

Macon City Auditorium

DRAFT Program Scope Recommendations

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TABLE OF CONTENTS

INTRODUCTION	1
ARCHITECTURAL AND INTERIOR DESIGN	
PUBLIC AND FRONT OF HOUSE RENOVATIONS	
Guest Arrival	2
Guest Orientation and Wayfinding	3
ADA Accessibility	4
Lobby and Auditorium House Lighting	5
Auditorium and Balcony Seating	6
Balcony Aisles and Rails	7
Auditorium Finishes	7
Public Restrooms	9
Lobby Finishes and Equipment	10
STAGE AND PERFORMANCE SUPPORT RENOVATIONS	
Stage Improvements	11
Theatrical Lighting and Rigging	13
BUILDING ENVELOP RENOVATIONS	
Roofing Waterproofing & Insulation	14
Doors, Windows and Guardrails	16
Building Structure	17
Exterior Walls	18
ENTERTAINMENT SYSTEMS	
Performance Lighting and House Lighting Control	20
House PA System	21
Performance Rigging System	23
Stage Draperies	23
MECHANICAL ELECTRICAL PLUMBING & FIRE PROTECTION	
MECHANICAL SYSTEMS	
Heating System	24
Cooling System	24
Cooling Tower System	25
Air Handling Systems	25
Fan Coil Units/Cabinet Heaters	26
DX Split System Fan Coil Units	26

Building Exhaust and Relief Air Systems	27
HVAC Controls System	28
Kitchen Air Systems	28

ELECTRICAL SYSTEMS

Main Service Entrance Switchboard	29
Electrical Distribution System	29
Lighting	30
Emergency Power System	31
Fire Alarm System	31
Telecommunications System	32

PLUMBING AND FIRE PROTECTION SYSTEMS

Domestic Water Heating System	33
Plumbing Fixtures	33
Water Piping System	33
Sanitary Piping System	34
Kitchen Systems	34
Fire Protection System	35

MACON CITY AUDITORIUM PROJECT SCOPE RECOMMENDATIONS

INTRODUCTION

This document includes a series of design narratives describing proposed construction modifications, building systems repairs and improvements for the historic Macon City Auditorium. This document is prepared as the initial stage of professional design services described in Smallwood's response to the Request for Professional Services 19-038-KMB, dated July 11, 2019. The recommendations presented here are based on research by members of the project design team and the following:

- The Facility Audit Report, by Spectra Venue Management, dated June 2016.
- Review of original construction and renovation construction drawings.
- Tours of the building by members of the design team in conjunction with members of the Spectra management team.
- Performance observations conducted on November 9, 2019.
- Meetings and discussions with Spectra staff and City representatives.

Each topic in the document provides a brief description of existing conditions within the building, followed by a series of proposed improvements or modifications relating to that item, followed by a summary of anticipated benefits resulting from the proposed improvements.

Recommendations listed in the following sections are classified into the following headings of criticality and importance:

- LS** Items noted are critical to Life Safety, Health or Work Place Safety of guests and staff.
- CC** Items noted are required to conform with current building or accessibility codes.
- SO** Items noted are required to maintain or restore the soundness of the building structure or exterior building envelop.
- DM** Items noted are required to address deferred maintenance or repair/replacement of defective or obsolete equipment.
- FD** Items noted are required to remedy a functional deficiency of the facility.
- AE** Items noted are recommended to enhance the aesthetic character of the facility.

Project Team

Architectural Design	Smallwood, Reynolds, Stewart, Stewart & Associates, Inc.
Interior Designer	Smallwood, Reynolds, Stewart, Stewart Interiors, Inc.
Structural Engineer	Bennett & Pless
Entertainment Systems	Stage Front
MEP & FP Engineering	NBP Engineers
Lighting Designer	CD+M Lighting

ARCHITECTURAL AND INTERIOR DESIGN

PUBLIC AND FRONT OF HOUSE RENOVATIONS

FD Guest Arrival

Existing Conditions

The main public facility entry for events is primarily by means of three pairs of doors on the east (First Street) side of the building. During our event visit, guests formed a long entry queue on the east terrace between the building and the exterior stair down to First Street. This guest queue extended around the corner to the south and along the south side of the building toward the parking lots to the west. Security screening and ticket scanning operations occurred on the east terrace in front of the entry doors. The east terrace is quite narrow creating a circulation bottleneck, making it difficult for guests to pass one another in order to keep all three entry doors in full operation. During our event visit, security guards at the north pair of doors often were not processing guests, who remained waiting in line on the terrace to the south.

There is no weather protection for security or ticketing operations or for waiting guests. There is no sheltered area to drop off guests with mobility limitations. The will-call window is located inside the building lobby, which requires guests to enter the building in order to pick up their will call tickets, then go back outside to be processed for entry.

Proposed Improvements

The entry sequence should be improved to provide better queuing conditions, a vehicular drop off area and sheltered or enclosed space for security screening and ticket scanning. The will-call ticket window should be relocated to a position with exterior access to allow guests to procure their tickets without entering the building.

We propose to revise the east entry to add a new entry pavilion in the area of the east terrace and exterior staircase along First Street. The revised design will create more generous guest arrival and processing areas. Entry to the pavilion is proposed to be from the south in order to take advantage of the higher sidewalk grade and eliminate stairs while minimizing the need for ramping. We propose to integrate a new will-call office into a new sheltered exterior waiting area that will allow security screenings to occur out of inclement weather.

Benefits

Improving the entry conditions will help guests load into the facility more quickly and will improve the overall guest experience, particularly during inclement weather. Creating an entry pavilion will also give the building entry more visual identity on First Street, the main entry side of the building. Making the building easier and more convenient to visit should improve its reputation in the community and result in increased attendance.

FD **Guest Orientation and Wayfinding**

Existing Conditions

The existing auditorium lobby space is only 10' wide and very long, wrapping the south, east and north sides of the building. During our event visit we noted that the north and south wings of the lobby beyond the doors to the Lower Level stairs were not used by guests since they are so remote from the main entry. The shape of the lobby space is not conducive to the normal functions of assembly, waiting, meeting and greeting others, that are the primary functions of lobbies in performing arts facilities.

Stairs accessing the balcony seating areas, and separate stairs accessing the Lower Level toilet rooms and concessions, are not visible from main lobby entry area. In order to find these important circulation points, it is necessary to walk around corners to either the north or south sides of the building. The narrow dimension of the lobby makes effective signage directing guests to those important circulation points very difficult. During our event visit, a large group of guests formed a queue at the single fixture women's accessible toilet room, south of the entry doors, since the path to reach the gang toilet rooms on the Lower Level was not clear.

Signage directing guests to their seating areas both in the lobby and in the auditorium is very poor to non-existent. Many members of our observation team were asked by guests for assistance in finding their seats or locating support facilities.

Proposed Improvements

The internal circulation upon entry should be improved in order to help guests orient themselves to the building and direct themselves conveniently to their seats, the restrooms and concessions. We propose to use the added entry pavilion, noted in the item above, to help address this functional problem.

Our recommended solution would add a monumental stair within the entry pavilion, providing guests with immediate awareness of and connection to the support facilities on the Lower Level. The entry pavilion would add considerably to the available waiting and meeting space of the existing lobby. We propose to remove the existing building entry doors to combine the existing lobby to the addition, creating a more generous main entry space. We propose that a comprehensive new signage program be included to better identify the existing facilities and that permanent signage be added in the lobby and within the auditorium to direct guest to their seats.

Benefits

Improving guest orientation and understanding of the facility will make them feel more at home in the building and increase their satisfaction and willingness to attend events. Improving signage will help the facility load faster and reduce the work load on FOH staff required to provide direction to guests.

