SECTION 26 55 61 – THEATRICAL SYSTEMS

The scope of the Theatrical Systems Renovation of the Massari can be broken up into four sub-scopes:

A. General Renovation Contractor [Referred to as GC]

B. Theatrical Lighting Integrator [Referred to as TLI]

C. Theatrical Audio/Video Integrator [Referred to as TAVI]

D. Theatrical Rigging & Drapery [Referred to as TRDI]

E. Stock Equipment and Expendables [Add Alternates]

PART 1 - GENERAL RENOVATION

1.1. Preparation of the space

A. Installation of ram-board and tarps over seating area and carpets.

B. Any additional precautions to prevent unwanted damage to facility, as directed by TSJC.

1.2. Conduit installation/modifications

A. Modification to existing conduit to accommodate design.

B. Installation of additional conduit to accommodate design.

1.3. Replacement of stage floor* [ADD ALTERNATE #2, OUTSIDE OF BASE BID SCOPE.]

A. Sanding down of existing wooden stage floor

B. Install one layer of masonite-type particle board as specified in drawing package.

C. Painting and clear-coating of floor with **Rosco Off-Broadway Black 5352** and **Rosco Clear Gloss Glaze 5580**. Painting of stage shall take place close to the end of the installation process so as to prevent undue wear-and-tear from construction work.

1.4. Installation of Stage ~~Rack~~ Boxes

A. ~~**Furnish and install** 18U swinging equipment rack on wall backstage right in position to be determined. Rack shall be Middle Atlantic DWR-18-22PD or comparable.~~

B. Installation of power (two 20-amp circuits) and conduit to this location.

C. Installation of two 4-gang boxes with wall plates with D-series panel mount holes such as Redco WPL-404C. Labeling shall reflect TS-111

D. Installation of project box such as Hammond CHKO12126 and DIN rail inside it.

E. All conduit necessary to connect the aforementioned boxes to each other and to theatrical systems.

1.5. ~~Fabrication & installation of Projector Platform~~ Installation of projector mount

A. ~~Fabrication of a platform on which the projector will be installed. Platform will consist of painted wood attached to strut frame that is attached to Front of House Catwalk structure as depicted in drawing package. Paint color shall match existing structure.~~ Supply and install projector mount to SEC specifications.

1.6. Installation of Architectural Lighting in theatre.

A. ~~Current fixtures and cabling shall be removed and discarded per Division 26.~~

B. Core equipment from ETC shall be provided by the TLI, and installed by the GC. See 2.3.

C. Additional equipment including but **not** limited to conduit, junction boxes, face plates, etc. shall be provided by the GC.

D. Primary point of reference for this scope shall be drawings from SEC.

E. Installer shall work in conjunction with TLI to commission the system after install.

F. System shall conform to that shown in drawing package and in supplementary Lightwright paperwork. Substitutions to specified equipment may be made if Designer agrees recommended substitute meets or exceeds the functionality and build quality of specified fixture(s). A demonstration may be required to prove such equivalency.

1. All fixtures and accessories shall be black, unless otherwise noted.

2. ~~All ArcSystem fixtures shall be configured with Fade to Warm and DMX/RDM.~~

3. Some fixtures shall be configured and wired as emergency lights per E- drawings.

4. ~~Control box shall be mounted to the wall in the Control Booth. It shall be an ETC Unison ERn2 Wall Enclosure with P-ACP Paradigm Control Processor and P-SPM-E Paradigm Station Power Module, with attached Unison BatteryPack.~~ Control equipment shall be mounted as shown on TS-113, next to Panel B in the control booth. Four ETC Foundry Forward-Phase 600W Dimmers, and one ETC Foundry Relay, inside five ETC Unison 4” back boxes with voltage separators. One ETC SC1008 Branch Circuit Emergency Lighting Transfer Switch. One Echo DMX Scene Controller (backstage right).

5. Distributed control shall be ~~three ETC Unison Heritage 10-Button Preset Panels~~ three Unison Echo Inspire 8-button preset panels (black), located at entry points specified in drawing package. One Unison Echo Inspire 8-button preset panel and Unison Echo Keyswitch panel ~~One ETC Unison Heritage 5-Button + Keyswitch Panel~~ (black) shall be in the Control Room, configured to lock out all other stations in performance conditions.

6. ~~Four ETC ArcSystem Pro 2-Cell fixtures shall be installed in the AP for stage work light. These fixtures may be powered by one of the three circuits on the raceway, fed from the backstage dimmer rack.~~

7. ~~Four ETC ArcSystem Pro 1-Cell Recessed Adjustable fixtures shall be mounted into the cloud above the thrust/pit, paired with four ArcSystem D1 Drivers.~~

8. ~~Eighteen ETC ArcSystem Pro 4-Cell Pendant fixtures shall be installed to replace current pendant lighting. Some fixtures specified as emergency lighting, per SEC drawings.~~

9. ~~ArcSystem fixtures shall receive DMX over CAT6 per drawing package.~~

10. Replacement of existing high bay fixtures with flush-mount LTC-3RDW. Reconfigure wiring of these fixtures per TS-108, TS-113.

