings, review control system functionality, and otherwise ensure the system is in proper working order.
  - a. 90 days ( $\pm$  15 days) after the commencement of the Warranty Period
  - b. 20 days ( $\pm$  10 days) before the end of the Warranty Period.

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PART 3 - PRODUCTS

3.1 GENERAL

- A. Acceptable Products are listed below and in Appendix B and establish the basis for design for the AV systems.
- B. All Products shall be new and under warranty at the time of installation. B-Stock, previously installed, refurbished, second stepped or used equipment shall not be provided on this project.
- C. There shall be no product substitution after the issuance of the Contract Award, Notice to Proceed, or Letter Of Intent to Award, whichever is earliest.
- D. Appendix B is the Consultant's good faith effort to provide an AV Equipment List based on the AV System Specifications. However, Integrators are cautioned that the list may not be complete, may have discrepancies, and may not indicate all pertinent information required to prepare an accurate bid. It is strongly suggested that potential Integrators bid complete equipment list based on the drawing intent.
- E. Due to the advanced bidder qualifications, it is assumed that each Integrator is solely responsible for the completeness and accuracy of the takeoffs, system design intent and equipment list. No additional charges will be allowed after the bid award for the areas in the AV drawings unless a change in functionality is requested and approved by the owner and architect.
- F. Determination of the final quantities to meet the function of the design shall be the sole responsibility of the integrator

3.2 SYSTEM GROUNDING

- A. Equipment:
  - 1. Equipment grounding shall include all cable and installation hardware required. All AV equipment shall be connected to earth ground via internal building wiring, according to the NEC.
  - 2. This includes, but is not limited to:
    - a. Coaxial Cable Shields.
    - b. Control Cable Shields.
    - c. Data Cable Shields.
    - d. Equipment Racks.
    - e. Equipment Cabinets.
    - f. Conduits.
    - g. Cable Duct.
    - h. Cable Trays.
    - i. Power Panels.
    - j. Connector Panels.
    - k. Antennas.
    - l. Towers.

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G. COAXIAL CABLES

1. Coaxial cables shall include all coaxial connectors, cable tying straps, heat shrink tabbing, hangers, clamps, etc., required to accomplish a neat and secure installation.

H. WIRES AND CABLES

1. Wire and cables shall include all connectors and terminals, spade lugs, barrier straps, punch blocks, wire wrap strips, heat shrink tubing, tie wraps, solder, hangers, clamps, labels etc., required to accomplish a neat and orderly installation.

PART 4 - EXECUTION

4.1 EXAMINATION

- A. Verify all conduits, back boxes and pathways.
- B. Verify correct power requirements have been supplied based on equipment load and device requirements.
- C. Verify video installation sightlines and possible obstructions.

4.2 PREPARATION

- A. Coordinate with the project Electrical Contractor for required location of junction boxes, outlets, and conduit.
- B. Carefully inspect areas where equipment will be installed. Notify the Architect and Audio Visual Consultant of any conditions that would adversely affect the installation and subsequent operation of the system.

4.3 INSTALLATION

- A. New Wiring: Install wiring in raceways except within consoles, cabinets, desks, and counters and except in accessible ceiling spaces and in gypsum-board partitions where cable-wiring method may be used. Use plenum cable in environmental air spaces including plenum ceilings. Conceal cables and raceways except in unfinished spaces. Cable shall be installed continuous with no splices or cuts.
- B. Install exposed cables parallel and perpendicular to surfaces or exposed structural members, and follow surface contours. Secure and support cables by straps, staples, or similar fittings so designed and installed to avoid damage to cables. Secure cable at intervals not exceeding 30 inches and not more than 6 inches from cabinets, boxes, or fittings.
- C. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess.
- D. Separation of Wires: Separate speaker-microphone, line-level, speaker-level, and power wiring runs. Install in separate raceways or, where exposed or in same enclosure, separate conductors at least 12 inches for speaker microphones and adjacent parallel power and telephone wiring.

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- E. Identification of Conductors and Cables: Color-code conductors and apply wire and cable marking tape to designate wires and cables so they identify media in coordination with system wiring diagrams.
- F. Wall-Mounting Outlets: Flush mounted.
- G. Weatherproof Equipment: For units that are mounted outdoors, in damp locations, or where exposed to weather, install consistent with requirements of weatherproof rating.
- H. All terminations shall be installed per manufacturer's specifications and recommendations
- I. CONDUITS, CABLE DUCTS, AND CABLE TRAYS
  - 1. Shall include all conduit, duct, trays, junction boxes, back boxes, cover plates, feed through nipples, hangers, clamps, fire stop and other hardware required to accomplish a neat and secure conduit, cable duct, and/or cable tray installation in accordance with the NEC and this document under division 26 sections.
- J. EQUIPMENT INTERFACE
  - 1. Equipment shall include any item or quantity of equipment, cable, mounting hardware and materials needed to interface each systems and subsystems according to each original equipment manufacturer requirements and this document.
- K. LABELS
  - 1. Labeling shall include any item or quantity of labels, tools, stencils, and materials needed to completely and correctly label each system and subsystem according to each original equipment manufacturer requirements, as-installed drawings, and this document.
- L. GROUNDING
  - 1. Ground cable shields and equipment to eliminate shock hazard and to minimize ground loops, common-mode returns, noise pickup, cross talk, and other impairments.
  - 2. Signal Ground Terminal: Locate at all equipment display locations. Isolate from power system and equipment grounding.
  - 3. Shields shall be connected at each end of each wire to the pin 1 of each XLR, shield connection for each electronic device, etc. No shield wires shall be left unconnected except where noted on the drawings, nor shall any shield come in contact with conduit, pull boxes, or other building steel. Audio line-level circuit shield wires shall be grounded to rack sheet metal only via rack-mounted equipment. Shields shall be electrically isolated in multiconductor cables. Shields for audio line-level circuits connected to audio transformers shall be connected to transformer electro-static shields and case ground. In the case of unbalanced audio lines the shield wire shall connect to the low side of the line (black wire).
  - 4. Each equipment rack within a row of racks shall be electrically bonded to each other using a minimum 1/4-inch diameter unfinished bolt and nut with star washers. Bolts shall fasten to each equipment rack unpainted sheet metal. Each row of equipment racks shall be electrically bonded to adjacent row(s) via a No. 6 AWG insulated ground wire. The AV Integrator shall perform this work.