CC **ADA Accessibility**

Existing Conditions

The building is listed on the National Register of Historic Places. This status allows the facility to retain certain conditions that do not comply with requirements of the Americans with Disabilities Act if the building renovations required for compliance are determined by a State Historic Preservation Officer or Advisory Council on Historic Preservation to “threaten or destroy the historic significance of the building or facility”, (ADADG – 202.5). With that said, since the RFP listed Handicapped Accessibility as an expected area of work for the project, we feel that we need to better understand the Owner’s position on questions relating to accessibility.

Following are some of the areas that do not comply with the current act. Accessible seating is available only on the main floor of the Auditorium. No accessible seating is available in the balcony. Wheelchair access is not available to the stage or green room. There is no accessible dressing room. Concession areas on the Lower Level and on the east balcony terrace are not accessible to mobility impaired individuals. During our event visit, concessions were available from mobile service bars set up within the auditorium on the main floor level. Existing accessible toilet stalls are not in compliance with current standards and are not provided in the quantities required. The only entry door available for wheelchair access is at the west end of the south lobby wing. This is not a normal guest entry and is far from the main entry area. This could be considered a violation of the intent of the rule.

Proposed Improvements

We recommend that the facility improve ADA accessibility and compliance for major use areas to the greatest extent practical. With that said, the layout of the existing balcony level would make it impossible to incorporate elevator access to that level without impacting the historical detailing of either the building exterior facades or the auditorium interior. We do believe, however, that the facility can incorporate wheelchair access to the main building entry and to the Lower Level toilets and concession areas without adversely affecting the existing historical elements.

We propose adding a new two stop elevator that would be constructed as part of the entry pavilion improvements noted in the items discussed above. We propose that this elevator be located outside of the main walls of the auditorium and lobby so as not to impact the original structure or historical detailing of those elements. Adding this elevator would allow mobility impaired guests access to all facilities on the Lower Level while maintaining access to improved accessible seating locations on the Main Level. We also recommend incorporating a ramp connecting the entry pavilion to the Lower Level meeting rooms to improve accessibility to those areas.

We recommend adding a wheelchair lift to provide access from the auditorium to the stage. Due to the location and detailing of the green room, we do not believe it will be practical to incorporate accessibility to that room; however, we do recommend studying ways to provide ADA access to one new or reconfigured performer dressing room.

Benefits

Better compliance with the Act is the principal benefit of these changes; however, making the facility usable by a larger and more diverse audience can only be good for audience attendance levels. As the average age of guests attending events at performing arts facilities continues to go up, more and more individuals will be interested in using accessibility equipment, even if they are not wheelchair users.

LS Lobby and Auditorium House Lighting

Existing Conditions

Lighting levels in the auditorium are highly variable and often below levels required for code egress compliance. The lighting in the balcony seating area is particularly poor, with light levels in some areas measured below .5 fc during our event visit. Egress stairs from the balcony to the main lobby level are also poorly lit. Existing aisle lights at the balcony stairs are ineffective and many are not operational. During our event visit, our team witnessed numerous guests using their cell phones to light their ways down the balcony stairs and to their seats.

The current house lighting plan uses fixtures mounted in the underside of a suspended platform in the center of the auditorium, supplemented with fixtures mounted in narrow soffits around the perimeter of the room above a series of arched openings. These lighting locations and the lighting instruments currently used do not provide good distribution to light the floor and balcony seating areas.

Emergency lighting is required for the building. The existing battery powered fixtures are insufficient to adequately light the egress paths in an emergency. Current operations staff indicated that the emergency lights have not been tested in their memory.

Proposed Improvements

It is our recommendation that the current house lighting fixtures be removed and replaced with new LED source fixtures throughout the auditorium and circulation areas. As part of this revision, we recommend removing the suspended platform in the center of the auditorium and replacing it with a fixed theatrical lighting catwalk closer to the stage and lower in elevation. This will provide better theatrical lighting of the stage area. We also recommend adding a series of suspended lighting trusses in a circular pattern around the auditorium at the same elevation as the new catwalk. This will provide a better distribution of light sources above the audience seating areas. A continuous light pipe around the base of the dome ceiling will provide locations for lights serving the rear balcony seating and circulation areas. Depending on the project budget the auditorium lighting trusses could either be motorized to allow service access from the floor level or fixed for service from a scissor lift.

Replacement seat mounted aisle lights or linear stair edge lighting at the balcony aisle stairs will be required. See also our comments concerning auditorium seating that follow. We recommend adding in-grade LED strip lights along the aisles on the main floor level to provide required minimum lighting in the egress path on that

level. We are investigating methods to incorporate aisle marking signage into the proposed aisle lighting strip as a permanent method to denote aisle layout within the auditorium.

A new emergency lighting system is required for the building, please refer to the electrical narrative for more information on that proposed equipment. A new house lighting control system will be required. Please refer to the Entertainment Systems section for additional information regarding that equipment.

Benefits

Revised lighting will provide compliance with current codes and improved normal and emergency egress from the facility. Better distribution of lighting will improve the guest experience and greatly improve the overall appearance of the facility. A new lighting plan will create better opportunities to highlight building architectural features within the auditorium, such as the mural above the proscenium. The mural is currently difficult to see and appreciate due to poor existing lighting.

Modern lighting instruments and controls will reduce lighting energy loads for the facility reducing operating costs. See also the electrical narrative for more information on lighting revisions.

CC Auditorium and Balcony Seating

Existing Conditions

The facility uses loose chair seating on the main floor level for event seating. The current stackable seating being used does not include provisions for interconnecting seats as required by the Life Safety Code. Section 13.7.9.1 of NFPA 101 requires seating for more than 200 persons to be fastened together in groups of not fewer than three chairs. Existing chairs also do not include any provisions for seat numbering.

The balcony includes fixed theater seating with self-raising seats. The row to row spacing is 30", which is tight; however, based on measurements in the field, the existing seating appears to provide the minimum row clearances required by the building code for egress from the facility. The balcony seating appears to be in relatively good condition. Aisle lights are either not functional or inadequate to light the aisle stairs.

Proposed Improvements

We recommend replacing the main floor seating with new stackable loose chairs that interlock, as required by the code, and include seat numbering to help guest identify their seats.

The balcony seating could be replaced; however, we believe the existing balcony seating could provide another 10 years of continued service if refurbished. We recommend reupholstering the seats and backs, repainting the frames, replacing the aisle lights and adjusting any operable mechanisms as required. We believe these

improvements would be an economical solution that will provide good service to the county.

Benefits

Upgrading the seating on the main floor level is necessary to provide a code compliant solution, short of zip tying the chairs together for each performance. Adding seat marking will improve the guest experience and speed up guest load in. Upgrading the seating in the balcony will help to meet egress lighting requirements and improve the aesthetics of the room. Currently the upholstery of the chairs on the floor and in the balcony are not coordinated. This revision will allow the facility to present a more unified and coherent appearance.

CC Balcony Aisles and Rails

Existing Condition

The front edge of the balcony measures 26" high. A steel railing has been installed at the base of aisle stairs at a height of 36". Existing carpet on the aisle stairs is in poor condition. Current carpeting does not include nosing marking required by current codes.

Proposed Improvements

Existing railings are compliant with current codes. Remove and replace existing carpeting with new broadloom carpet incorporating nosing markings as required by code. Remove and replace carpeting at balcony egress staircases.

Benefits

Recommended revisions are necessary to provide a code compliant solution and will improve the appearance of the facility.

AE Auditorium Finishes

Existing Conditions

The main floor level currently has carpeting surrounding a wood floor area that probably once served as a basketball court. The wood floor needs refinishing and the carpet has reached the end of its service life. Transitions between the wood and carpet are in poor condition in many areas.