11. Replacement of bulbs in existing house lighting pendants with 3000K 80CRI Canto RETRO Passive 500 with 26-degree reflectors and E11 bases.

12. Replacement of bulbs in existing recessed house lighting with 3000K 80CRI Canto RETRO Classic 150 Short with 28-degree reflectors and E11 bases.

G. TLI shall provide all low-voltage control wire terminations for DMX and EchoConnect.

1.7. Installation of ETC Echo Relay Panel with 24 single-pole relays ~~ETC SR3-24 48-channel with ThruPower Modules~~ following removal of legacy rack.

1.8. Refresh of space at end of construction

A. Touch up paint where necessary.

B. Clean areas within construction scope.

C. Removal of tarps and boards installed per I.1.A.

D. ~~Cleaning of carpets in audience seating area.~~

1.9. Changes or adjustments to this scope of work may be made, subject to a change order.

PART 2 - THEATRICAL LIGHTING

2.1. GENERAL PRACTICE

A. All work shall be done in compliance with any applicable ESTA and ANSI standards.

B. Fixtures shall have NEMA 5-15 electrical connectors when connecting to system power.

C. Fixtures may connect together using Neutrik powerCON connectors, however use of provided PowerCON to Edison power cable shall be preferred where possible..

D. All power cabling shall be 12/3 SO or better. ETC'S DPA-A, supplied with fixtures, is acceptable.

E. Cabling shall be tied up cleanly with any excess slack coiled at the fixture. Only permanent cabling shall be secured with zip-ties. All reconfigurable cabling shall be secured with tie-line.

F. DMX cabling shall be Belden 9729 or comparable, and shall use 5-pin XLR-type connectors.

G. CAT6 cabling shall be shielded Belden 7860 or comparable performance. When sharing raceway with power, shall have suitable voltage rating per NEC.

H. All cables outside of conduit shall be black.

I. All cable and wall port connections shall be clearly labeled and/or color coded.

J. All fixtures shall utilize ETC C-Clamps for primary attachment.

K. All fixtures shall have a secondary means of attachment such as a safety cable.

L. All fixtures shall be provided with color frames.

M. All network based devices shall utilize static IP configuration.

N. All fixtures must have a black finish unless otherwise specified.

O. Data cables, including CAT and DMX, may run outside of conduit where permitted by code. Cables run outside conduit must be secured and dressed cleanly.

2.2. REMOVAL OF LEGACY LIGHTING FIXTURES

A. All currently installed fixtures shall be removed.

B. Existing Source 4 fixtures and 6-inch fresnels shall be ~~cleaned, have their reflectors replaced, and be returned for service and~~ incorporated in new system.

C. Many existing fixtures shall be disposed of except where specified by Designer and TSJC.

2.3. SUPPLY OF NEW DIMMER RACK AND ARCHITECTURAL LIGHTING COMPONENTS FOR INSTALL BY GC.

A. ~~Rack shall be ETC SR3-24 48-channel with ThruPower Modules.~~

B. ~~ETC Paradigm Control System~~

1. ~~One Unison ERn2 Wall Mount Enclosure with P-ACP and P-SPM-E modules.~~
2. ~~One Unison BatteryPack.~~
3. ~~Three Unison 10-button Preset Panels.~~
4. ~~One Unison 5-button + Keyswitch Panel.~~

C. ~~Architectural Fixtures, all with fade to warm and DMX-RDM configuration.~~

1. ~~Twelve ArcSystem Pro Four Cell Pendants.~~
2. ~~Four ArcSystem Pro Four Cell Pendants (Emergency).~~
3. ~~Four ArcSystem Pro Two Cell.~~
4. ~~Four ArcSystem Pro One Cell Recessed with D1 Drivers.~~

D. Theatrical lighting power control shall be ETC Echo Relay Panel Feedthrough with 24 single-pole relays (ERP24-FT241P)

E. House Lighting Control System

1. Four ETC Foundry Forward-Phase 600W Dimmers
2. One ETC Foundry Relay.
3. Five ETC Unison 4” back box with voltage separator.
4. One ETC SC1008 Branch Circuit Emergency Lighting Transfer Switch.
5. Four Unison Echo Inspire 8-button preset panels.
6. One Unison Echo Keyswitch panel.

7. One Echo DMX Scene Controller

F. TLI shall provide all low-voltage control wire terminations for DMX and EchoConnect.

2.4. INSTALLATION OF NEW THEATRICAL LIGHTING SYSTEM

A. New lighting fixtures shall be purchased, installed, circuited, and focused by TLI. Designer will direct focusing and programming.

