

**CITY OF FEDERAL WAY  
REQUEST FOR QUOTE  
PRODUCTION LIGHTING FIXTURES  
FOR THE  
PERFORMING ARTS & EVENT CENTER**

**I. PURPOSE OF REQUEST**

The City of Federal Way (“City”) is requesting quotes for the purpose of Production Lighting Fixtures for the Performing Arts & Event Center. The City’s needs are outlined in the following Request for Quotes (“RFQ”).

**II. TIME SCHEDULE**

The City will follow the following timetable, which should result in a selection of a contractor by June 6, 2017.

Issue RFQ	May 8, 2017
<b>Deadline for Submittal of Quotes</b>	<b>May 19, 2017 3:00 PM</b>

<i>(The City welcomes submittals prior to deadline)</i> Notify Contractor Chosen	June 7, 2017
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**III. INSTRUCTIONS TO PROPOSERS**

A. All quotes shall be sent to:

Theresa Yvonne, Executive Director  
City of Federal Way  
33325 8th Avenue South  
Federal Way, WA 98003-6325  
(253) 835-2414

B. All quotes must be in a sealed envelope and clearly marked in the lower left-hand corner: RFQ – Production Lighting Fixtures for the Performing Arts & Event Center. All quotes must be received by 3:00 PM on Friday, May 19, 2017. Three (3) copies of the RFQ must be presented. No faxed or telephone quotes will be accepted.

C. Quotes should be prepared simply and economically, providing a straightforward, concise description of provider capabilities to satisfy the requirements of the request. Special bindings, colored displays, promotional materials, etc., are not desired. Emphasis should be on completeness and clarity of content. Use of recycled paper for requests and any printed or photocopied material created pursuant to a contract with the City is desirable whenever practicable. Use of both sides of paper sheets for any submittals to the City is desirable whenever practicable.

D. The Executive Director or representative will notify the contractor selected by June 7,

2017.

E. All quotes must include the following the guidelines stated in **Appendix A – Part 2**.

**IV. SELECTION CRITERIA**

<u>Factor</u>	<u>Weight Given</u>
1. Responsiveness of the written proposal to the purpose and scope of service.	25%
2. Price.	50%
3. Ability and history of successfully completing contracts of this type, meeting projected deadlines and experience in similar work.	25%
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Total Criteria Weight	100%

Each quote will be independently evaluated on factors 1 through 3.

**V. TERMS AND CONDITIONS**

- A. The City reserves the right to reject any and all quotes, and to waive minor irregularities in any quote.
- B. The City reserves the right to request clarification of information submitted, and to request additional information from the contractor.
- C. The City reserves the right to award the contract to the next most qualified contractor, if the successful contractor does not execute a contract within thirty (30) days after the award of the quote.
- D. Any quote may be withdrawn up until the date and time set above for opening of the quotes. Any quote not so timely withdrawn shall constitute an irrevocable offer, for a period of ninety (90) days to sell to the City the services described in the attached specifications, or until one or more of the quotes have been approved by the City administration, whichever occurs first.
- E. The contract resulting from acceptance of a quote by the City shall be in a form supplied or approved by the City, and shall reflect the specifications in this RFQ. A copy of the contract is available for review, and shall include requirements to comply with ADA, Civil Rights Act, and EEO requirements. The City reserves the right to reject any proposed agreement or contract that does not conform to the specifications contained in this RFQ, and which is not approved by the City Attorney's office.

- F. The City shall not be responsible for any costs incurred by the contractor in preparing, submitting or presenting its response to the RFQ.
- G. The Recipient, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR Part 23 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

**VI. SCOPE OF SERVICES**

- A. Follow specifications as outlined in Production Lighting Fixtures, shown here as Appendix A.
- B. The following appendices are attached to this specification.
  - i. Appendix B – Section 11-61-93-A Production Lighting Fixtures
- C. Completion
  - i. **The City desires that this work be completed by Friday, June 30, 2017.**  
Please provide date of completion in quote.