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M. CIRCUIT ROUTING

1. All audio circuits shall be separated according to function; e.g. microphone circuits shall be separated from line-level circuits, which are separated from video circuits, which are separated from loudspeaker circuits. Where audio and video circuits are installed in conduit or other raceway, separate conduits are required for the various circuit functions.
2. Control and intercom circuits and video circuits can be routed with line-level circuits, if separate conduit is not furnished for these circuits.
3. Where circuits are exposed in the equipment racks or large junction or pull boxes, the circuits shall be bundled according to function. Use plastic cable ties to bundle cables and provide as much separation as reasonable.

N. WIRE SPLICING

1. Audio and video circuits shall not be spliced except as shown on approved shop drawings.
2. All solder connections shall be made with soldering iron and rosin core solder. The AV Integrator shall check all solder connections for "cold" solder joints.
3. All audio circuits terminating to screw-type connectors shall be installed with non-insulated brazed seam spade lugs of the proper size for wire and screw connection.

O. LABELING AND PLACE CARDS

1. All labeling of wiring within equipment racks, consoles, or other areas obscured from direct view shall be of adhesive backed strips comprised of numbers and letters as required. Wire markers shall be near both ends of wire termination.
2. All labeling of exposed wiring, such as found at the rear of the mixing console shall be typewritten identifying each cable and covered with clear heat shrink tubing near the cable end.
3. Embossed plastic tape labeling, such as DYMO, shall not be acceptable.
4. Within each rack and at other remote locations for technical system equipment, label all associated AC power receptacles reflecting the appropriate circuit breaker. Ensure that the circuit breakers are labeled as to the rack or remote equipment location.

P. VIDEO INSTALLATION

1. All video circuits, except as indicated otherwise, shall be single conductor shielded, 75-ohm coaxial cable. Shields for video circuits shall be grounded only at the connected equipment and shall not ground at electrical conduit at wall boxes, etc.
2. Soldering of video connectors will not be permitted.
3. All video connections shall be made with the specified BNC type connector.

Q. AUDIO INSTALLATION

1. Unless otherwise noted, all audio circuits shall be two wires with shield, with the red or white wire used for the "high" side of the line and connected to pin 2 of microphone connectors or to the "tip" of patch panel and other phone jacks. The black wire shall be used for the "low" side of the line and shall connect to pin 3 of microphone connectors or to the "ring" of phone jacks. The shield (drain) wire shall connect to pin 1 of microphone connectors or to the sleeve of phone jacks.
2. All audio circuits (red or white and black conductors) shall be ungrounded, except as provided by single ended amplifier inputs and where grounding of unbalanced circuits is directed during system tests. Shields for line level audio circuits shall be grounded to rack sheet metal at each cable termination. Where line level audio circuits connect to audio

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transformers, shields shall connect to transformer electrostatic shields and case grounds. At each cable termination shield or shield drain, wire length shall be approximately equal to the length of the insulated conductors. Shield drain wires shall be sheathed in green PVC sleeving or clear Teflon sleeving sized appropriately for conductor gauge. Circuit shields shall not otherwise connect to each other nor ground to electrical conduit at wall boxes, etc. Microphone circuit shields shall be grounded only at mixer inputs.

3. Where resistors are indicated to terminate an audio circuit, install each resistor at the end of the line at the input to the following transformer or amplifier. High impedance circuits shall not extend more than 20 feet.
4. All wire joints and connections in the audio system shall be made with rosin core solder and a small soldering iron; or with approved mechanical connectors. Soldering shall be neat and shall not exhibit "cold" solder joints. Connections to screw type terminals shall be made with mechanically connected un-insulated, spade type lugs selected for the particular wire size in use.
5. Connections made with miniature screw actuated, pressure type terminal strips shall be made by stripping approximately 1/4-inch of insulation from stranded conductor, inserting the untinned wire into the pressure terminal, and tightening the terminal screw using a small screwdriver which securely fits the screw head.
6. All crimp type connectors, including non-insulated butt connectors for inline loudspeaker circuit connections, shall be crimped with a Thomas & Betts model WT111 M tool. Spade tongue terminals shall be crimped with the notch on the barrel opposite the seam.
7. Loudspeakers shall be installed so there are no obstructions to the loudspeaker coverage pattern and shall be connected "in phase" and proper impedance matching shall be maintained between amplifiers and loudspeakers. As required for proper acoustic levels and proper aiming, re-tap selected loudspeaker transformers and re-orientate selected loudspeakers or loudspeaker clusters during final system tests and adjustments. High frequency drivers shall be installed in such a manner as to allow at least 10 degrees of aiming in the horizontal plane.
8. Tie-wrap and secure all loudspeaker line matching transformer leads and loudspeaker cable away from room loudspeakers to prevent "rattling" when loudspeakers are energized. All cut transformer inputs shall be individually protected from shorting against one another or other metal objects.

R. RF INSTALLATION

1. The Audio Visual Integrator shall coordinate the locations of all RF (Cable TV) requirements with the Owner and their Communications Contractor.

S. PHYSICAL INSTALLATION

1. Equipment Racks:
  - a. Racks will be installed plumb and square without twists in the frames or variation in level between the racks.
  - b. Firmly secure all equipment in place unless requirements of portability dictate otherwise.
2. Cabling Harness:
  - a. Any exposed cabling harnesses are to be concealed and neatly bundled in black expandable "Tech Flex" type harnessing sheath. Before installation, the sheath shall be cut to length and ends burned to prevent unravel. When installed, the ends shall be turned into themselves and secured with flush-cut tie wraps.