B. System shall conform to drawing package and supplementary Lightwright paperwork. Substitutions to specified equipment may be made if Designer agrees recommended substitute meets or exceeds the functionality and build quality of specified fixture(s). A demonstration may be required to prove such equivalency.

1. ~~Five ETC Source 4 PAR fixtures with VNSP Lenses installed. Five lenses of each of the following types shall also be provided for stock: NSP, MFL, WFL.~~

2. ~~Nineteen~~ Fifteen ColorSource PAR Deep Blue fixtures. Fifteen shall have Narrow Round lenses,~~ four shall have a combination of Narrow Oval lenses and Medium Oval lenses, to be determined at focus. Must have both available at focus.~~

3. Eight ColorSource Spot Deep Blue fixtures with no lens tube shall be provided. These fixtures will be installed with existing 19-degree lens tubes from current Source 4 inventory.

4. Five ColorSource Spot Deep Blue fixtures with 26-degree lens tubes. †

5. Five ColorSource Spot Deep Blue fixtures with 36-degree lens tubes. †

† Eight of the ten fixtures listed above (Section 2.4.4, 2.4.5), shall be ordered with light engine and lens tube only, and utilize shutter assemblies from existing TSJC stock.

6. ~~Three ColorSource Spot Deep Blue fixtures with 15-30-degree zoom lenses.~~

7. ~~Two Elation Fuze Wash z120~~ ~~Four Vari-Lite VL800 EVENTWASH fixtures, hung below pipe-level at 18' trim using appropriate clamps, pipe, and/or strut~~ ~~using The Light Source Mega-Drop Down 12".~~

8. ~~Seven Source 4 fixtures with 36-degree lens tubes.~~

9. ~~Eleven 36-degree lens tubes shall be provided and installed with existing Source 4 inventory.~~

10. ~~Six ColorSource Linear 4 Deep Blue fixtures with Wide Linear Vertical lenses.~~

11. Three ~~Twenty-four~~ Source 4 A-size Gobo holders installed in existing 19-degree fixtures.

12. ~~Four ETC ColorSource PAR 4-Leaf Barn Doors.~~

13. Two Tripp Lite SMART1500LCD UPS Batteries.

14. TLI shall provide all necessary cabling and accessories to install these items.

15. One 6-channel Leprecon ULD-360 High Power 2-15 Amp dimmer pack to power the five front of house fresnels.

16. Three sets of 8-leaf barn-doors for the TSJC-provided fresnels.

17. Fourteen ColorSource Spot Jr. Deep Blue fixtures with gobo holders and gobos per Lightwright.

18. Eight Chauvet Professional Ovation FC-1 ~~ColorSource Cyc Deep Blue~~ fixtures.

19. Two Altman LED Work Light fixtures shall be installed in the AP for stage work light.

C. All gel and gobos specified in the supplementary Lightwright documentation shall be provided by the TLI and installed during focus. When a fixture is specified with two colors of gel and/or diffusion, each color shall be installed in a separate frame.

D. All appropriate power and data cabling will be installed in accordance with industry standards. Non-dimmed fixtures that use the same power source may be daisy-chained using powerCON cables, however use of provided PowerCON to Edison power cable shall be preferred where possible. The eight Cyc fixtures shall be daisy-chained with PowerCON thru cables, with the source coming from a circuit of the 4th Electric.

E. Data shall be distributed to system as specified in drawing package using ETC Response Mk2 Gateways, ~~ETC ColorSource Wireless DMX Transmitters and Receivers,~~ Cisco SG350-10P Ethernet Switches, ~~and one Cisco WAP571~~. ~~Integrator shall confirm the functionality of wireless DMX devices by means of local wireless spectrum analysis. Should such testing serve to discourage the use of wireless data distribution, additional ETC Response Mk2 Gateways shall be used instead.~~ **TLI shall furnish and install all network cables indicated on TS-108, with the exception of CAT6 connecting network switch in booth rack to network switch in stage rack. All network cables shall run thru conduit wherever possible.**

F. TLI shall install the following TSJC provided equipment (in addition to the Source 4's specified in 2.4).

1. Two Lycian 1206 Followspots.

2. ETC Gio @5 Console w/ Dell P2418HT touchscreen.

3. TLI shall provide all necessary cabling and accessories to install these items.

4. Three 6-inch 500 watt fresnels.

G. All fixtures shall be patched into the Gio console and confirmed to be working prior to focus.

H. Designer shall be present for focus call, and TLI shall provide sufficient labor to execute focus of entire system in no more than 2 working days. Note that scheduling this will require coordination with other contractors to ensure space is ready for focus (stage is clear and painted, system is functioning properly, etc.). Expectation shall be that Designer is on stage calling focus and TLI provides crew to focus lights and operate the console (operation using wifi remotes is acceptable).