**VII. COMPENSATION**

- A. Please present pricing information on the contractor’s proposed quote for the equipment specified in Appendix B with totals for all equipment listed and for any for any variation for non-routine services, inclusive of Washington state sales tax, and any other applicable governmental charges. Please provide specifics as to definitions of routine versus non-routine tasks, what is fixed as opposed to variable, and how costs are adjusted according to that classification.
- B. Payment by the City for the services will be made only after the services have been performed, an itemized billing statement is submitted in the form specified by the City, and approved by the appropriate City representative, which shall specifically set forth the services performed, the name of the person performing such services, and the hourly labor charge rate for such person. Payment shall be made on a monthly basis, thirty (30) days after receipt of such billing statement.

**VIII. PUBLICATION.**

Name of Publication:

Dates:

Federal Way Mirror

May 12, 2017

Puget Sound Business Journal

May 12, 2017

City of Federal Way Website  
[www.cityoffederalway.com](http://www.cityoffederalway.com)

May 9, 2017 thru  
May 19, 2017

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rev. 01/15

## **PART 1 - GENERAL**

### 1.1 SUMMARY

#### A. Section Includes:

1. Services as listed herein and related to the furnishing and commissioning of production lighting fixtures and equipment.

### 1.2 RELATED SECTIONS

#### A. Coordinate with the following sections in carrying out this work:

1. Division 01 – General Conditions

### 1.3 REFERENCES

- A. Comply with all national, state and local regulations and the procedures and requirements of the CA Division of the State Architect. In the event of conflict between these specifications and the applicable regulations, the more stringent shall govern.
- B. Equipment shall be provided per the related trade and regulatory guidelines including but not limited to UL, NEC, IEEE, and all manufacturer's recommendations and requirements. Contractor shall be responsible in the event that work under their control voids or jeopardizes manufacturers' warranties.
- C. Labor shall be provided per applicable labor regulations and practices.

### 1.4 DEFINITIONS

- A. Theatre Representative: For the scope in this Section, authorized personnel representing Federal Way Performing Arts & Event Center and The Shalleck Collaborative, Inc., Theatre Consultants.

### 1.5 SYSTEM DESCRIPTION

- A. The new performing arts center for the City of Federal Way, WA included an Auditorium and support spaces.
- B. Lighting fixtures, cable and accessories will be provided and delivered to the job site in a "ready to hang" state, as described herein.

### 1.6 ALTERNATES:

- A. Additive Alternate ALT1-11 as listed in the appendix. Provide line item price for item and credit for base item as required in 11-61-93 Appendix and specified below.

### 1.7 CURRENT TECHNOLOGY

- A. Only the most current hardware and software shall be provided. In no case will discontinued or superseded products be acceptable. If the manufacturer has developed and successfully released products that meet or exceed the criteria within this specification, the Contractor shall notify the Theatre's Representative and submit the new product for review. If accepted, the products will be provided at no additional cost to the Theatre. Software upgrades and authorized support services for its proper integration into the system shall be provided at no cost to the Theatre throughout the warranty period.

- B. In the event of known product defaults or recall, the Contractor shall immediately notify The City and the Representative and make immediate arrangements for remedy.
- C. None of the stipulations herein shall be grounds for revision to the project schedule.
- D. See related procedures under warranties in this Section.

#### 1.8 SUBSTITUTIONS

- A. All requests for substitutions from the specified materials, assemblies or related services shall be submitted for review by the Theatre's Representative prior to bid. Substitution requests made after bid shall be neither reviewed nor accepted. Requests shall be made in accordance with Division 1 of the specifications, and in a timely fashion so as to not affect the project schedule in either case of the substitution being accepted or rejected.
- B. Documentation for the substitution shall be submitted with supporting material and shall including the related information for the item as specified so that equivalence can be demonstrated. The burden of proof rests solely upon the Contractor. The Theatre's Representative shall be the sole evaluator of the fitness of the substitution.
- C. All expenses related to the substitution including, but not be limited to, all fees and expenses incurred in the evaluation of the substitution, and any effect on the costs and schedule of other trades whether or not the substitution is accepted, shall be borne by the Contractor.