The majority of wall and ceiling areas are paint finished. The top cap of the balcony rail is stained wood. The balcony level includes acoustic drapes in a series on arched niches. That drape material needs to be replaced. An acoustic wall carpet is installed in the arches behind the curtains in several locations. The existing mural above the proscenium appear to be in good condition. The medium and installation details of the mural could not be determined.

The ceiling of the auditorium includes a series of projecting ribs and recessed coffers in a dome configuration. The ribs were added as part of the 1976 renovations; however, the construction of the coffers was not executed in the manner detailed in the drawings we have for that renovation. Most of the coffers appear to be covered with a fabric material that shows signs of mold or mildew growth. Several areas of the ceiling and some wall areas show evidence of water damage, probably as a result of roof leaks. Further investigation into the materials and construction methods for the ceiling will be required.

Proposed Improvements

A survey of the building should be conducted to determine if any asbestos containing materials are present that need special handling for removal.

We recommend removing the existing carpet and wood flooring and installing new carpet tiles on the main floor level of the auditorium. As noted previously, we recommend that the flooring installation also include recessed LED aisle lighting to provide required egress lighting for performance events. The carpet design could incorporate a pattern that relates to audience seating layout to assist staff with chair set up. Existing stairs will require new broadloom carpet with integral nosing marking.

The art mural above the proscenium should be reviewed by a qualified art conservator to determine if any repairs or cleaning are recommended. The artwork will need to be well protected during construction or, if possible, removed and reinstalled.

We recommend that the ceiling coffer finish materials showing evidence of mold or mildew growth be removed and the substrate cleaned, disinfected and repaired as needed to accept a new paint finish. Damaged wall and ceiling areas should be repaired or replaced as required to address all water damage. Acoustic wall carpeting in the niches should be removed and replaced and new drape materials provided at the balcony archways. All wall and ceiling areas should be patched and repainted.

Refer to the Entertainment Systems narrative for information on recommendation concerning stage draperies.

Benefits

Removing the mildew contaminated ceiling materials is critical to protect the health and welfare of guests and staff.

Removing the wood flooring and installing a new carpet floor throughout the main level will improve the appearance of the facility, particularly for ballroom and convention type events. New finishes throughout the room will improve the guest experience and enhance the desirability of the facility for booking new types of events.

CC **Public Restrooms**

Existing Conditions

Large group toilet rooms are provided on the Lower Level. The existing Women's Restroom contains 18 toilets and 9 lavatories while the existing Men's restroom includes 8 toilets, 10 urinals and 9 lavatories. Both restrooms include dedicated Janitor Closets with mop sinks. Neither of these restrooms include any ADA compliant installations since the area of the Lower Level where they occur is not currently accessible to persons with mobility impairments. A restroom with two toilets and one lavatory is located beside the Small Hall. That restroom is accessible to guests by means of the elevator at the west end of the north lobby.

Two single fixture restrooms are located on the Main Level which are intended to provide accessible services to guests on the main auditorium level. No public toilets are located on the Balcony Level.

Most if not all the existing fixtures and finishes in the restrooms are believed to be from the 1976 facility renovation. Refer to the Plumbing Narrative for additional information regarding recommended upgrades to the existing plumbing fixtures.

Proposed Improvements

We understand the maximum event seating count for the facility to be approximately 2688 guests. We assume this to be the maximum occupancy of the auditorium since ballroom type events would not include guests in the balcony seating areas. The design occupancy of the Lower Level Meeting areas is approximately 400 persons based on an occupancy load of 15 SF/person. This results in a total population to be served by the public restrooms of 3,088 occupants.

To meet the minimum requirements of the International Plumbing Code, the facility will require a total of 13 Men's and 24 Women's toilet facilities (or urinal equivalents) and 8 Men's and Women's lavatories. Of these total fixtures; one toilet and one lavatory will be required to be installed in a Family or assisted-use toilet room; a minimum of one men's and two women's toilet stalls are required to be wheelchair accessible; and a minimum of one men's and one women's toilet will be required to be installed in Ambulatory accessible stalls.

We recommend that performing arts facilities provide toilets in excess of the code minimum requirements due to the high demand for facilities during show intermissions. 1.5 – 2.0 times the code required minimum is the typical quantity range we recommend for fixtures serving this type of venue. In addition, the current design, which locates almost all the required toilets on the Lower Level, invariably results in very long travel distances, lengthy queues at the facilities and long wait times for guests during intermissions. This condition is also at variance with paragraph 2903.3 of the Building Code, which states that "toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities . . .".

We propose that the existing toilets on the Lower Level be redesigned as part of the improved building arrival and wayfinding modifications described previously. The existing toilet rooms on that level would be revised to incorporate accessible stalls and family-use restrooms in compliance with code. To reach an acceptable recommended quantity of fixtures we propose to add men's and women's toilet rooms on the Main Level in a portion of the new construction area.

Benefits

Bringing the toilet facilities into compliance with current codes and providing an adequate quantity of fixtures to meet the needs of your guests will improve the guest experience and improve the reputation of the facility in the community. Combined with the lobby and circulation improvements described previously, these changes should result in better orientation of guests within the building, less time spent searching out facilities and greater enjoyment of the show experience.

AE Lobby Finishes and Equipment

Existing Conditions

The lobby extends around the north, east and south sides of the auditorium. Existing finishes consist of painted plaster walls with painted applied wood trim; painted plaster cross-vaulted ceilings; marble base; terrazzo and stone tile flooring. All lobby finishes are in generally good condition. The lowest flights of the two main stairways extending to the balcony level are finished with marble treads and risers in good condition.

Exterior doors and windows are painted wood with true divided lights and arched fan lights. Interior doors consist of painted paneled doors and solid core doors with circular vision lights at the auditorium entries. Most interior doors and door hardware are in fair to poor condition. The lobby spaces are conditioned by floor mounted cabinet model fan coil units. A drinking fountain is provided near the north stairs to the balcony. A second water fountain appears to have been removed from the south lobby. Lobby lighting is principally by means of incandescent source decorative pendant carriage lanterns.

Proposed Improvements

Lobby walls and ceilings should be repainted throughout. Some minor cracking in terrazzo floors should be repaired. Patch and repair grout at stone flooring and base. Remove all existing directional signage and replace with new signage program integrated with the new overall design direction. Develop exterior designated smoking areas on north auditorium level terrace and on the north balcony terrace for use by employees and guests. Provide appropriate directional signage to smoking areas.

Lobby lighting should be replaced and enhanced. Emergency power for lobby egress fixtures will be required. If the decorative pendant fixtures are determined to be historically significant, the team could investigate reconditioning those fixtures with

new LED sources. Please refer also to the electrical narrative for more information on lighting system recommendations.

Interior doors should be replaced with new doors and new hardware with acoustic seals. Cabinet air conditioning units should be replaced with new service equipment, refer to mechanical narrative for additional information. We recommend that the existing water fountain be replaced with models conforming with current ADA requirements.

Benefits

Upgrades to lobby finishes and lighting will enhance the guest experience and make the facility more desirable as a performance and event destination.

STAGE AND PERFORMANCE SUPPORT RENOVATIONS

FD Stage Improvements

Existing Conditions

The existing depth stage varies from 24' – 28'. Demountable platforms are currently used to extend the stage to meet rider requirements for many road shows. There are no provisions for cable routing from the stage to the control booth in the rear of the balcony and all wiring is currently run on the auditorium floor or suspended from the balcony. The facility does not have a permanent house audio system.