I. Lightwright and Vectorworks files shall be provided upon awarding of contract.

2.5. INTEGRATION WITH ARCHITECTURAL LIGHTING SYSTEM.

A. Theatrical lighting system shall be connected to the architectural lighting system as specified in the drawing package.

B. TLI shall program ten presets and a lockout into the architectural system as directed by Designer.

2.6. FURNISH, ORGANIZE, **AND INSTALL** STOCK EQUIPMENT. ALL CABLES, ADAPTORS, ETC. SHALL BE BLACK.* [ADD ALTERNATE #3, OUTSIDE OF BASE BID SCOPE.]

A. Two storage road cases approximately 42x20x19.5 with dividers.

1. First case:

    1. Four 50-foot 12/3 Edison cables
    2. Eight 25-foot 12/3 Edison cables

2. Second case:

    1. Twelve Edison power strips
    2. Twelve Edison triple taps
    3. Leftover powerCON and Edison to powerCON cables from install
    4. Four 25-foot 5-pin DMX cables
    5. Eight 10-foot DMX cables

B. One black locking metal storage cabinet approximately 36x18x72 with 4 shelves; Global Industrial #T9F237635BK or similar.

1. One roll of Black Wrap
2. Two rolls of Black Tak
3. Two rolls of glow tape
4. Sixteen rolls of spike tape (assorted colors)
5. Two rolls of white 1” console (paper) tape
6. ~~Six 750W HPL lamps~~
7. Two 1000W FEL lamps
8. Three 5-pin DMX terminators
9. Two M/F 3 to 5-pin DMX adaptors
10. Two M/F 5 to 3-pin DMX adaptors
11. Four rolls of 2” white gaff tape
12. Six rolls of 2” black gaff tape
13. Two rolls of 4” black gaff tape
14. Eight 8-1/4 x 18 x 9 black storage bins Global Industrial #T9F550123BK or similar
15. Ten 5-1/2 x 14-3/4 x 5 black storage bins Global Industrial #T9F269689BK or similar

C. Other items

1. One 600-foot roll of tie line

2. Twelve black 25-pound sandbags

2.7. LIGHTING SYSTEM SHALL BE CONSIDERED FULLY OPERATIONAL AND COMPLETE WHEN TURNED OVER TO TSJC.

2.8. TRAINING ON USE OF EQUIPMENT WILL BE PROVIDED.

2.9. CHANGES OR ADJUSTMENTS TO THIS SCOPE OF WORK MAY BE MADE, SUBJECT TO A CHANGE ORDER.

PART 3 - THEATRICAL AUDIO/VIDEO

3.1. GENERAL PRACTICE

A. All work shall be done in compliance with any applicable ESTA and ANSI standards.

B. Cabling shall be tied up cleanly with any excess slack coiled at the speaker.

C. CAT6 cabling shall be shielded Belden 7860 or comparable performance. When sharing raceway with power, shall have suitable voltage rating per NEC.

D. All cables not installed in conduits shall be black.

E. All cable and wall port connections shall be clearly labeled and/or color coded.

F. All suspended equipment shall have a secondary means of attachment such as a safety cable.

G. All network based devices shall utilize static IP configuration.

3.2. Wireless spectrum analysis shall be conducted to assure the wireless equipment specified below will function adequately in the space. If analysis determines such equipment will not function as designed, a report on clear frequencies shall be delivered to Designer for consideration.

3.3. REMOVAL OF LEGACY AUDIO EQUIPMENT

A. All currently installed speakers, consoles, amplifiers, etc. shall be removed.

B. Majority of existing equipment shall be disposed of except where specified by Designer and TSJC. Some speakers shall be kept as spare equipment.

C. ~~All existing low-voltage signal wiring shall be removed from conduits and disposed of. This includes all microphone cable and intercom wiring.~~ Intercom wiring shall be left in place for future use or reused in case of Alternate #7.

D. Existing audio snake shall be removed from conduit, making room for network cabling.

3.4. INSTALLATION OF NETWORK INFRASTRUCTURE

A. Array of shielded CAT6/CAT5E cables shall be installed as specified in drawing package.

B. Main network backbone cables shall be run through existing audio snake conduit. ~~Cables shall run through existing conduit wherever possible. Current conduit runs for the audio snake may be ideal for this use.~~

C. CAT6/CAT5E shall be installed early in project timeline to facilitate install of equipment.

D. Proper tests shall be performed on cabling once installed to assure integrity.

E. **TAVI shall furnish and install all network cables indicated in TS-110 with the exception of CAT5e cables connecting to VLAN 1 of the booth and stage rack switches. All network cables shall run thru conduit wherever possible.**

3.5. INSTALLATION OF NEW PRIMARY AUDIO SYSTEM

A. New equipment shall be purchased, installed, connected, programmed, and tuned by TAVI. Designer will approve final tuning.

B. System shall conform to drawing package. Substitutions to specified equipment may be made if Designer agrees recommended substitute meets or exceeds the functionality and build quality of specified equipment. A demonstration may be required to prove such equivalency.