## AV Specification

3. Floor and Wall Plates:
  - a. All connection plates (wall, floor, etc.) will be secured with appropriate fasteners and installed plumb and level.
4. Projection Devices and Screens:
  - a. Audio Visual Integrator shall field verify all projection throw distances before finalized mounting installation.
  - b. Audio Visual Integrator shall coordinate the placement of the video projector lifts with the Electrical Contractor and assist in the installation.
  - c. Projection devices shall be placed within the rooms to properly fill projection screens.
  - d. Projection devices shall be installed at proper heights to the screen placements to allow for proper projection utilizing the minimum necessary horizontal and vertical keystone adjustments.
  - e. Projection screens are to be installed to the wall at a nominal distance up from the floor that will allow for optimum viewing
5. Mounting To Building Structure
  - a. Building structural members shall not be modified without consultation with and approval of the Architect and Structural Engineer.
  - b. Do not fabricate or install supports that will overload the building structure. Supports shall be installed to overhead structure capable of supporting five times the weight of the mount, and equipment combined.
  - c. All Mounting methods of each device type and mounting type shall be shown on submittal drawings and approved by the project Architect prior to installation.
  - d. Do not drill or cut concrete beams, joists or structural steel, and do not weld to structural steel.
  - e. Beam clamps are to be used to anchor strut and threaded rod to structure such as I-beams, Z bar, etc.
  - f. Attachment hardware with a minimum SAE Grade 8 load rating and a safety factor of at least 5 are to be used.
  - g. Screens, wall mounted devices, projector / display mounts, or sub-mounts are to be installed plumb and level.

### 4.4 INTERFACE WITH OTHER WORK

- A. Coordinate all required interfaces with Telecom, Electrical, Mechanical and Architectural

### 4.5 CLEANING AND PROTECTION

- A. Jobsite to remain organized during construction. All efforts must be made to protect existing finishes and equipment. Any devices altered during construction are to be brought back to existing or better condition upon completion of construction.

### 4.6 CONTROL PANEL CUSTOM SCREEN CORDINATION

- A. All Audio Visual control systems will be programmed identical to existing company Audio Visual control systems. Graphical user interfaces will utilize the same icons, control Functions, and program layering. The Audio Visual Integrator is responsible for

AV Specification

familiarizing themselves with the existing systems prior to the control panel custom screen coordination phase of the installation as described below.

1. Phase One
  - a. The AV Integrator shall supply the Commissioning Agent, Owner and Architect with a conceptual control system screen layout of the Auditorium system.
  - b. Functions of the Auditorium shall include but not limited to:
    - 1) Touch Panel Annotation
    - 2) Control of the Moving Light Fixtures and architectural lighting
    - 3) Motion Detection and Daylight Harvesting, and Energy Conservation
    - 4) Emergency Lighting Systems
    - 5) Control of the PTZ Cameras
    - 6) Control of the Video Conferencing Systems
    - 7) Control of the Windowing Video Processor
    - 8) Previewing Window of all the sources –Including but not limited to HDCP digital sources
    - 9) Control of all the Microphones and sources bypassing the sound mixing console
    - 10) Control of the sound system with the audio mixing console.
    - 11) Control of the routing including source selection and preview
    - 12) Control functions of all system connected AV devices
2. Phase Two
  - a. The AV Integrator shall present full size color drawings to scale to the Commissioning Agent, Owner and Architect.
  - b. Each Screen shall include a detailed report summarizing all functional and procedural choices illustrated on the screen.
3. Phase Three
  - a. All Auditorium revisions are to be presented in phase three. Provided a complete set of drawings, descriptive text, and procedural report.
  - b. Final submittal is to represent the system control panels as selected by the Commissioning Agent, Owner and Architect.
4. Phase Four
  - a. Submittals are to be presented for the rest of the Buildings AV Systems.
5. Phase Five
  - a. All AV System revisions are to be presented in phase five
  - b. The Owner, Commissioning Agent and Architect shall finalize agreed selection of all Control System Screens before control system programming begins. Any rework or additional cost associated with unapproved system functionality before approved control panels will be at the expense of the Av Integrator.

4.7 SYSTEM PROGRAMMING AND PRELEMINARY TESTING

- A. The System shall be turned on and adjustments made to meet requirements of the specification and onsite systems.
- B. The system shall be programmed to function to the agreed Control System Screens from the Commissioning Agent, Owner and Architect.
- C. The AV Integrator shall mock up the system locally at the AV Integrator's expense to demonstrate the program and system functionality prior to onsite installation to the Commissioning Agent, Owner and Architect.

AV Specification

- D. The AV Integrator shall provide an additional 8 hours of programming per room of additional client modification after the first use of the system. This is to be scheduled at the client's convince within normal operating hours up to one year of the client's first use of the system at no additional charge.

4.8 DEMONSTRATION/ INSPECTIION

- A. Upon completion of the approved testing procedure and submittal of the testing documentation plan, the Audio Visual Integrator shall notify the Commissioning Agent, who will visit the project for a demonstration of the systems and an inspection of the completed work in conformance of the Construction Documents. It is mandatory for a representative from the AV Integrator directly responsible for the project to be present during demonstration and inspection periods.
- B. Items which do not comply or which function incorrectly will be listed. The Commissioning Agent will submit the list to the AV Integrator, Owner and Architect.
- C. After all corrections have been made, the contractor shall notify the Commissioning Agent who will recheck the system for compliance of all items listed. IF THE COMMISSIONING AGENT IS REQUIRED TO RETURN TO THE SITE FOR FURTHER INSPECTIONS, THE AV INTEGRATOR SHALL REIMBURSE ALL LABOR AND TRAVEL EXPENSES.

4.9 TRAINING

- A. Provide training after all final test and adjustments have been completed. Instruct the Owner's personnel according to the approved Training plan specified above in "Training Plan Documentation." Training shall cover all aspects of systems operation, maintenance and programming. The AV Integrators proper technical representatives will provide this.
- B. Schedule Training Sessions to meet the needs of the facility personnel as determined by the Owner. Provide training sessions during second and third shifts if the Owner determines it is necessary.
- C. Provided a minimum of 40 hours of training. All training is to be completed during the time frame established during scheduling with the Owner and training may not necessarily be in continuous periods.
- D. The AV integrator will provide technical onsite support for each systems first use. This time will not constitute as part of the technical training hour allotment.