Equipment load-in to the stage currently comes thru the auditorium by way of the southwest lobby door and a removable ramp that is stored backstage on stage-right. An existing service lift connecting the lower level storage areas to the auditorium floor is not operational and the floor doors at the lift are taped closed. Chairs and tables for the auditorium floor are currently carried up and down existing stairs or carried thru the auditorium and around the exterior of the building to a ramp on the west side of the building that leads down to the lower level storage room.

A grid above the stage and stage-right loading gallery were constructed as part of the 1976 renovations and counterweight stage rigging was added at that time. The rigging is currently inoperable and in poor condition. A ladder is used to access the loading galleries, grid and rigging points in the forestage area. That ladder is not compliant with current codes and in need of repair. Two roof mounted smoke hatches are installed above the stage with manual control from the stage level. The proscenium opening is provided with a smoke curtain which would not be required based on current codes. The area above the grid is sprinkler protected and standpipes are provided behind the proscenium wall stage right and left. The facility does not have a dedicated mechanical system serving the stage area. Staff indicate that temperature conditions on stage are often uncomfortable during performances.

Wing space on stage is very limited on both sides with all dressing rooms locate stage right and the Green Room on stage left. Dressing room finishes, fixtures and lighting are in poor condition. Green room finishes are quite ornate and in good condition. Wheelchair access to the Green Room is not possible due to existing stairs.

Theatrical lighting control panels are located stage left. Acoustic and visual separation of the stage from backstage areas is poor to non-existent. The stage does not include provisions for artists to move from one side of the stage to the other out of view of the audience. Access to the stage from the auditorium is by way of a door and stair on house left. Stage Main Drapes are in poor condition and no longer operable.

Proposed Improvements

We recommend constructing a new permanent stage extension to accommodate the performance area dimensional requirements of most show riders. We note that the 1976 drawings included provisions for the construction of this improvement; however, it was not included in the final construction program. This improvement is still valid and should be implemented in the current renovation. We also recommend that the stage extension incorporate a trough at the outer stage edge connected to two 8" cable pass raceways extending from the underside of the stage extension thru the lower level storage area to a floor box below a new control mix position at the rear of the Main Level seating area. This will allow cables from the stage to pass to the control booth without being routed above the floor or overhead as currently done. We recommend adding a dedicated house audio system with new demountable control booth installed on the Main Level. Refer to the Entertainment Systems Narrative for additional information on proposed audio system.

Equipment load-in and movement of goods from the Lower Level to the stage and house is very labor intensive and should be improved. We recommend incorporating a new loading dock on the north west corner of the building served by a scissor lift. This will allow trucks to access the building from Cherry Street and load in by way of a new raised dock at the stage level. Alternately, the lift could be located in the roadway behind the stage and access the stage by way of a new acoustic door thru the rear stage wall.

The existing service elevator should be removed and replaced with a new three-stop lift serving the Lower Level, Main Level Auditorium seating level and the Stage. We recommend that this lift be integrated into the stage extension noted above to allow service access between the three levels. In combination with the proposed loading dock and scissor lift, these modifications should greatly reduce the time required to set up and service performances.

The existing counterweight rigging system is unsafe and should be removed. We propose to replace that system with individual motorized line sets supported from the original rigging beams above the stage. Refer to the Entertainment Systems Narrative for additional information on that equipment. We propose that the existing loading gallery be modified to include new code compliant stairs or ships ladders to access the lighting and rigging positions from the backstage area. See also the following discussion of stage lighting. Please refer to the Mechanical Equipment narrative for discussion of stage area venting and HVAC improvements.

We propose revising the stage-right stair and corridor to incorporate a handicapped access chair lift from the auditorium level to the stage and refurbishing one of the auditorium level dressing rooms to make it ADA compliant. We also recommend replacing the rolling service door stage right with an exit door to handle the egress

requirements on the stage-right side of the stage and backstage areas. We also recommend replacing the main house drapes and stage drapes with new materials. Refer to the Entertainment Systems Narrative for additional information.

Benefits

Constructing a permanent stage extension will make the Auditorium a more desirable location for performances and attract shows that currently can't be accommodated. Integrating a cable management program from the stage to the control booth will improve the appearance of the auditorium, reduce labor cost for setup and break down of events and improve safety. Improving the delivery, load-in and material movement operations at the auditorium will dramatically reduce time and labor costs for events and make the facility a more desirable and profitable performance destination. Modernizing the rigging and performance drapery systems will allow the facility to address a broader range of show rider requests, reduce labor costs and improve the safety of in-house and visiting operations staff.

We believe that the stage improvements proposed will have the potential to raise facility revenue through increases in the volume of show and event dates while simultaneously lowering operating costs and reducing turn over time.

LS Theatrical Lighting and Rigging

Existing Conditions

Theatrical lighting in the existing auditorium is very limited and not well positioned. A central platform suspended below the center of the domed ceiling provides the main lighting position within the auditorium. This platform is limited in width and installed high in the space limiting its ability to cover the full stage. Access to this platform is very difficult, time consuming and potentially dangerous. The lighting platform does not have ready access to toilet facilities for staff members and emergency egress from the platform does not comply with several requirements of the life safety code. This platform also includes most of the house lights for the audience seating areas on the balcony and main floor levels. The technical lighting infrastructure and control systems in the building are based on outdated technology which should be upgraded. Please refer to Electrical and Entertainment System Narratives for additional information on lighting recommendations.

Two follow spots are located on top of the control booth at the rear of the balcony level. This location does not provide adequate fall protection for staff working in that area. If the proposed modifications to the building audio systems are implemented, as described in the Entertainment Systems narrative, the current control booth would be unnecessary and could be removed, allowing audience seating to be added in that area. This would also require finding or constructing new locations for the follow spots.

Rigging in the forestage area is by means of chain hoists anchored to the structural trusses of the dome roof, extending thru the ceiling by means of openings cut into the ceiling in front of the stage. Access to these rigging positions is difficult and

potentially dangerous. As with the lighting platform, egress from the forestage rigging positions does not conform with requirements of the Life Safety Code.

Proposed Improvements

We recommend constructing a new lighting catwalk and forestage rigging positions extending across the proscenium opening with access from code compliant ladders and stairs constructed in the back-stage areas on stage left and right. We propose for this catwalk to be coordinated with the house lighting truss noted previously to create a cohesive ceiling design feature within the auditorium. The new catwalk would be provided with new theatrical lighting infrastructure to support state of the art theatrical dimming control systems for house and road show LED lighting instruments.

Please refer to the Entertainment Systems Narrative for additional information regarding acoustic reflectors above the proscenium area.

Two new followspot platforms are proposed to replace the existing platform removed due to relocation of the control booth on the balcony level. These are proposed to be located in the upper portion of the two existing archways at the entries to the stairways at the rear of the balcony level. Access to the followspots would be via new fixed ladders installed in cavity spaces within the existing rear walls. Fall protection guardrails will be provided at the stage side of the platforms.

We also recommend adding light pipes to the top of the balcony railing in the areas close to the stage to allow for side lighting of the stage from those positions. The extent and detailing of all lighting positions will be worked out with the theatrical lighting consultant, Stage Front, during the design phase of the project.

Benefits

Providing code compliant access to technical lighting and rigging locations is critical to protecting the safety of staff and limiting the liability of the facility. Improving the technical lighting positions will greatly improve the guest experience by creating new lighting opportunities for producers and presenters. Improving rigging solutions will allow the facility to host shows that are currently not able to perform in the house. Modernizing the lighting instruments and control system will ultimately reduce energy use and operating costs. The new lighting catwalk will create better conditions for lighting performances and the artwork above the proscenium, which is currently poorly lit and hard to appreciate.