1. One QSC NS-1108P network switch.
2. One QSC TSC-55w-G2-BK touch panel controller.
3. ~~One~~ Two QSC GXD 8 ~~CX-Q 2K4~~ amplifiers.
4. ~~One QSC CX-Q 4K4 amplifier.~~
5. ~~Three EAW JF29~~ Two QSC E112 speakers. Two shall be mounted on a focus-able wall mount, allowing for pan and tilt. ~~and one shall be hung from a pipe using appropriate rated hardware.~~
6. Two QSC E118SW 18 inch ~~EAW SB180z~~ subwoofers.
7. ~~Four 25-foot Male 1/4" to Male NL4 cables.~~
8. One Furman M-8DX power conditioner.
9. Two Furman CN-20MP ~~M-8S~~ power sequencers. These units shall be connected to start up in sequence via control signal from Q-Sys.
10. Two Shure SLXD24D/SM58 microphone sets (for a total of four wireless microphones). These shall be installed with Shure UA844 Antenna Splitter and paddle-type antennae. Microphones shall be stored in Gator Microphone Drawer 2U-GRW-DRWWRLSS or similar. [THIS SHALL BE CONSIDERED ADD ALTERNATE #5, OUTSIDE OF BASE BID SCOPE.]
11. One Yamaha TF3 [TSJC provided].
12. ~~One Cisco WAP571.~~
13. One Yamaha Tio 1608-D [TSJC provided].
14. One Apple iMac ~~w/ Q-Lab~~ [TSJC provided].

15. ~~One Q-Lab Pro Audio license installed on iMac.~~

16. One QSC Q-SYS Core 110f DSP with Dante, scripting, UI licensing [TSJC provided].

17. All rack accessories specified in drawing package including spacers, shelves, grommets.

18. Integrator shall provide all necessary cabling and accessories to install these items.

C. TAVI shall program five presets each for Q-Sys, Q-Lab, and TF3 as directed by Designer.

D. Tuning of space shall utilize Smaart acoustic analysis technology or equivalent.

3.6. INSTALLATION OF NEW STAGE MONITORING SYSTEM [ADD ALTERNATE #6, OUTSIDE OF BASE BID SCOPE.]

A. New equipment shall be purchased, installed, connected, programmed, and tuned by TAVI. Designer will approve tuning.

B. System shall conform to drawing package. Substitutions to specified equipment may be made if Designer agrees recommended substitute meets or exceeds the functionality and build quality of specified equipment. A demonstration may be required to prove such equivalency.

1. One Shure SM58 microphone for room monitoring. To be hung in discreet position over stage or house (TBD).

2. One TOA PM-660U (or equivalent) page microphone.

3. Four Bogen WB1EZ speakers installed throughout building per drawings.

4. Wiring for this system shall utilize existing “intercom” conduit system.

5. One QSC SPA2-60 amplifier.

3.7. INSTALLATION OF NEW COMMUNICATION SYSTEM

A. New equipment shall be purchased, installed, connected, programmed by TAVI.

B. System shall conform to drawing package. Substitutions to specified equipment may be made if Designer agrees recommended substitute meets or exceeds the functionality and build quality of specified equipment. A demonstration may be required to prove such equivalency.

1. ~~One Clear-Com CS702 Base Station. Shall connect to 16x16 XLR patchbay via a 6-channel snake.~~

2. ~~Four Clear-Com RS-703 Belt Packs.~~

3. ~~Five Clear-Com CC-300-X4 Headsets.~~

4. ~~Assortment of 3-pin XLR cabling (in addition to cables needed to permanent installation). Twelve each of 5-foot, 10-foot, and 25-foot lengths.~~

5. One Eartec Co UPMX4GS5 system.

C. ~~Array of 3-wire cables shall be installed as specified in drawing package.~~

D. ~~Cables shall run through existing conduit wherever possible. Current conduit runs for the audio snake may be ideal for this use.~~

3.8. INSTALLATION OF NEW ASSISTED LISTENING SYSTEM

A. New equipment shall be purchased, installed, connected, programmed, and tuned by TAVI. Designer will approve tuning.

B. System shall conform to drawing package. Substitutions to specified equipment may be made if Designer agrees recommended substitute meets or exceeds the functionality and build quality of specified equipment. A demonstration may be required to prove such equivalency.

1. One Listen Technologies LS-42-072.

3.9. INSTALLATION OF NEW VIDEO SYSTEM

A. New equipment shall be purchased, installed, connected, programmed, and focused by TAVI. Designer will approve focus.

B. System shall conform to drawing package. Substitutions to specified equipment may be made if Designer agrees recommended substitute meets or exceeds the functionality and build quality of specified equipment. A demonstration may be required to prove such equivalency.