4.10 SCHEDULE

- A. All work to be scheduled with General Contractor under Division 1 requirements for the project.

END OF SECTION

## **APENDIX A**

### **4.0 AV Work Related Responsibilities Work Sheet**

The Following work sheet outlines where the AV Integrator responsibilities end concerning the building of Audio Visual Systems.

AV Specification

Responsibilities	Audio Visual Contractor	Electrical Contractor	Low Voltage Communications Contractor	General Contractor	Owner
<b>ELECTRICAL &amp; NETWORK</b>					
Provide and install conduit		X			
Provide and install power		X			
Provide and install LAN			X		
Provide and install analog lines			X		
Provide and install video conference network			X		
Provide video conferencing IP address					X
<b>CABLING</b>					
Provide low voltage permits	X				
Provide all cabling	X				
Provide all cable numbering	X				
Provide cable pull list	X				
Provide connectors	X				
Pull all audio-visual cables	X				
<b>EQUIPMENT &amp; MATERIALS</b>					
Provide LCD projectors, displays and mounting brackets	X				
Provide above ceiling unistrut and all thread rod to support displays		X			
Provide recessed electric projection screens	X				
Provide floor boxes		X			
Provide floor and credenza vertical equipment racks	X				
Provide all remaining A/V equipment	X				
Provide satellite or CATV receivers					X
<b>MOUNTING</b>					
Install all ceiling and wall mounted flat screen displays	X				
Provide any required wall backing to support displays				X	
Install wall mounted video cameras	X				
Install recessed electric projection screens		X			
Install above ceiling low voltage screen controller		X			
Ceiling grid trim work around projection screen				X	
Install projector mounts	X				
Install projectors	X				
Install ceiling speakers	X				
Install table interfaces & any custom wall plates	X				
Install rack mounted equipment in vertical equipment racks (in shop)	X				
Install satellite or CATV receivers					
<b>TERMINATIONS</b>					
Ceiling speakers	X				
Ceiling mounted projectors	X				
Wall or ceiling mounted displays	X				
Wall mounted cameras	X				
Floor and conference table plates (laptops)	X				
All on-site rack connections	X				
<b>LOADING DOCK/OFE EQUIPMENT</b>					
Receive and deliver equipment and racks to conference rooms	X				
<b>TESTING</b>					
Projector alignment & focusing	X				
Display setup	X				
Load and test Crestron program	X				

Power is to be provided by the Electrical Contractor.

**APENDIX B**

5.0 AV Acceptable Equipment List

The Following equipment list outline the recommended equipment, manufacture, and part number of each itemized component. Every effort has been made to provide a good faith extensive list. It will be the awarded AV Integrators responsibility to provide a complete “turn-key” system. Quantities to make a complete working system will be the sole responsibility of the AV Integrator.

Conference Rooms 214

<b>I. Display Systems Equipment:</b>		
1	PT-FW430U	PANASONIC
1	34512I	Da-Lite 94" Diagonal 16:10 Electric Screen with LVC
1	RPAU	CHIEF PROJECTOR MOUNT
1	CMS440	CHIEF CEILING MOUNT PAN
1	CMS006	CHIEF 1.5" MOUNTING POLE
1	CMA470	CHIEF ABOVE CEILING BOX
<b>II. Video Systems Equipment:</b>		
1	HD-SCALER	CRESTRON SCALER
1	HD-DLCAT	LIBERTY HDMI OVER CAT5 TX/RX
<b>III. Audio Systems Equipment:</b>		
1	60-845-01	EXTRON MPA401 70V POWER AMPLIFIER
2	FAP42T	ATLAS CEILING SPEAKER

AV Specification

Conference Room 278

<b>I. Display Systems Equipment:</b>		
4	PT-DW6300US	PANASONIC PROJECTOR
4	RPAU	CHIEF PROJECTOR MOUNT
4	CMS006	CHIEF PROJECTOR POLE
4	CMS440	CHIEF CEILING MOUNT
4	34520L	DA-LITE 130" DIAGONAL 16:10 SCREEN WITH LVC
<b>II. Video Systems Equipment:</b>		
1	DM-MD8X8	CRESTRON DIGITALMEDIA MATRIX
4	DMC-CAT	CRESTRON DIGITALMEDIA DM-CAT INPUT CARD
2	DMC-DVI	CRESTRON DIGITALMEDIA DVI INPUT CARD
1	DMCO-5530	CRESTRON DIGITALMEDIA (4) 8G / (2) HDMI OUTPUT CARD
4	DM-RMC-SCALER-C	CRESTRON DIGITALMEDIA SCALING CONTROL RECEIVER
2	DM-TX-200-2G	CRESTRON DIGITALMEDIA DUAL INPUT TRANSMITTER 2-GANG WALLPLATE
2	DM-TX-200	CRESTRON DIGITALMEDIA DUAL INPUT TRANSMITTER
<b>III. Audio Systems Equipment:</b>		
1	AUDIA FLEX CM	BIAMP DSP CHASSIS
10	AEC-2HD	BIAMP 2-CHANNEL ECHO CANCELLER CARD
1	OP-2E	BIAMP 2-CHANNEL MIC/LINE OUTPUT CARD
1	TI-2	BIAMP 2-CHANNEL TELEPHONE INTERFACE CARD
16	15I-I	SENNHEISER 6" GOOSENECK MICROPHONE KIT
1	SLX24/SM86	SHURE WIRELESS HANDHELD SYSTEM
1	SLX14/84	SHURE WIRELESS LAVALIER SYSTEM
1	MX418/S	SHURE 18" GOOSENECK MICROPHONE
1	1160A	CROWN 70V AMPLIFIER
16	FAP62T	ATLAS 6" CEILING SPEAKERS
<b>IV. Control Systems Equipment:</b>		
1	TPS-AV2PAK-6X	CRESTRON CONTROL PACK WITH ETHERNET CARD AND TPS-6X PANEL
<b>V. Lighting Systems Equipment:</b>		
<b>VI. Rack Accessories and Furniture:</b>		
1	RACK	CREDENZA RACK WITH CASTERS
	SHELVES	MISC MOUNTING SHELVES
	POWER	