BUILDING ENVELOP RENOVATIONS

FD Roofing Waterproofing & Insulation

Existing Conditions

The building shows evidence of damage from prior roof leaks. A roof replacement and refurbishment plan is currently underway to address water intrusion from the main roof into the auditorium. We understand that the roof renovation will include a

new lightweight concrete deck and insulation to achieve a minimum R-9 insulation level of the flat roof areas surrounding the dome. The underside of the dome deck is not insulated. Batt insulation was been installed over the lobby ceiling as part of the 1976 renovation. The dome ceiling is approximately 4' below the concrete deck of the dome above. This dimension increases considerably toward the exterior walls where there are large uninsulated cavities above the balcony terraces and circulation areas. of the building. A limited inspection above the ceiling in the area of the crawlspace to the lighting platform indicated that the batt insulation above the auditorium ceiling has shifted, been dislodged or removed in some areas. The observed area above the ceiling also included some construction debris and trash.

Inspection of the exterior walls from the ladder to the lighting platform indicates that the exterior walls consist of concrete columns and clay tile walls behind the stone veneer or plaster exterior finishes. No insulation of the exterior walls was evident.

The meeting room corridor on the Lower Level shows signs of water damage in two locations. This area is below the North Terrace on the main level. During our visit to the facility, the North Terrace had ponded water standing in the center of the slab to a depth of approximately $\frac{3}{4}$ ". None of the existing terrace areas include floor drains. Concrete stairs around the perimeter of the building at the main level terraces are coated with a pedestrian waterproof traffic topping as are the floors of the balcony level terraces above. The pedestrian traffic topping appears to be in fair condition.

During our visit to the facility the mechanical room on the Lower Level had standing water on the floor. In discussing this issue with the operational staff, they noted that the water enters the room by backing up thru the floor drains handling condensate water from the mechanical equipment.

Proposed Improvements

The batt insulation above the ceiling of the auditorium is incomplete and is not creating a true insulated envelop. It is also possible that the existing ceiling insulation conditions could be contributing to the biological growth on the ceiling coffer panels, noted in previous sections of the narrative, by allowing warm moist air from the auditorium interior to come into contact with poorly insulated colder ceiling panels, allowing interior water vapor to reach its dew point and condense on the surface of the panels. This could provide a favorable condition for mold growth within the finish materials and adhesives used to install them.

More research will be required to understand the mold growth issue and determine the proper course of action. Improving the insulation of the room would be recommended if the budget can support it. Removing the need for staff to travel thru the ceiling area in order to access lighting and rigging positions, as proposed in earlier sections of this narrative, will help the situation by eliminating large existing openings in the thermal envelop required for personnel access and equipment. It will also reduce the accumulation of debris in the ceiling space.

At a minimum all debris should be removed from the ceiling cavity, the crawl space runway to the lighting platform should be removed and the batt insulation above the ceiling repositioned to form a complete thermal barrier between the auditorium ceiling and the plenum cavity above. It may make sense to remove some of the batt insulation at the lower areas of the dome, where the slope is steepest, and replace

that material with spray applied cellulose fiber insulation, which bonds to its substrate, and would be less likely to slide and become displaced. If installed around the lower portions of the dome, the spray insulation would form a physical barrier preventing the batt insulation on the upper portions of the ceiling from sliding down the slope.

More research will also be required to determine if the damage to the ceilings in the Lower Level are the result of leaks thru the waterproofing materials below the north terrace. We feel it is worthwhile investigating this further to see if any remediation to the waterproofing is required. At a minimum we recommend adding floor drains at the low areas of the terrace to relieve the existing ponding conditions. We also recommend renewing the pedestrian traffic topping on the balcony terrace floors and main level terrace stairs.

Please refer to the Plumbing Narrative for recommendations on modifications to the condensate drainage piping to remediate water problems in the Lower Level mechanical room.

Benefits

Improving the physical integrity of the building envelop will help to preserve the value of the entire facility. Improving the insulation of the roof and auditorium ceilings will also help reduce mechanical costs and limit potential damage to finishes resulting from humidity and dew point problems.

LS Doors, Windows and Guardrails

Existing Conditions

The existing exterior doors are either painted wood paneled doors with painted wood frames or painted wood "French" doors with 1/4" glazing. Many doors include glazed fan lights or arched head panels. Existing windows are painted wood divided light windows glazed with 1/4" clear glass. From the design drawings it appears that many of the doors and windows were replaced during the 1976 renovation. Most of the doors and windows are generally in good condition. The doors do not have adequate weathers stripping or acoustical seals. Some of the pairs of door have large gaps at the meeting stiles. Much of the door hardware is reaching the end of its useful life. The building does not appear to have any electronic access control or other security or monitoring equipment installed.

The balcony level of the building includes an extensive exterior Terrace surrounding the auditorium on the north east and south sides above the entry lobby below. The Terrace has guardrails along the open exterior edges for fall protection. The existing guardrails do not conform with current code requirements.

Proposed Improvements

Existing doors windows and trim should be scraped and repainted. Doors should be provided with new hardware including new panic devices, thresholds, closers, astragals and weather stripping. Existing hinges can remain but should be repainted.

Electronic access control and monitoring hardware should be considered as a means of increasing the security of the facility.

Existing balcony level guardrails are painted steel. These should be stripped and repainted; however, they will need to be supplemented with additional rails or rail elements that bring them into conformance with current fall protection requirements.

Since the building is a historical structure and the rails are a significant part of the primary elevations of the building, we do not recommend replacing the rails but rather supplementing them with laminated glass guardrails installed behind the existing historical rails. This will preserve the exterior appearance of the building while meeting life safety requirements. It may be worth considering making some portions of the terraces inaccessible to guests. The balcony terraces are not required for egress from the building. If the terraces were made to be inaccessible to guests, they would not be required to meet current fall protection standards. This strategy could reduce the cost of addressing this issue.

Benefits

Improving fall protection from the balcony terraces is an important modification to protect guests and the facility from injury and liability. Improving hardware and building security will improve operations and energy efficiency. Refinishing the doors and windows will improve the overall appearance of the exterior and public spaces.

SO Building Structure

Existing Conditions

On November 26, 2019, our team spent several hours touring the building and reviewing the building structure with the lead rigger and other members of the Spectra team. This included visiting the lighting platform, which gave us the opportunity to review portions of the roof structure and exterior walls. We toured the Lower Level mechanical and storage spaces, where we could observe the construction of portions of the main auditorium floor level. We also went to the grid level and out thru the proscenium wall to review the forestage rigging conditions and roof construction in that area. We were also subsequently able to get copies of some of the original structural drawings for the building from Ms. Wimberly Treadwell.

Based on our observations it appears that the main building structure is in good condition. We did not see evidence of problems with any of the structural elements. From our review of the original drawings it appears that there have been few structural modifications since the original construction.

The lighting platform was an addition in the 1976 renovation. It is suspended by rods from the roof trusses in the center of the ceiling space. This structure is not laterally braced and may be under designed for its function. It exhibited significant lateral movement with two members of our team walking on the platform. The grid and access ladders to the technical areas above the stage are in poor condition. Some of the original concrete encasement of beams above the stage was removed to add hangers for the grid. Those modifications do not appear to compromise the integrity

of the structure in those areas. One of the bracing angles in the dome roof construction was cut in order to create the crawlway access path thru the dome structure to the lighting platform.

Proposed Improvements

We recommend removing the suspended lighting platform and access crawlway within the roof. We also recommend that the angle brace which was cut be replaced with a new member equal to the original. We recommend that the counterweight rigging system be removed and replaced with new systems and equipment as noted in previous sections of this narrative. Please also see the Entertainment Systems section of this report

To achieve the proposed internal modifications and additions to the building it will be necessary to perform additional testing and measurement of some of the existing structural members to confirm their makeup and strength characteristics. We recommend that the testing occur once the construction program is approved and before structural design of any changes is begun.