#### 1.9 SUBMITTALS

- A. Submittals shall be made in a timely fashion so as to not affect the project schedule, and shall allow for adequate time for review and resubmittal. Partial submittals shall not be acceptable and shall be returned without review.
- B. All submittals shall be made in electronic format.
  - 1. Provide Hard copies if requested.
  - 2. Files shall be in .pdf format, and submitted via email or download
    - a. Third party website transfer services which require membership shall not be an acceptable means of transmittal.
- C. All submittals shall be complete and submitted as a comprehensive package, including finish selection materials (if required) and samples (if requested), all materials listed in this section, including, but not limited to, all shop drawings, product data, relevant calculations (as required) and any other information required to review the systems. Incomplete submittals will be rejected without review.
- D. Submittals shall be reviewed and field dimensions verified prior to commencing acquisition for, and fabrication of the work in this section. All services and parts of the work in this section shall be verified through the submittal process.
- E. Product Data:
  - 1. Submit data sheets for all standard component parts, which shall include all information necessary to verify compliance with this Section.
- F. Record Documents:
  - 1. At time of final acceptance, submit regulatory listings and certifications as required by prevailing building codes.

2. Within 30 days, submit two (2) paper copies and six (6) electronic copies of "as built" submittals including shop drawings, product data, operations and instructions manuals for all products provided, care and maintenance instructions, service line and online contacts and warranty documents.
3. Submit electronic record documents on CD or DVD rom or USB flash drive storage media.

#### 1.10 WARRANTY

- A. Warranty shall provide coverage of material and product defects and assembly workmanship or installation for a period of three years following the date of acceptance by the Theatre.
- B. Items under warranty shall be serviced to the satisfaction of the Owner with 14 days of notification to the Contractor. If warranty claims are not serviced to the satisfaction of the owner within the 14 day period, the Contractor shall bear all costs that arise as a result of the delay, including, but not limited to, the use of temporary replacement components, additional Owner's staffing or overtime, shipping, cancelled uses or performances.

#### 1.11 QUALITY ASSURANCE

- A. Equipment in this Section shall be provided by specialty suppliers and manufacturers meeting the qualifications listed herein.
- B. Specialty supplier shall have been continuously engaged in the sales and integration of lighting control equipment similar to that specified herein for a minimum of fifteen years.
  1. Manufacturer shall have been continuously engaged in the manufacturing of lighting control equipment similar to that specified herein for a minimum of fifteen years.
- C. Specialty suppliers shall have at time of bid and continuously maintain throughout the project and warranty period a Contractor's license appropriate for the work in this Section.
- D. Specialty suppliers shall maintain bonds in the amount required for the project.
- E. Specialty suppliers shall have within their employ, manufacturers factory authorized field services technicians within a four hour travel distance from the Project site.
- F. All equipment shall be UL listed and bear the appropriate labels.

#### 1.12 DELIVERY, STORAGE AND HANDLING

- A. Packing shall prevent damage to the equipment during transit. Costs to repair or replace all equipment damaged during the course of the contract services shall be borne by the Contractor.
- B. Do not deliver materials in this Section until building is ready for installation. Contractor is responsible to properly sequence the work and to protect from damage during delivery, handling, storage and installation.
- C. Contractor is responsible to coordinate and provide secure and protected storage as required for the execution of the Contract.
  1. Devices shall not be delivered to the project site until the project is suitably clean and all adjacent finish work that may be painted or produce dust has been completed. The contract shall provide and maintain complete protection of all devices until the project has been made available for occupancy by the Theatre. The Contractor shall thoroughly clean and remove any dirt or dust that infiltrates system components and be responsible for timely replacement of any damaged components.

2. Device labels and connectors shall be delivered with temporary dust and paint protection installed.

#### 1.13 PROJECT CONDITIONS

- A. Defects in the field which may impact the work in this Section shall be reported to the Theatre's Representative and corrected in accordance with the requirements of the applicable section of work prior to commencement of the work in this Section.