AV Specification

Lobby Displays

2	E422	NEC 42" DISPLAY
2	LTMU	CHIEF LARGE FUSION MICRO-ADJUSTABLE TILT WALL MOUNT
1	E322	NEC 32" DISPLAY
1	MTMU	CHIEF MEDIUM FUSION MICRO-ADJUSTABLE TILT WALL MOUNT

**PRICING PAGE - CONFERENCE ROOM 214  
SLDC - AUDIO VISUAL EQUIPMENT AND INSTALLATION**

**I. DISPLAY SYSTEMS EQUIPMENT**

DESCRIPTION	QTY	UNIT COST	TOTAL COST
PANASONIC, PT-FW430U	1	\$ _____	\$ _____
DA-LITE 94" DIAGONAL 16:10 ELECTRIC SCREEN W/LVC, 34512I	1	\$ _____	\$ _____
CHIEF PROJECTOR MOUNT, RPAU	1	\$ _____	\$ _____
CHIEF CEILING MOUNT PAN, CMS440	1	\$ _____	\$ _____
CHIEF 1.5" MOUNTING POLE, CMS006	1	\$ _____	\$ _____
CHIEF ABOVE CEILING BOX, CMA470	1	\$ _____	\$ _____
<b>SUBTOTAL</b>			<b>\$ _____</b>

**II. VIDEO SYSTEMS EQUIPMENT**

CRESTRON SCALER, HD-SCALER	1	\$ _____	\$ _____
LIBERTY HDMI OVER CAT5 TX/RX, HD-DLCAT	1	\$ _____	\$ _____
<b>SUBTOTAL</b>			<b>\$ _____</b>

**III. AUDIO SYSTEMS EQUIPMENT**

EXTRON MPA401 70V POWER AMPLIFIER, 60-845-01	1	\$ _____	\$ _____
ATLAS CEILING SPEAKER, FAP42T	2	\$ _____	\$ _____
<b>SUBTOTAL</b>			<b>\$ _____</b>
<b>GRAND TOTAL - CONFERENCE ROOM 214</b>			<b>\$ _____</b>

**PRICING PAGE - CONFERENCE ROOM 278  
SLDC - AUDIO VISUAL EQUIPMENT AND INSTALLATION**

**I. DISPLAY SYSTEMS EQUIPMENT**

DESCRIPTION	QTY	UNIT COST	TOTAL COST
PANASONIC PROJECTOR, PT-DW6300US	4	\$ _____	\$ _____
CHIEF PROJECTOR MOUNT, RPAU	4	\$ _____	\$ _____
CHIEF PROJECTOR POLE, CMS006	4	\$ _____	\$ _____
CHIEF CEILING MOUNT, CMS440	4	\$ _____	\$ _____
DA-LITE 130" DIAGONAL 16:10 SCREEN WITH LVC	4	\$ _____	\$ _____
<b>SUBTOTAL</b>			\$ _____

**II. VIDEO SYSTEMS EQUIPMENT**

CRESTRON DIGITAL MEDIA MATRIX, DM-MD8X8	1	\$ _____	\$ _____
CRESTRON DIGITAL MEDIA DM-CAT INPUT CARD, -----	4	\$ _____	\$ _____
CRESTRON DIGITAL MEDIA DVI INPUT CARD, DMC-DVI	2	\$ _____	\$ _____
CRESTRON DIGITAL MEDIA (4) 8G / (2) HDMI OUTPUT CARD, DMCO-5530	1	\$ _____	\$ _____
CRESTRON DIGITAL MEDIA SCALING CONTROL RECIEVER, DM-RMC-SCALER-C	4	\$ _____	\$ _____
CRESTRON DIGITAL MEDIA DUAL INPUT TRANSMITTER 2-GANG WALL PLATE, DM-TX-200-2G	2	\$ _____	\$ _____
CRESTRON DIGITAL MEDIA DUAL INPUT TRANSMITTER, DM-TX-200	2	\$ _____	\$ _____
<b>SUBTOTAL</b>			\$ _____

**III. AUDIO SYSTEMS EQUIPMENT**

BIAMP DSP CHASSIS, AUDIA FLEX CM	1	\$ _____	\$ _____
BIAMP 2-CHANNEL ECHO CANCELLER CARD, AEC-2HD	10	\$ _____	\$ _____

**PRICING PAGE - CONFERENCE ROOM 278  
SLDC - AUDIO VISUAL EQUIPMENT AND INSTALLATION**

DESCRIPTION	QTY	UNIT COST	TOTAL COST
BIAMP 2-CHANNEL MIC/LINE OUTPUT CARD, OP-2E	1	\$ _____	\$ _____
BIAMP 2-CHANNEL TELEPHONE INTERFACE CARD, TI-2	1	\$ _____	\$ _____
SENNHEISER 6" GOOSENECK MICROPHONE KIT, 15I-I	16	\$ _____	\$ _____
SHURE WIRELESS HANDHELD SYSTEM, SLX24/SM86	1	\$ _____	\$ _____
SHURE WIRELESS LAVALIER SYSTEM	1	\$ _____	\$ _____
SHURE 18" GOOSENECK MICROPHONE	1	\$ _____	\$ _____
CROWN 70V AMPLIFIER	1	\$ _____	\$ _____
ATLAS 6" CEILING SPEAKERS	16	\$ _____	\$ _____
<b>SUBTOTAL</b>			<b>\$ _____</b>
 <b>IV. CONTROL SYSTEMS EQUIPMENT</b>			
CRESTRON CONTROL PACK WITH ETHERNET CARD AND TPS-6X PANEL, TPS-AV2PAK-6X	1	\$ _____	\$ _____
<b>SUBTOTAL</b>			<b>\$ _____</b>
 <b>V. LIGHTING SYSTEMS EQUIPMENT</b>			
		\$ _____	\$ _____
<b>SUBTOTAL</b>			<b>\$ _____</b>
 <b>VI. RACK ACCESSORIES AND FURNITURE</b>			
CREDENZA RACK WITH CASTERS, RACK	1	\$ _____	\$ _____
MISC MOUNTING SHELVES		\$ _____	\$ _____
POWER		\$ _____	\$ _____
<b>SUBTOTAL</b>			<b>\$ _____</b>
<b>GRAND TOTAL - CONFERENCE ROOM 278</b>			<b>\$ _____</b>