Other proposed additions to the building occur beyond the limits of the main historical structure. It is the goal of our design to maintain and enhance the original character of the historic building with as few modifications of original design elements as possible.

Benefits

We believe that the internal modifications proposed for the lighting and technical rigging systems are important changes that will enhance safety of staff and simplify operations. We also believe that the entry pavilion construction will greatly improve the guest experience and improve circulation while enhancing the historical features of the original building.

SO Exterior Walls

Existing Conditions

The main exterior walls of the building consist of hand set limestone panels on clay tile and concrete back up. Many of the joints in the stonework appear to have been recently sealed. Other joints may be older and possibly filled with grout. Walls around the base of the main level terraces are brick veneer and stucco finish, probably also over concrete, brick or clay tile substrates. The west wall of the building is finished with a textured stucco material over structural brick. The existing exterior walls are in good condition.

Proposed Improvements

We recommend that the exterior stonework be thoroughly cleaned and the joints inspected and resealed as required. Any grout filled joints should be cut out and replaced with sealants to match the materials used elsewhere on the facade. Perimeter joints of all windows, doors and copings should also be inspected and

repaired where necessary. The exterior stucco walls should be refinished with an elastomeric coating where exposed to direct weather or repainted where protected on the balcony terraces.

We also recommend that the building exterior lighting be repaired and improved to enhance and celebrate this monumental structure.

Benefits

The exterior walls have been well cared for and the proposed improvements will continue that maintenance process and keep the building in top condition for many years to come.

ENTERTAINMENT SYSTEMS

DM Performance Lighting and House Lighting Control

Existing Conditions

The current performance lighting system was installed during the building renovation in 1976. The existing system consist of approximately 160 dimmable stage lighting circuits. Due to the state of the current system, it is our recommendation that the entire theatrical dimming system be replaced with a more energy efficient relay/ dimming system.

Solution

Provide new lighting and control system as described below:

- New relay/ dimming rack with 96 channels including a performance lighting console
 - Lighting power distro boxes will be located on the FOH catwalk and tormentor lighting positions
 - Thru Power modules in the dimming rack that can be used for relay power or traditional incandescent fixture dimming
 - (3) connector strips over stage, mounted to motorized pipe battens
- Lighting / DMX network provided at new proposed FOH control position / catwalk / and over stage locations
 - Lighting network can be used for general house use and or road show lighting designers
- New House lighting control system with lighting controls at entry doors / stage and other locations determined best suited for the Macon City Auditorium Staff. House lighting controls are currently being designed to control lighting in the auditorium only.
- Emergency lighting transfer system
- LED Ellipsoidal Spotlights and LED Par Type fixtures that will be designated for the "house" system.
 - These fixtures will be mounted from the FOH catwalk and over stage electrics

FD House PA System

Existing Conditions

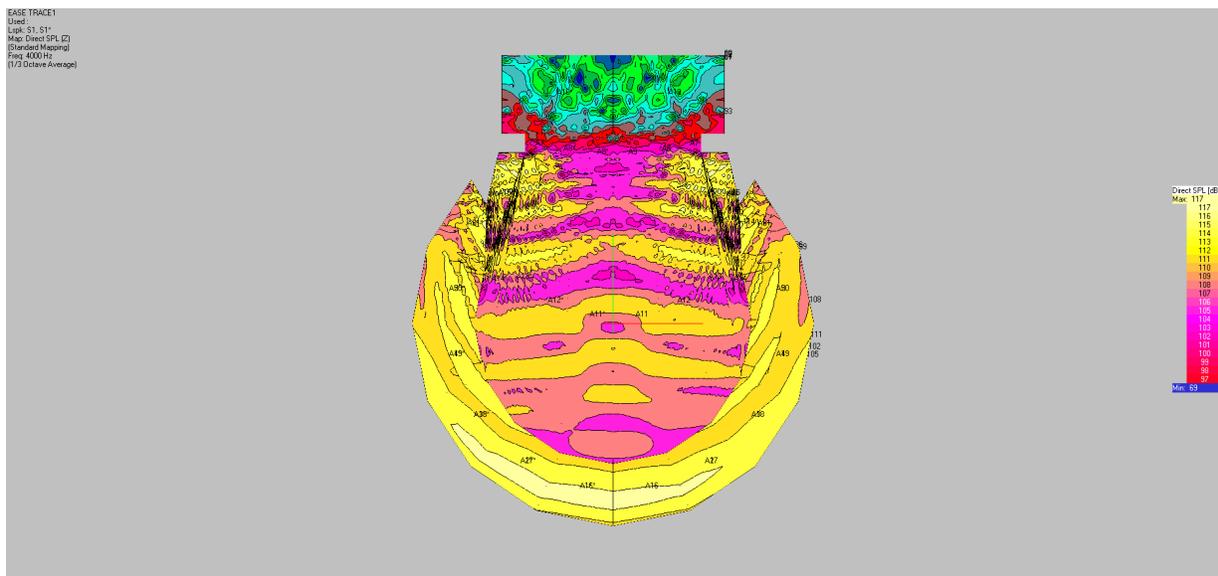
Currently the auditorium does not have a functioning "House" PA system.