1. One Panasonic PT-RZ120BU w/ ET-DLE170 [TSJC provided].
2. One Tripp Lite P130-000-AUDIO HDMI Extractor.
3. One Tripp Lite B126-1A1 HDMI Extender.

C. TAVI shall program projector control into Q-Sys as directed by Designer.

3.10. FURNISH AND ORGANIZE STOCK EQUIPMENT. ALL CABLES, ADAPTORS, ETC. SHALL BE BLACK.* [ADD ALTERNATE #4, OUTSIDE OF BASE BID SCOPE.]

A. One specialty mic stand road case.

1. Twelve boom style mic stands.

B. Two storage road cases approximately 42x20x19.5 with dividers.

1. First case:
    1. Auxiliary speakers [TSJC Provided]
    2. Four 25-foot NL4 cables
    3. Four NL4 couplers
2. Second case:
    1. Six 25-foot 1/4” audio cables
    2. Twelve 1/4” to 3-pin XLR cables
    3. Twenty-Four 25-foot 3-pin XLR cables

4. Twelve 5-foot Shielded CAT6 cables
5. Six 25-foot Shielded CAT6 cables
6. Two 50-foot Shielded CAT6 cables

C. One music stand dolly (that can hold twelve stands)
   1. Twelve music stands

D. One black locking metal storage cabinet approximately 36x18x72 with 4 shelves; Global Industrial #T9F237635BK or similar.
   1. Four Shure MX202B/C microphones
   2. Two Crown PCC-160 microphones
   3. Four Shure SM57 microphones
   4. Six Shure SM58 microphones
   5. Two Shure SM81 microphones
   6. Two Sennheiser MD421 microphones
   7. Two Whirlwind Director II direct boxes
   8. Two Radial ProD2 direct boxes
   9. Two 1/4” to XLR adaptors
   10. Two 1/8” to XLR stereo cables
   11. One DVI to HMDI adaptor
   12. One VGA to HDMI adaptor
   13. One DisplayPort to HDMI adaptor
   14. One Mini DisplayPort to HDMI adaptor
   15. Twelve Music Stand Lights (Mighty Bright Hammerhead or similar)
   16. Twelve 11x18x10 black storage bins Global Industrial #T9F550119BK or similar
   17. Five 5-1/2 x 14-3/4 x 5 black storage bins Global Industrial #T9F269689BK or similar

3.11. AUDIO/VIDEO SYSTEM SHALL BE CONSIDERED FULLY OPERATIONAL AND COMPLETE WHEN TURNED OVER TO TSJC.

3.12. TRAINING ON USE OF EQUIPMENT WILL BE PROVIDED.

3.13. CHANGES OR ADJUSTMENTS TO THIS SCOPE OF WORK MAY BE MADE, SUBJECT TO A CHANGE ORDER.

PART 4 - THEATRICAL RIGGING & SOFT GOODS (DRAPERY)

4.1. GENERAL PRACTICE

A. All work shall be done in compliance with any applicable ESTA and ANSI standards.

B. All rigging hardware shall be domestic, rated, and stamped/tagged.

C. All overhead rigging shall be within load limits of the structure as determined by Engineer.

D. All soft goods shall be fire retardant and shall have burn samples and certificates.

4.2. MARKING OF WORKING LOAD LIMITS

A. Rigging points shall be clearly and permanently labeled per ANSI 1.4-2-2021. Calculations shall be provided by SEC. TRDI assumes no liability for errors in calculations, and is solely responsible for furnishing and installing the labels.

4.3. REMOVAL OF LEGACY RIGGING AND SOFT GOODS

A. All currently installed drapes shall be removed ~~and discarded~~.

B. Legacy main drape electric winch system shall remain in place.

C. ~~Legacy track, hardware, and accessories shall be removed if in poor condition. These items may be reused in the new design if they conform to the criteria specified by Designer, and are of excellent condition.~~

D. Legacy Schedule 40 hanging pipe shall ~~may~~ be reused provided it remains structurally sound.

E. Existing curtain track and carriers shall be reused.

4.4. INSTALLATION OF NEW RIGGING AND SOFT GOODS

A. New equipment shall be purchased and installed by TRDI.

B. All drapes shall be trimmed to per drawing package, and shall be floor-length. All drapes shall have weight sewn into the bottom (chain or pipe).

C. System shall conform to drawing package. Substitutions to specified equipment may be made if Designer agrees recommended substitute meets or exceeds the functionality and build quality of specified equipment. A demonstration may be required to prove such equivalency.

1. One Bi-Parting Main Traveling Curtain (2-pieces). Curtain shall be constructed of Rose Brand 21 oz Marvel Velour Navy, sewn with 50% fullness via box pleats. Drape halves shall overlap at center stage by twenty-four inches when closed, and span a 42-foot width. Existing track and carriers shall be used, provided they are in adequate condition.