### **PART 2 - PRODUCTS**

#### 2.1 SPECIALTY SUPPLIERS

- A. Requirements: reference section 116193.1.11
- B. The following production systems specialty suppliers may bid the work in this section:

LVH Entertainment Systems  
300 Irving Drive  
Oxnard, CA 93030  
Contact: Mike Kunz  
(888) 313-2033  
E-mail: [mkunz@lvhent.net](mailto:mkunz@lvhent.net)

Stagecraft Industries, Inc.  
5051 North Lagoon Ave  
Portland, OR 97217  
Contact: Kevin Shetterly  
(503) 286-1600  
E-mail: [kevins@stagecraftindustries.com](mailto:kevins@stagecraftindustries.com)

PNTA  
2414 SW Andover Street  
Seattle, WA 98106  
(206) 267-1789

Barbizon Lighting Company  
1320 South Priest Drive, Suite 105  
Tempe, AZ 85281  
(480) 237-0470  
E-mail: [bwrsales@barbizon.com](mailto:bwrsales@barbizon.com)

- C. All other specialty subcontractors must be approved prior to bid. Other contractors seeking acceptance must submit the following information at least 5 days prior to the bid closing date. Approval of contractors will be by addenda. Failure to submit any of the required information will automatically disqualify the contractor from consideration of approval.
  1. A listing of five equivalent installations including:
    - a. Name, address and telephone number of Theatre;
    - b. Name, address and telephone number of Theatre Consultant;
    - c. Scope of work.
  2. A brief written description of the contractor's operation including facilities, financial capabilities, and experience of key personnel.
  3. Documentation necessary to prove compliance with 116193.1.11 above.



## 2.2 MANUFACTURERS

- A. Dimming and control equipment in this Section shall be provided by specialty manufacturers providing products meeting the specifications herein.
- B. Dimming and control equipment in this Section shall be the products of the following specialty manufacturers:
  - 1. Electronic Theatre Controls
  - 2. Other manufacturers as listed in the fixture schedule.
- C. Permission to bid does not imply acceptance of the manufacturer. It is the sole responsibility of the contractor for this section to ensure that any price quotations received and submittals made are for controls systems that meet or exceed the specifications.

## 2.3 MATERIALS

- A. All components supplied under this section shall be new. Used or factory reconditioned components shall not be acceptable.

## 2.4 PRODUCTION LIGHTING FIXTURES

- A. Provide production lighting fixtures, accessories and spare parts as shown in 11-61-93-A appendix.
- B. Fixtures shall have 2P&G stage pin connectors unless noted otherwise.
- C. Ellipsoidal spotlights
  - 1. Provide ETC Source Four ellipsoidal spotlights. No substitutions.
    - a. Provide with lenses in beam spreads as noted in appendix.
    - b. Integral cable clamp for power leads
    - c. Positive locking of lamp focus and independent lamp alignment controls
    - d. High impact, thermally insulated knobs and shutter handles
    - e. Reflector secured with shock mounts
    - f. Lens secured with silicone shock mounts
    - g. Rotating shutter assembly - 50° rotation
    - h. 20-gauge stainless steel shutters
    - i. Insulated rear handle
    - j. Interchangeable lens tubes for different field angles with Teflon guides for smooth tube movement
    - k. Sturdy integral die cast gel frame holders with two accessory slots, and a top mounted, quick release gel frame retainer
    - l. 3/16" x 1-1/4" steel yoke with two mounting positions allowing 300°+ rotation of the fixture within the yoke
    - m. Positive locking, hand operated yoke clutch
    - n. Slot with sliding cover for motorized pattern devices or optional iris
    - o. 750 watts maximum

D. Par Fixtures

1. Provide ETC Source Four Par EA fixtures. No substitutions.
  - a. Color: Black
  - b. Integral cable clamp for power leads
  - c. Positive locking of lamp alignment controls
  - d. High impact, thermally insulated knobs and shutter handles
  - e. Reflector secured with shock mounts
  - f. Tool free lens changing
  - g. Sturdy integral die cast gel frame holders with two accessory slots, and a top mounted, quick release gel frame retainer
  - h. 3/16" x 1-1/4" steel yoke with two mounting positions allowing 300°+ rotation of the fixture within the yoke
  - i. Steel yoke shall be extra long to allow re-lamping of the fixture without breaking focus
  - j. Positive locking, hand operated yoke clutch
  - k. 750 watts maximum