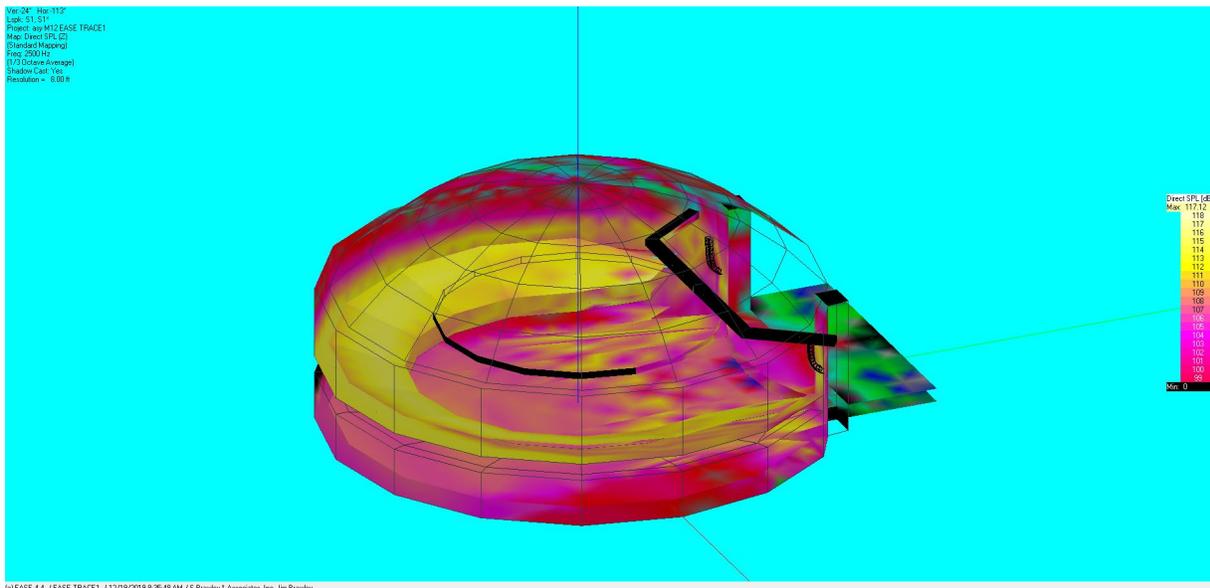
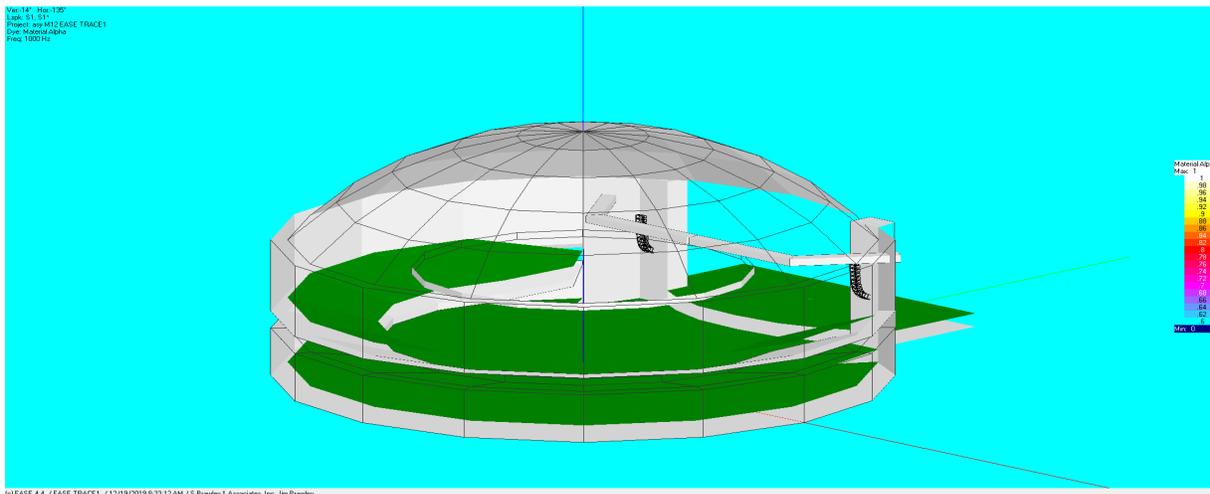
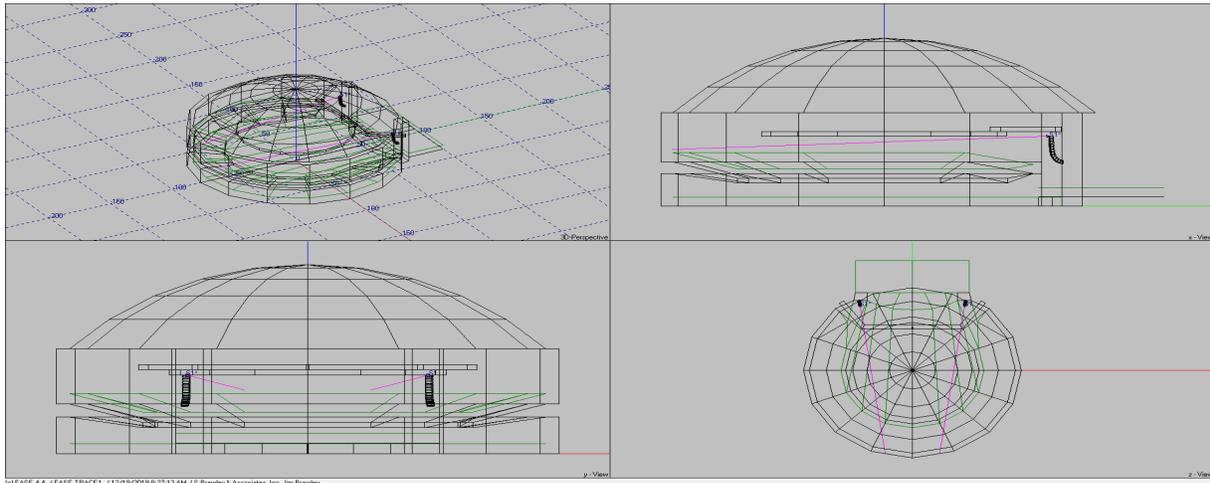
Solution

Our recommendation will be to design a "rider" friendly house PA system including loudspeaker line arrays, Dante audio network tie line and analog audio tie line infrastructure from the stage to the new proposed FOH mix position, digital mixing console, stage mix infrastructure for foldback system, and a communication system for show staff to easily communicate in the space during events. An equipment rack located on stage will be designated as the "Stage Managers Panel" It will contain all of the power amplifiers and processing equipment for the "House" PA system. Along with the PA system there will be an inventory of sound equipment including vocal and instrument microphones, stage monitor speakers, audio cables, direct boxes, microphone stands and large rolling cases for storage of the deliverable audio equipment.

In some cases, the "House" PA system may not meet the technical requirements for a specific road show act. The plan for this situation will be to design designated rigging points above the stage left and right sides for road show PA rigging. There will also be an infrastructure of network patch lines designated specifically for the road show technical team to connect audio gear from the FOH mix position to the stage. This will reduce the need to free run excessive amounts of cabling around the auditorium from the stage to the FOH mix position, which is the current process.

In the below diagrams we have created an EASE simulation model for the auditorium, that shows the preliminary design locations for the "house" PA and sound coverage of the room.





FD Performance Rigging System

Existing Conditions

Due to the current unsafe state of the counterweight rigging system and how the facility is being used, it is our recommendation to completely remove the existing counterweight rigging system including the grid iron, arbors, loading rail, locking rail and all components connected to the system. The two catwalks currently being used for loading and service on the stage right side can remain.

Solution

- The counterweight rigging system will be replaced with (6) motorized line shaft hoists. (3) of the motorized hoist/pipe battens will be designated as "stage electrics" and the remaining (3) will be designated as "multipurpose".
- A motor control panel will be installed on the stage for touch control of each motorized pipe batten.
- The existing fire curtain will be removed during the demolition of the existing rigging system.

DM Stage Draperies

Existing Conditions

The existing stage draperies are faded and dry rotted. They will be removed along with all of the existing curtain tracks and hardware.

Solution

- New Grand Valance, Grand Drape, Legs and Borders based on stage dimensions and sight lines, Mid Stage Traveler, Upstage Traveler and Muslin Cyclorama Curtain for Upstage Wall.
- Stage Draperies will be manufactured with IFR Polyester. Colors for the Grand Valance and Grand Drape will be determined by the interior designer and Macon City Auditorium staff. All legs and border curtains will be black.
- All curtain tracks will be manually operated. If budget allows the grand drape can be specified to operate by motor.

MECHANICAL ELECTRICAL PLUMBING & FIRE PROTECTION

DM MECHANICAL SYSTEMS

Existing Conditions

The existing systems serving the City Auditorium were installed in the late 1970's building renovation. The primary HVAC equipment is located in several mechanical rooms on the Lower Level. Primary ductwork and piping is distributed to condition the zones for the three levels of the building. The majority of the HVAC equipment should be replaced based on the age/condition of the equipment and to implement design revisions necessary to meet the most current Mechanical and Energy Code requirements.

Heating System

- Heating – Building heating is provided by a single gas-fired hot water boiler. Heating water is distributed to HVAC unit coils and terminal unit coils with two heating loop pumps.
- Assessment – This heating equipment is nearing the end of its useful life and should be replaced to include new pumps in the renovation design.
- Improvements – Provide three high efficiency modular condensing boilers and loop pumps to replace the existing equipment.
- ***Benefits – Modular condensing boilers will operate at a much higher efficiency and allow staging of the units as required to meet the diverse load demands of the building. Variable speed pumps will also increase the system efficiency with the diverse building occupancy loads.***

Cooling System

- Cooling - Chilled water service is provided by two water cooled centrifugal chillers located in the main mechanical room. Chilled water is distributed to HVAC unit coils and terminal unit coils with a primary/secondary pumping system comprised of two primary chiller pumps and two secondary system loop pumps.
- Assessment - These chillers have been replaced since the previous renovation and may have 10+ years of additional service life. One of the original pumps has recently been replaced.
- Improvements – The other remaining chilled water pumps should be replaced.