   Drape with Vertical Seams
   Material: Velour 54 in FR 21 oz Marvel Navy, Nap Down 20’0” high x 23’0” wide
   With 50% Added Fullness via box pleats
   Reverse and Repeat, Unlined
   Top: Poly webbing grommets & S-hooks, 3 in. webbing with #3 grommets on 12” centers.
   Bottom: Chain hem lined, 5 in.
   Stage Right: Turnback, half width in.
   Stage Left: Turnback, half width in.

2. One Main Valance, 5-feet high, spanning 42-feet. Curtain shall be constructed of Rose Brand 21 oz Marvel Velour Navy, sewn with 50% fullness via box pleats.

Drape with Vertical Seams
Material: Velour 54 in FR 21 oz Marvel Navy, Nap Down 5'0" high x 42'0" wide
With 50% Added Fullness via box pleats, Unlined
Top: Poly webbing grommets & ties, 3 in. webbing with #3 grommets on 12" centers.
Bottom: Chain hem lined, 5 in.
Stage Right: Flat hem, 2 in.
Stage Left: Flat hem, 2 in.

3. One Bi-Parting Upstage Traveling Curtain (2-pieces). Curtain shall be constructed of Rose Brand 16 oz Princess Velour Black, sewn with 50% fullness via box pleats. Drape halves shall overlap at center stage by twelve inches when closed, and span a 44-foot width. ~~Track shall be ADC 170 or 280 with all necessary hardware and carriers.~~ Traveler shall use existing track. Floor pulley for manual control of drape shall be rigged to off-stage left.

   Drape with Vertical Seams
   Material: Velour 54 in FR 16 oz Princess Black, Nap Down 20'0" high x 23'0" wide
   With 50% Added Fullness via box pleats
   Reverse and Repeat, Unlined
   Top: Poly webbing grommets & S-hooks, 3 in. webbing with #3 grommets on 12" centers.
   Bottom: Chain hem lined, 5 in.
   Stage Right: Turnback, half width in.
   Stage Left: Turnback, half width in.

4. Four Leg Curtains (one pair at 6'-width, one pair at 8'-width). Curtains shall be constructed of Rose Brand 16 oz Princess Velour Black, sewn with 50% fullness via box pleats.

   Drape with Vertical Seams
   Material: Velour 54 in FR 16 oz Princess Black, Nap Down 20'0" high x 6'0"/8'0" wide
   With 50% Added Fullness via box pleats, Unlined
   Top: PP webbing grommets & ties, 3 in. webbing with #3 grommets on 12" centers.
   Bottom: Chain hem lined, 5 in.
   Stage Right: Flat hem, 2 in.
   Stage Left: Flat hem, 2 in.

5. One Border Curtain, 4-feet high, spanning 44-feet. Curtain shall be constructed of Rose Brand 16 oz Princess Velour Black, sewn with 0% Fullness ~~50% fullness via box pleats~~.

   Drape with Vertical Seams
   Material: Velour 54 in FR 16 oz Princess Black, Nap Down 4'0" x 44'0" wide
   With 0% Added Fullness, Unlined
   Top: PP webbing grommets & ties, 3 in. webbing with #3 grommets on 12" centers.
   Bottom: Chain hem lined, 5 in.
   Stage Right: Flat hem, 2 in.
   Stage Left: Flat hem, 2 in.

6. One Border Curtain, 3-feet high, spanning 48-feet. Curtain shall be constructed of Rose Brand 16 oz Princess Velour Black, sewn with 0% Fullness ~~50% fullness via box pleats~~.

   Drape with Vertical Seams
   Material: Velour 54 in FR 16 oz Princess Black, Nap Down 3'0" x 48'0" wide
   With 0% Added Fullness, Unlined
   Top: PP webbing grommets & ties, 3 in. webbing with #3 grommets on 12" centers.
   Bottom: Chain hem lined, 5 in.
   Stage Right: Flat hem, 2 in.

Stage Left: Flat hem, 2 in.

7. One Border Curtain, 3-feet high, spanning 44-feet. Curtain shall be constructed of Rose Brand 16 oz Princess Velour Black, sewn with 0% Fullness ~~50% fullness via box pleats~~.

   Drape with Vertical Seams
   Material: Velour 54 in FR 16 oz Princess Black, Nap Down 3'0" x 48'0" wide
   With 0% Added Fullness, Unlined
   Top: PP webbing grommets & ties, 3 in. webbing with #3 grommets on 12" centers.
   Bottom: Chain hem lined, 5 in.
   Stage Right: Flat hem, 2 in.
   Stage Left: Flat hem, 2 in.

8. Two Tab Curtains for offstage masking. Curtains shall be constructed of Rose Brand 12 oz Black Commando Cloth, sewn with 0% fullness.