**PRICING PAGE - LOBBY DISPLAYS**  
**SLDC - AUDIO VISUAL EQUIPMENT AND INSTALLATION**

**LOBBY DISPLAYS**

DESCRIPTION	QTY	UNIT COST	TOTAL COST
NEC 42" DISPLAY, E422	2	\$ _____	\$ _____
CHIEF LARGE FUSION MICRO- ADJUSTABLE TILT WALL MOUNT	2	\$ _____	\$ _____
NEC 32" DISPLAY	1	\$ _____	\$ _____
CHIEF MEDIUM FUSION MICRO- ADJUSTABLE TILT WALL MOUNT	1	\$ _____	\$ _____
<b>SUBTOTAL</b>			<b>\$ _____</b>

**CITY OF ST LOUIS, MISSOURI**  
**INSTRUCTION TO BIDDERS (for request for quotations - RFQs)**

VENDORS SHOULD CAREFULLY READ THE FOLLOWING INSTRUCTIONS AND TERMS AND CONDITIONS, BEFORE SUBMITTING QUOTATION. **CAUTION: THIS IS NOT AN ORDER**

- Quotations will only be accepted on this form which must be returned in a **sealed envelope**. *The upper left corner of the envelope must include the following information: Vendor Name, Quotation Number and the Due By Date.* This information is also required on any mail delivered next day or overnight.
- Quotations should be typewritten or in ink. Altered or erased unit price(s) must be initialed. One copy of Quotation Sheet must be submitted, please retain a copy for your files.
- The Supply Commissioner reserves the right to reject any or all bids.
- The Supply Commissioner reserves the right to make awards on an item basis or on a total basis.
- Bidders must quote Unit Price(s) and Extension on each item. When an error appears on an extension, the Unit Price(s) will govern.
- When Quotation Sheet requests item(s) by brand name and your quote is for an alternate brand – show brand name(s) with model number(s) and attach full specifications.
- When Quotation Sheet has only a general description(s) of item(s) required – show brand name with model number(s) and attach full specifications.
- Suppliers shall not offer more than one bid on each item. Two or more quotations on the same item may cause a rejection of the bid. Suppliers must determine which one of their many styles or types fully meet the specification.
- Freight or delivery charges must be included in quote, or shown separately on quote, so bid can be evaluated.
- **Bids must arrive no later than NOON** on the date stated or will be rejected. *Faxed or E-mailed bids are not accepted unless specifically requested by the Supply Division.*
- Bids will be publicly opened on the date specified beginning at NOON.
- Prices quoted will be considered firm.
- Bids having an acceptance limit of less than 30 days after opening date may be rejected.
- Time of proposed delivery must be stated in definite terms.
- Failure of Bidder to understand the item(s) requested or any part of the specifications will not be a valid reason for bidding on the wrong item(s). Any questions regarding description of item(s) requested should be cleared with the Buyer listed in the bid document.
- **Samples** when requested must be delivered before actual time of bid opening with each sample plainly tagged showing the name of Bidder, Quotation Number, Brand Name and lot number or quality. Submission of samples does not relieve bidder from meeting the specifications as outlined in the Bid Documents unless the bidder specifically states they are bidding on an alternate.
- All samples are to be submitted to the address listed below unless otherwise stated in Bid Documents.
- Deliveries must be accompanied by a packing slip or invoice, listing the Department, Quotation Number, and the exact quantities of each item included in the shipment.
- ONLY U.S.P., N.F., OR N.N.D. DRUGS ARE ACCEPTABLE. ALL DRUGS MUST COME IN MANUFACTURER'S ORIGINAL PACKAGES, PROPERLY SEALED.
- In the event the successful bidder fails to make delivery of any item or items that meet the conditions and requirements as outlined in this proposal within 7 days of time stated by bidder on face of this quotation sheet, the City reserves the right to purchase said item or items on the "OPEN MARKET" and charge any costs above the BID PRICE to the bidder.
- The laws of the State of Missouri provide that the City of St. Louis pay no State Sales or Use Tax or Federal Excise Taxes and these taxes should be excluded from your bid price. Federal Excise Tax Exemption Certificates will be furnished to successful bidder.
- Suppliers shall save harmless the City of St. Louis from the payment of any and all claims or demands arising out of any infringement, alleged infringement, or use of any patent or patented device, article, system, arrangement, material or process used by him in the execution of this contract.
- Supply Division hours are Monday through Friday – 8:00 A.M. to 5:00 P.M. Main Number: 314-622-4580.

**All bids must be submitted in a SEALED ENVELOPE and mailed to:**

SUPPLY COMMISSIONER  
1200 MARKET ST RM 324  
ST LOUIS MO 63103-2842



**CITY OF ST. LOUIS  
DEPARTMENT OF FINANCE  
OFFICE OF THE SUPPLY COMMISSIONER**

**FREDDIE L. DUNLAP**  
SUPPLY COMMISSIONER

**FRANCIS G. SLAY**  
MAYOR

CITY HALL  
1200 MARKET ST., ROOM 324  
ST. LOUIS, MO 63103-2819  
(314) 622-4580  
FAX: (314) 622-4141

**ATTENTION**

**Please carefully review all information requested in this bid package. Failure to submit required samples, literature, unit pricing, extended pricing, and any other requested information may result in disqualification of your bid or any portion of your bid.**

- Two or more bids submitted for one item (item rejected).
- Signature missing on bid or **any** required form.
- Buy American Form not completed or returned (may be rejected).
- M/WBE Form not completed or returned (may be rejected).
- Altered or erased unit prices (must be initialed).
- Faxed bid, unless specifically requested (will be rejected).
- Failure to submit required Bond (for Contract only) by the date indicated.