E. Frenels

1. Provide ETC Source Four Fresnel Fixtures. No substitutions.
2. Provide Source Four Fresnel spotlight as manufactured by Electronic Theatre Controls, Inc., or approved equal
3. Fixture shall utilize a lamp compatible with Par Fixtures and Ellipsoidal spotlights.
  - a. The lamp base shall have an integral die cast aluminum heat sink that reduces seal temperature and ensures proper lamp alignment.
  - b. The lamp socket shall be ATP 220 nickel gold plated.
  - c. The lamp shall be prefocused in relation to the reflector. The lamp shall be removable from the bottom of the fixture for re-lamping. Lamp socket access door shall use a tool-free ¼-turn closure device
4. Luminaire shall use a Fresnel lens and provide soft-edged, but well-defined beam shaping with a barn door attachment. Providing a field angle zoom range of 20 degrees to 65 degrees
  - a. Zoom adjustment by means of a large, side-mounted knob with integral locking lever
5. The optical train shall utilize a compact filament lamp with a modified spherical reflector
6. Reflector shall be molded borosilicate glass with multiple dichroic layers.
7. Reflector efficiency shall be a minimum of 93%
8. Reflectors of pressed aluminum or other sheet metal construction shall not be acceptable
9. The luminaire shall be constructed of rugged, die cast aluminum, free of burrs and pits, finished in black, high temperature paint
10. The luminaire shall have:
  - a. 36" power lead with bare-ends with integral cable clamp.
  - b. Sealed housing with no light leaks

- c. Two, 7.5" accessory slots and a top mounted locking door for gel frames and beam control accessories. Accessory slots shall be completely surrounded by a rugged metal housing for elimination of light leaks around gel frames and other beam control accessories
- d. Rugged steel yoke with adjustable mounting position for variable fixture balance point and positive locking, hand operated yoke clutch.
- e. Large, rugged handle on rear of fixture.
- f. Integrated safety cable mounting ring.

F. Cyclorama lights

- 1. Provide LED cyclorama lights with the following features:
  - a. Fixture shall be 4-color, 60 LED array.
  - b. IP20 rated
  - c. DMX in and through using 5 pin XLR connector.
  - d. RDM capable for addressing functions
  - e. Provide with Power input and Thru-put
  - f. Mid barrel accessory slot for Gobos and Soft focus diffuser.
  - g. 20,000 hours to 70%
  - h. 120v, 50/60Hz with max 11a inrush.
- 2. Provide with source 4 LED Cyc adapter barrel and lens with the following features:
  - a. Able to be top or bottom mounted
  - b. Die-cast aluminum body and polycarbonate lens
  - c. Adaptable to either the source 4 lustr+ or the color source spot engines by ETC.
- 3. Finish: black
- 4. Product shall be:
  - a. Provide ColorSource Spot fixtures by ETC.

G. Followspot lights

- 1. Provide Robert Juliat 1149C Super Korigan followspot, no substitutions.
- 2. Followspot shall:
  - a. Be UL listed.
  - b. Have a 100% closable iris in a removable cassette.
  - c. 100% closing mechanical dimmer
  - d. Accept A size gobos
  - e. Power supply: Provide 208v 60hz model magnetic PSU.
  - f. Silent magnetic ballast
  - g. Main automatic breaker
  - h. Mains checklight
  - i. 15 foot power cable wired with L21-20 Male plug for 208v power.
  - j. Lamp shall be Hot restrike.