   Drape with Vertical Seams
   Material: Commando Cloth 54 in FR 12 oz Light Weight Red Dot Black
   20 feet - 0 inches high x 6 feet - 0 inches wide
   With 0% Added Fullness, Unlined
   Top: PP webbing grommets & ties, 3 in. webbing with #3 grommets on 12 inch centers.
   Bottom: Chain hem lined, 5 in.
   Stage Right: Flat hem, 2 in.
   Stage Left: Flat hem, 2 in.

9. One Cyclorama Curtain. Curtain shall be constructed of Rose Brand White Leno Filled Scrim, sewn with 0% fullness, seamless.

   Seamless Drop with Horizontal Fabric
   Material: Leno Filled Scrim 29 ft-0 in FR White
   20 feet - 0 inches high x 44 feet - 0 inches wide
   With 0% Added Fullness, Unlined
   Top: Jute webbing grommets & ties, with #3 grommets on 12 inch centers.
   Bottom: Pipe pocket w/ skirt (pipe slits), 5 in.
   Stage Right: Flat hem, 2 in.
   Stage Left: Flat hem, 2 in.

10. One Scrim Curtain. Curtain shall be constructed of Rose Brand Black Sharkstooth Scrim, sewn with 0% fullness, seamless. [ADD ALTERNATE #7, OUTSIDE OF BASE BID SCOPE.]

    Seamless Drop with Horizontal Fabric
    Material: Sharkstooth Scrim 25 ft-0 in FR Black
    20 feet - 0 inches high x 44 feet - 0 inches wide
    With 0% Added Fullness, Unlined
    Top: Poly webbing grommets & ties, 3 in. webbing with #3 grommets on 12 inch centers.
    Bottom: Pipe pocket w/ skirt (pipe slits), 5 in.
    Stage Right: Double hem, 2 in.
    Stage Left: Double hem, 2 in.

11. One thirteen-foot schedule 40 iron pipe (OD to match existing sizing) attached to the FOH Catwalk unistrut structure as specified in drawing package.

12. Legacy main curtain motor shall be lubricated and serviced as needed. A machine guard shall be installed to protect from pinch/crush hazards [possible scope for TSJC].

D. TRDI shall complete any corrections necessary to provide a safe and complete rigging system. This includes re-splicing pipes, replacing inappropriate or damaged hardware.

4.5. FURNISH AND ORGANIZE STOCK EQUIPMENT. [ADD ALTERNATE #8, OUTSIDE OF BASE BID SCOPE.]

A. One 65-yard roll of black duvetyn

B. ~~One 72-yard roll of jute webbing~~

4.6. RIGGING & DRAPERY SHALL BE CONSIDERED FULLY OPERATIONAL AND COMPLETE WHEN TURNED OVER TO TSJC.

4.7. TRAINING ON USE OF EQUIPMENT WILL BE PROVIDED.

4.8. CHANGES OR ADJUSTMENTS TO THIS SCOPE OF WORK MAY BE MADE, SUBJECT TO A CHANGE ORDER.

PART 5 - TRAINING AND PASS-OFF

5.1 - TRAINING SHALL BE PROVIDED TO ALL NECESSARY FACULTY, STAFF, AND STUDENTS OF TSJC BY INTEGRATION CONTRACTORS.

A - Training shall accommodate up to ten individuals and shall be structured and thorough, and be tailored to the trainees and their desired uses of equipment.

B - Trainers shall be certified or qualified individuals in subject matter.

C - Training shall be a minimum of eight hours per scope.

D - Training does not necessarily provide certification or licensure in any subject.

E - When possible, contractors shall coordinate with Faculty to show students their work during install.

5.1 - LABELING

A - All systems, cables, and equipment shall be sufficiently labeled so as to facilitate proper troubleshooting.

1 Such labeling includes but is not limited to labeling outlets/plugs by where they are fed, labeling cables or connections, and color coding systems.

B - Network based devices shall have their IP Addresses clearly marked.

C - Devices with names and model numbers clearly visible do not require redundant labels.

D - Labels shall be consistent in terminology and design wherever possible.

5.2 - MANUALS AND DOCUMENTATION

A - At the completion of install, each scope shall have a 3-ring binder containing all spec sheets, manuals, and relevant documentation for installed equipment.

1 Included in this documentation shall be a list of recommended Preventative Maintenance Procedures with instructions and recommended intervals between executions.

B - A secondary copy of all of above documentation shall be delivered as digital PDF files.

C - A full list of part numbers of installed equipment for use in acquiring additional equipment in future expansions or replacements.

D - Integrators will provide any as-built patch information, system adjustments, etc. to Designer.

E - A spreadsheet of all network devices shall be provided for both the lighting and AV networks. Must include device name, device type, MAC address, IP address, physical location, etc.

5.2 - FINAL PASS OFF OF SYSTEMS FROM EACH INTEGRATOR SHALL BE APPROVED AFTER TRAINING AND PROOF-TESTING IS COMPLETED TO THE SATISFACTION OF TSJC, SEC, AND DESIGNER.