The reasons indicated above may disqualify your bid. If you have any questions, please call the buyer indicated on the RFQ.

This form must be returned with your bid. I certify that I have read and understand the information above.

\_\_\_\_\_  
Manual Signature

\_\_\_\_\_  
Date

# **ST. LOUIS DOMESTIC PRODUCTS PROCUREMENT ACT**

The City of St. Louis has enacted an ordinance relating the purchase of domestic products by City government, with penalty provisions. The ordinance amends Section 5.58.010 Revised Code of the City of St. Louis, 1986, as amended by adding thereto new subsections dealing with the requirement that the Supply Commissioner or his designee give preference to goods or commodities manufactured in the United States of America, stating exceptions to said policy. Sections one through six are reprinted below.

**Section One.** Section 5.58.010 Revised Code of the City of St. Louis is hereby amended by adding the following language: "Each solicitation to bid and the method of describing the items to bid upon of any goods or commodities sought to be purchased by the Office of Supply Commissioner, and any contract entered into by and on behalf of the City of St. Louis and executed by the Mayor and/or the Comptroller of the City of St. Louis wherein the construction, alteration, repair or maintenance of any public works is the subject of the contract so executed, shall contain a provision that the goods or commodities furnished or used in the furtherance of said project by any contractor or subcontractor, manufactured, assembled or produced in the United States, and said requirement as defined above shall be stated in said bid."

**Section Two.** The provision of Section One of this Ordinance shall not apply in the following instances:

- (i) Where the item purchased as the contract entered into for repairs or renovation is less than One Thousand (\$1,000.00) Dollars.
- (ii) Where no line of a particular good or product is manufactured, assembled or produced in the United States.
- (iii) Where the acquisition of United States manufactured or produced goods would increase the cost by more than (10%) percent.

**Section Three.** The certificate required by this section shall specify the nature of the contract, the product being purchased or leased the names and addresses of the United States manufacturers and producers could not supply sufficient quantities or that the price of the products would increase the cost of the contract by more than ten percent.

**Section Four.** No public agency may authorize, provide for, or make any payment to any vendor or contractor upon any contract in violation of section 2 of this act. Prior to the awarding of the bid and before any public agency authorizes, provides, or makes payment to any vendor or contractor upon any contract to which section 2 or 6 of this act applies, the vendor or contractor shall provide proof of compliance with section 2, and if applicable, section 6 of this act. Any vendor or contractor who knowingly misrepresents any material fact to the public agency concerning the origin of any manufactured goods or commodities shall be guilty of a Class A misdemeanor.

**Section Five.** Sections 1 to 6 of this act shall apply only to contracts and subcontracts entered into after effective date of this act, and shall not limit the use or supply of manufactured goods or commodities purchased or leased prior to the effective date of this act.

**Section Six.** Nothing in sections 1 or 6 of this act is intended to contravene any existing treaty, law, agreement, or regulation of the United States. All contracts in section 1 or 6 of this act shall be entered into in accordance with existing treaty, law, agreement, or regulation of the United States including all treaties entered into between foreign countries and the United States regarding export-import restrictions and international trade and shall not be in violation of sections 1 to 6 of this act to the extent of such accordance.

## **Interpretations and Guidelines**

**Section One:** "Shall be manufactured" is interpreted to mean to make or process a raw material into a finished product or to turn-out in a mechanical manner. "Assembled" is interpreted to mean to fit or to join together the parts, gather, or to congregate in a manufacturing environment. "Produced" is interpreted to mean to create by manual or physical effort, to make or yield to customary product or products.

**Section Two (i)** This is interpreted to mean less than one thousand dollars in aggregate (total purchases).

**(iii)** When applying this subsection, multiply the cost of the foreign product by ten percent and compare the cost to the American product. If the American product cost is less than the sum of the cost of the foreign product plus ten percent, the award will be made to the vendor bidding the American product. The price paid by the City of St. Louis will be the actual price bid by the winning bidder.

**Section Three:** "Could not supply sufficient quantities" is interpreted to mean in order to meet the using agency's delivery schedule and in quantity specified.

**Section Four:** The vendor's authorized representative must complete a self-certification form, as required by the existing procedures previously indicated. These certification forms will be used to determine whether the manufacturer or producers could, or could not supply sufficient quantities, or the cost of the products would increase the contract by more than ten percent.

Prior to the city awarding the bid, the vendor shall provide certification that the product being bid is manufactured, assembled or produced in the United States or there is an existing treaty, law or regulation where by the product bid shall be treated the same as product manufactured, assembled or produced in the United States. The procuring agency shall accept the self certification in order to apply the percentage differential that is applicable under this law. Failure to provide certification shall cause the city to presume that such product is not American made and preference shall not be considered for that product.

# CERTIFICATION FORM

## ST. LOUIS DOMESTIC PRODUCTS PROCUREMENT ACT

### (BUY AMERICAN)

Bidders are advised of legislation enacted by the City of St. Louis which requires all manufactured goods or commodities used or supplied in the performance of this contract or any subcontract to be manufactured, assembled or produced in the United States, unless obtaining American made products would increase the cost of this contract by more than ten percent.

Section Four requires the vendor or contractor to certify his compliance with this legislation and if applicable, Section Six, if preference is claimed.

Bid received will be evaluated on the basis of this legislation. Certificates of compliance must be completed and returned to be considered for preference. Failure to provide certification shall cause the City to presume that such product is not American made.

**CERTIFICATION**

If all the specified goods or products are manufactured, assembled or produced in the United States, check box at left and complete at the bottom of this form.

**SECTION SIX CERTIFICATION**

If any or all of the specified goods or products are manufactured, assembled or produced in a country other and the "United States," and exemption is requested because such product is Fair Trade Product: (a) list the country, other than the United States, where each good or product you propose to furnish is manufactured, assembled or produced; (b) check box at left of this paragraph and list corresponding commodities and (c) complete Section Six Documentation portion below.