- k. Fixture shall have an adjustable beamspread of 7-14.5 degrees.
  - l. Lamp HMI 1200 watt, 6000k, 1000 hour, 90CRI.
  - m. Spare lamp
- 3. Provide with the following options:
    - a. Standard tripod base
    - b. Heavy Duty adjustable yoke
    - c. Standard boomerang color changer.
    - d. Tools and manufacturer recommended spare parts.
  - 4. Setup, install and test in follow spot booth
- H. Fixture preparation:
- 1. As part of base work fixtures shall all be prepare in the following manner:
    - a. Connector shall be prewired
    - b. Fixtures shall be delivered to the site in a ready to hang state.
    - c. Lamp shall be installed and bench focused.
    - d. Each fixture yoke shall be provided with an industry standard cast iron C-clamp for each yoke or trunion, unless otherwise noted.
    - e. Safety cables installed to fixture yoke.
  - 2. Each fixture yoke shall be provided with a black wire rope safety cable with eye and snap hook affixed with compression fittings.
    - a. Provide one for each fixture
    - b. Provide spares.

## 2.5 ACCESSORIES

- A. Provide quantities for all accessories as specified in 116193-A equipment list.
- B. Provide the following fixture accessories:
  - 1. Pattern holders
    - a. Provide Standard A-size pattern holders for Source 4 ERS.
    - b. Provide Standard A-size glass pattern holders for Source 4 ERS.
  - 2. Half and Top Hats
    - a. Provide standard & half stacking top hats for Source 4 ERS and Source 4 PAR
    - b. Provide City Theatrical "Stackers" or equal.
  - 3. Gel frames
    - a. Provide metal gel frames with gel fastener holes of the appropriate size for each fixture, plus spares.
  - 4. Barn Doors
    - a. Provide 6-leaf Barn Doors for Source 4 PAR
  - 5. Side arms

- a. Provide 18" long side arms of ½" steel pipe with one sliding "T" each by Altman lighting.

C. Lighting Boom Pipe Assemblies

1. Lighting boom pipe assemblies shall be constructed of 1 1/2" nominal, schedule 40 black pipe (1.9" Outside Diameter) threaded and mounted vertically to a boom base.
2. Provide 10'-6" vertical pipe sections with threaded cap and rated 1" diameter minimum rated eye bolt for tie off to structure above.
  - a. All edges shall be de-burred
  - b. Pipe shall be finished with a suitable black, rust resistant finish.
  - c. Pipes shall be threaded on the bottom and top.
3. Provide (8) side arms, as specified above, per assembly
4. Boom Bases
  - a. Provide 50# boom base by SSRC or equal.
  - b. Base shall have center threaded socket to accept 1 ½" schedule 40 pipe.
  - c. Bases shall have holes for secure attachment to floor and hand hold for lifting
  - d. Bases shall be square fabricated from heavy gauge hot rolled steel welded construction painted matte black.
  - e. Provide rolling dolly to hold all boom bases SSRC boom base cart or equal

D. Par Lens Cart

1. Provide one restaurant grade and type molded plastic polymer and castered specialty cart formed for 8" diameter dishes.
  - a. Capacity of "dishes" and carts as applicable for the quantity of Par lenses specified herein, minus one per fixture.
  - b. Maximum Dimensions each cart: 32" x 24" x 24"
  - c. Maximum dish size: 8.25"
  - d. Four 5" diameter neoprene swivel casters: 2 standard and 2 with brakes
  - e. Provide with vinyl dust cover
  - f. Two handed "dish" access
2. Acceptable product:
  - a. Intermetro (PCD8) Polymer Poker Chip Dish Dolly
  - b. Or equal

E. Tools

1. Provide the following tools:
  - a. Provide Stage pin tester by Gam, or equal
  - b. Provide Swisson DMX tester, or equal
  - c. Provide paper cutter for Gel. cutter shall be capable of cutting a full sheet width.
  - d. Provide (6) 8" crescent wrenches

2. Provide tool bag
  - a. Tool bag shall be fabric tool bag or equal and shall have compartments to store all of the above tools except for the paper cutter.

## 2.6 CABLE

- A. Provide cable in quantities, lengths, and types as shown on 11-61-91-A equipment list.
- B. Labeling:
  1. Provide each cables with four 3" clear shrink wrap pieces: Two shrink wrap pieces shall be installed on cables but left unshrunk, for User labeling.
  2. One shrink wrap piece shall be shrunk over machine printed length label.
  3. All cable shall have black tie line "installed" on each cable for tying each individual coil of cable.
- C. 20A rated stage extension cable
  1. All 2P&G connectors of the same manufacturer as those on the fixtures. Connectors shall provide clamping strain relief that tightly engages the cable jacket. Visible leads shall not be acceptable. Connectors shall have a Clear Cover.
  2. Strain relief mechanism shall be fully engaged.
  3. Cable shall be of neoprene covered, black, heavy duty SO, SOW or better three-wire 12/3 cable. Internal wiring shall be sized to circuit ampacity and shall be rated at 125°C.
- D. Adaptors
  1. Provide two (2) 18" long NEMA L5-20R to 2P&G Stage Pin Male Adaptors.
- E. Control cabling
  1. Cable assemblies shall be heavy touring grade TMB ProPlex cable or similar.
- F. Orchestra stand lighting multiple receptacle extension cord
  1. Provide two (2) PowerFLEX E-String. E-String shall be 12 AWG, (6) receptacles; 23'-4"; Black, NEMA 5-15 outlets on 4'-8" centers. Lex #50116BA

## 2.7 100A PORTABLE DISTRIBUTION BOXES

- A. Provide cable in quantities, lengths, and types as shown on 11-61-93-A equipment list.
- B. Provide portable "distro-boxes" for the distribution of the 100A 3-phase 120/208VAC company switch power outlets into various types of output power.
  1. Devices shall include 6' main SOW or SOOW pigtail with strain relief and safety interlocking connector that mates with the 100A pin and sleeve company switch as listed under Div. 26 IEC 60309 Pin and Sleeve connector.
  2. Provide input main breaker.
  3. Outputs shall mate with connectors required for devices such as 3-phase chain hoists and lighting effects (not used concurrently).
  4. Connectors shall be distributed across the phases and color coded, shall include:
    - a. (6) NEMA straight blade, 5-20, 20A, single Phase
    - b. (6) NEMA locking, L6-20, 20A, Single Phase

- c. (4) NEMA locking, L21-20, 20A Three Phase
  - d. (1) NEMA Straight Blade, 14-50, 50A, Single Phase
  - e. (4) NEMA Locking, L16-20, 20A, Three Phase
  - f. (1) California Style, 50A Single Phase
  - g. (1) California Style, 50A Three Phase
  - h. (1) Cam Type, 16 Series, 100A, Three Phase
5. Verify maximum allowable amperage capacity with Manufacturer
  6. Distro-box shall include carrying handles and very heavy duty swivel casters.
  7. Individual connectors shall be provided with spring covers and breakers protected by an overall flip lid hinged cover.
  8. Dimensions shall be 22" x 17" x 18"
  9. Acceptable products shall be by Lex Products A50 power station Jr, part number PH100H1-M7T-81AJ6CC1CS6DE4DN1DW1DX4DZ-SUB, or equal.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Deliver fixture "ready to hang" as described above and place on stage floor or storage room on ground floor as directed by Owner. Setup and install followspots in followspot booth.
- B. Provide bill of materials for Owner to check when receiving equipment.
- C. Training
  1. Training shall include, but not be limited to:
    - a. Safety precautions.
    - b. Identification of all elements provided under this section.
    - c. Maintenance, diagnostics and trouble shooting.
    - d. Control operation training of the fixtures.
    - e. Operations and maintenance manual orientation.
    - f. Care of equipment
    - g. Use of RDM features on LED fixtures.
    - h. Operations of follow spots.
  2. Provide 4 hours of training, minimum.