**Items Number(s)**

**Location Where Item Manufactured, Assembled or Produced**


**SECTION SIX DOCUMENTATION**

The specified goods or products are treated as manufactured, assembled or produced in the United States under an existing treaty, law agreement or regulation of the United States regarding export-import restrictions and international trade. List item Number(s) and Treaties covering item below.

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**DEFINITIONS**

**MANUFACTURED** - to make or process a raw material into a finished product; create, or to produce or to turn-out in a mechanical manner.

**ASSEMBLED** - to fit or join together the parts in a manufacturing environment.

**PRODUCED** - create by manual or physical effort, to make or yield the customary product or products.

**MUST BE COMPLETED AND SIGNED**

I hereby certify that the above information is true and correct and further certify that this statement complies with all provisions of Section 5.58.010 Revised Code of the City of St. Louis, 1985, as amended.

**FIRM NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**CITY:** \_\_\_\_\_ **STATE:** \_\_\_\_\_ **ZIP:** \_\_\_\_\_

**BY:** \_\_\_\_\_

(SIGNATURE and TITLE)

**CITY OF ST. LOUIS / SUPPLY DIVISION  
MINORITY / WOMEN BUSINESS ENTERPRISES FORM  
(M/WBE FORM)**

**A. Mayor's Executive Order #28, Section Six - Supply Contracts**

1. The goal of the City of St. Louis is that 25% of the value of all contracts let and purchases made by the Supply Commissioner shall be let or made with Minority Business Enterprises (MBEs) and that 5% of the value of all contracts let and purchases made by the Supply Commissioner shall be let or made with Women's Business Enterprises (WBEs).
2. All contracts let by the Supply Division for the purchase or lease of materials, equipment, supplies, commodities or services, the estimated cost of which exceeds \$500, shall be subject to this goal.
3. The methods by which the Supply Commissioner shall pursue this goal shall include but not be limited to the following:
  - a. The Supply Commissioner shall solicit bids from minority business enterprises and women's business enterprises certified to supply the required materials, equipment, supplies or services;
  - b. St. Louis Airport Authority (SLAA) shall provide the Supply Commissioner with a list of minority business enterprises and women's business enterprises qualified to provide each of those commodities that the Supply Commissioner indicates are required by the City;
  - c. The Supply Commissioner shall notify SLAA prior to solicitation of bids whenever no such qualified businesses are available;
  - d. SLAA shall attempt to identify such qualified businesses, and if successful, shall notify the Supply Commissioner of their availability; and
  - e. The Supply Commissioner shall provide such minority business enterprises and women's business enterprises every practical opportunity to submit bids.
4. Joint ventures or mentor-protégé relationships between prime contractors and subcontractors with local MBE and WBE firms are encouraged.
5. Participation of MBE and WBE firms located outside the St. Louis Metropolitan Statistical Area (SMSA) shall not count toward the goals established in this order.

**B. SUPPLY DIVISION POLICY**

It is the policy of the Supply Division that all bids/contracts awarded adhere to the Mayor's Executive Order #28. All vendors are encouraged to comply with this policy and all other provisions of Executive Order #28. A copy of Executive Order #28 is available upon request. Each Vendor/Contractor (bidder) must complete, sign and return this M/WBE Form. Failure to complete, sign and return the M/WBE Form will result in the bid being declared non responsive and your bid may be eliminated.

**C. OBLIGATION**

The bidder agrees to make a good faith effort to ensure that M/WBE businesses have an opportunity to participate in the performance of contracts or subcontracts financed in whole or in part with City funds. The bidder will take all necessary and reasonable steps to ensure that said businesses have an opportunity to compete for and perform under this bid/contract. The bidder shall not discriminate on the basis of race, color, national origin or sex in the award and performance of bids/contracts. To request a Directory of Disadvantaged, Minority and Women Owned Business Enterprises certified by the City of St. Louis, contact Ms. Jackie Taylor, Certification Manager, at (314) 551-5002. Certified businesses can be viewed at [www.mwdbe.org](http://www.mwdbe.org).

**CITY OF ST. LOUIS/SUPPLY DIVISION  
MINORITY/WOMEN BUSINESS ENTERPRISES FORM  
(M/WBE FORM)**

**D. BID/CONTRACT IDENTIFICATION**

Bid #: _____ or Contract Name: _____  Opening Date: _____ Your Bid Total: \$ _____  If your bid is \$500 or higher, please complete Section 'E'. We are NOT requesting information on how your company currently supports M/WBE suppliers. We want to know if there are opportunities you might consider to work with M/WBE suppliers for THIS SPECIFIC bid/contract.
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**E. ASSURANCE                      MBE/WBE Goal: 25% MBE and 5% WBE (Minimum Participation)**

I, acting in my capacity as an officer of the undersigned bidder(s) if a joint venture, hereby assure the City of St. Louis that on this bid/contract my company will: **(CHECK ONLY ONE)**

**Meet or exceed the M/WBE goal with: \_\_\_\_\_% MBE and \_\_\_\_\_% WBE Participation**

Proposed MBE Vendor Name: _____ Amount \$ _____  Item or materials to be supplied by MBE Vendor: _____  Proposed WBE Vendor Name: _____ Amount\$ _____  Item or materials to be supplied by WBE Vendor: _____
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**Fail to meet the M/WBE goal, but made a good faith effort to meet the goals as follows:**

\_\_\_\_\_ % MBE and \_\_\_\_\_ % WBE Participation (Enter Proposed Vendor information above.)

**Not meet the M/WBE goal for the following reasons(s):(Check All That Apply)**

	Our Company is an MBE certified by the State of: _____
	Our Company is a WBE certified by the State of: _____
	We have contacted suppliers listed in the SLAA Directory but have received no reply
	There are no subcontracting opportunities for this bid/contract
	We are a Dealer and the order will be drop-shipped from the manufacturer to the user
	We are the manufacturer and the order will be drop-shipped from the factory to the user
	A letter of explanation is attached
	Other reason: _____ _____

FIRM NAME: _____	FEDERAL ID NUMBER: _____
SIGNATURE: _____	FAX NUMBER: _____
PRINTED NAME: _____	DATE: _____
TITLE: _____	E-MAIL: _____