#### **3.2 APPENDIX**

- A. 11-61-93-B: Lighting Fixtures and Equipment

**Federal Way PAEC  
Production Lighting Fixtures FF&E  
11-61-93-A Appendix B  
Notes: "A/R" = As Required**

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
<b>Production Lighting Fixtures</b>					
1CF	Ellipsoidal Spotlight, 14 degree	ETC	414	14	
2CF	Ellipsoidal Spotlight, 19 degree	ETC	419	14	
3CF	Ellipsoidal Spotlight, 26 degree	ETC	426	30	
4CF	Ellipsoidal Spotlight, 36 degree	ETC	436	26	
5CF	Ellipsoidal Spotlight, 50 degree	ETC	450	8	
6CF	PAR Fixtures	ETC	PAR-EA	26	With 4 standard lenses
7CF	Source4 LED COLORSOURCE CYC	ETC	COLORSOURCE	10	With Cyc adapter
<b>Components &amp; Spares</b>					
1SP	HPL Lamp, 575W, 2000 hr lamp (S4 & PAR)	Os./Sylvania, GE	Contractor	A/R	1.5 x number of fixtures
2SP	Stage Pin Connector	Contractor	Contractor	A/R	1.1 x number of fixtures
3SP	C-Clamp	Contractor	Contractor	A/R	1.1 x number of fixtures
4SP	Safety Cable, Black	Contractor	Contractor	A/R	1.5 x number of fixtures
5SP	Gel Frames, Source 4 ERS	Contractor	Contractor	A/R	1.5 x number of fixtures
6SP	Gel Frames, Source 4 PAR	Contractor	Contractor	A/R	1.5 x number of fixtures
<b>Accessories</b>					
1ACC	Top hat, Source 4 ERS	Contractor	Contractor	20	Stackable
2ACC	Half Hats, Source 4 ERS	Contractor	Contractor	20	Stackable
3ACC	Pattern Holders, A size, Source 4 ERS	Contractor	Contractor	20	For Standard Patterns
4ACC	Pattern Holders, Glass, Source 4 ERS	Contractor	Contractor	5	For Effects patterns
5ACC	Barn Door, Source 4 PAR	Contractor	Contractor	16	6 leaf barndoor
6ACC	Sidelight Boom Assemblies	Contractor	Contractor	8	see specs
<b>Cables</b>					
1C	Powercon to Powercon Cable, 5 feet	Contractor	Contractor	15	Cable for CYC Fixtures
2C	2P&G stage pin to Powercon cable 5 feet	Contractor	Contractor	2	Cable for CYC Fixtures
3C	5-pin DMX Cable, 5 feet	TMB	ProPlex	15	Cable for DMX
4C	5-pin DMX Cable, 10 feet	TMB	ProPlex	10	Cable for DMX
5C	5-pin DMX Cable, 25 feet	TMB	ProPlex	5	Cable for DMX
6C	5-pin DMX Cable, 50 feet	TMB	ProPlex	5	Cable for DMX
7C	5-pin DMX Cable, 100 feet	TMB	ProPlex	2	Cable for DMX
8C	E-String stand light cord with 2P&G adapters	LEX	see spec	2	per spec
<b>Equipment/ Tools</b>					
1EQ	Lens Cart	Intermetro	PCD8	1	
2EQ	Ghostlight	Altman	GHOST-LIGHT	1	with LED 20watt 3000k bulb



**Federal Way PAEC**  
**Production Lighting Fixtures FF&E**  
**11-61-93-A Appendix B**  
**Notes: "A/R" = As Required**

REF	DESCRIPTION	MFR	MODEL	QTY	NOTES
	<b>Alternates</b>				
ALT4	Followspot	Robert Juliat	Super Korrigan 1149C	1	with two lamps per fixture and stand
ALT1	Source4 LED COLORSOURCE CYC	ETC	COLORSOURCE	5	With Cyc adapter
ALT2	Source4 LED Lustr Cyc Lights with cyc adapter	ETC	Lustr Series 2	15	Swap out cyc lights in base package
ALT3	Followspot	Robert Juliat	Super Korrigan 1149C	1	with two lamps per fixture and stand
ALT5	Fresnels	ETC	Source 4	12	
ALT6	100A Portable Distro Panel	LEX	Power House Series	1	Configure per specification
ALT7	Stage Pin Tester	GAM	Gam Check	1	
ALT8	DMX Generator	Swisson	X-MT-120	1	
ALT9	Hand tools as described in Specifications.	Contractor	Contractor	A/R	
ALT10	Tool bag for Tools	Workpro	A/R	1	Zipper top wide mouth storage bag
ALT11	Paper cutter for Gel	Contractor	Contractor	1	See spec
					<b>TOTAL COST</b>
	<b>DATE OF INSTALLATION</b>				