- **Benefits – The primary/secondary chilled water distribution loop can operate with variable speed pumping to increase the system efficiency with the diverse building occupancy loads.**

Cooling Tower System

- Tower – Heat rejection for the chiller equipment is provided by a two-cell package tower mounted on a concrete sump basin on grade adjacent to the building. Two vertical turbine distribution pumps are mounted in the basin to circulate tower water, distributed below grade to the chiller mechanical room.
- Assessment – This tower equipment is nearing the end of its useful life and should be replaced to include new pumps in the renovation design.
- Improvements – Provide a new two-cell crossflow cooling tower with variable speed fans. Replace the two vertical turbine pumps. Replace the basin filter rack and steel grating mounted above the pump basin. New controls will be installed to control the water basin level during tower operation. The existing concrete basin will need to be cleaned and possibly water sealed.
- **Benefits – The new cooling towers can operate at a much higher efficiency with variable speed fan control to match the diverse loads of the chiller plant equipment.**

Air Handling Systems

Apparatus Unit S-1, S-2

- This air system provides conditioning for the Main Level and Balcony Level. It is a four-pipe draw-through arrangement installed as a built-up unit with filter bank, cooling coils, heating coils, and two centrifugal supply fans. The main supply air ducts are routed below the Basement slab and rise vertically in chases for distribution to the conditioned zones. The return air path is via a ducted plenum from the lower stage front.
- Assessment – The mechanical components of the system are nearing the end of its useful life and should be replaced in the renovation design. The apparatus casing and the majority of ductwork can remain in service.
- Improvements – Provide new supply air fans, coils, filter banks, and all associated controls. Repair any existing casing and ductwork where required.
- **Benefits – The new fans/coils will operate at a higher efficiency and allow turndown of the units as required to meet the diverse load demands of the building. Control of ventilation to match the occupancy and event schedules will maintain an acceptable range of relative humidity and improve indoor air quality conditions.**

Air Handling Units AH-1, AH-3, AH-4

- These systems provide conditioning for the Lower Lobby and multiple Conference Rooms. Each unit is a four-pipe applied air handling unit. AH-1 and AH-3 are single zone arrangement and AH-4 is a multi-zone. The supply air and return air ducts are routed above the ceilings to serve the conditioned zones.
- Assessment – Each air handling unit is nearing the end of its useful life. The units and all associated controls should be replaced in a renovation design.
- Improvements – Provide new air handling units and all associated controls. The scope of ductwork replacement/modifications will be determined by floorplan programming for achieving the zone temperature control.
- **Benefits – The new air handling equipment will operate at a higher efficiency and allow turndown of the units as required to meet the diverse load demands of the building. Control of ventilation to match the occupancy and event schedules will maintain an acceptable range of relative humidity control and improve indoor air quality conditions.**

Fan Coil Units/Cabinet Heaters

- Floor mounted fan coil units and cabinet heaters primarily condition the Main Entry Lobby and several spaces on the Lower Level. This equipment is served by the piped heating and cooling systems in the building. No ventilation air is provided by these units.
- Assessment – This equipment is nearing the end of its useful life. The units and all associated controls should be replaced in a renovation design.
- Improvements – Provide new fan coil units, cabinet heaters, and associated controls. In addition, a separate outdoor air ventilation unit (DOAS) should be considered for preconditioning outdoor air with ducted distribution routed above the Entry Lobby zones.
- **Benefits – The new equipment will operate at a higher efficiency. A dedicated package ventilation unit to serve the entry Lobby will also maintain an acceptable range of relative humidity control and improve indoor air quality conditions.**

DX Split System Fan Coil Units

- Several DX split system fan coil units are installed to condition specific interior zones located on the Main Level which are independent of the central building systems.

- Assessment – This equipment is no longer operational or nearing the end of its useful life. The units and all associated controls should be replaced in a renovation design.
- Improvements – Provide new DX fan coil units and associated controls where appropriate to condition small interior zones. Ductless split system type units can be considered for this service. The locations and number of units will be determined by floorplan programming in a renovation design.
- **Benefits – The new equipment will operate at a higher efficiency. A dedicated heating/cooling unit to serve small interior zones will maintain an acceptable range of temperature and relative humidity control for these spaces.**

Building Exhaust and Relief Air Systems

- Exhaust Systems - Multiple duct mounted exhaust fans are installed on all three levels of the building to provide ventilation exhaust for the main toilet rooms, janitor closets, dressing rooms, and individual toilet rooms. These exhaust streams are discharged through wall louvers or roof vents to the exterior.
- General Relief Air System – The primary relief air path for the building is through grilles mounted in the dome ceiling to the plenum above, with air discharge through 13 existing roof mounted gravity vents located around the perimeter of the dome.
- Smoke Relief Air System – Two smoke relief vents are mounted on the roof above the stage area. These are gravity vents designed to open in response to smoke detection above the stage.
- Assessment – This equipment and systems are no longer operational or nearing the end of its useful life. The equipment and associated controls should be replaced in a renovation design.
- Improvements
 - (1) Exhaust Systems - Provide new exhaust fans to meet the current ventilation code requirements and space functionality.
 - (2) General Relief Air – Remove the existing gravity roof vents. Provide multiple roof mounted gravity relief hoods on the roof that communicate with the dome ceiling plenum and are sized to function with a low pressure drop. Automatic control dampers will be installed in these relief hoods to implement the HVAC sequences for building pressurization control.
 - (3) Smoke Relief Air – Remove the existing roof vents and provide new gravity smoke relief vents with automatic controls to meet the life safety requirements of the stage area.

- **Benefits – The new equipment is required to meet code requirements and improve the control of building air flow management.**

HVAC Controls System

- Controls - The existing HVAC controls system was installed by Johnson Controls with the new mechanical systems in the 1977 renovation. The majority of field devices such as control dampers, control valves, and thermostats are pneumatically actuated. A JCI software package provides some limited scheduling control for the building systems.
- Assessment – The HVAC control system is obsolete and nearing the end of its useful life. The controls should be replaced in a renovation design.
- Improvements – Provide a new direct digital Building Automation System (BAS) for the HVAC systems. The BAS is capable of total integration of the facility infrastructure systems with user access to all system data both locally over a secure network within the building, and remote access by a standard Web Browser over the Internet. All devices down to field level controllers shall communicate using BACnet protocol. The BAS will include network software and hardware, operator input/output devices, control units, control devices, digital actuators, and sensors.
- **Benefits – A direct digital BAS will improve the operating efficiency of the HVAC equipment and provide full scheduling capability for the systems. In addition, the BAS will provide energy management software, system alarm monitoring, and all trending, reporting, and maintenance management functions for the building operations.**

Kitchen Air Systems

- Kitchen Systems – The existing kitchen is served by range hood make-up air and exhaust air fans. A separate exhaust fan serves the dishwasher equipment. Air conditioning is distributed from one of the existing building units.
- Assessment – The kitchen area is not anticipated to be included in the scope of the renovation work. If required, the existing HVAC equipment can be reviewed for potential replacement or interface with the new HVAC controls system.

DM ELECTRICAL SYSTEMS

Existing Conditions

The existing systems serving the City Auditorium were installed in the late 1970's building renovation. The main electrical service entrance is located just outside the

main electrical room in the Basement. The service conductors enter from a vault type transformer located below the sidewalk on the south side of the site, at the corner of First Street and Cherry Street Lane.

Main Service Entrance Switchboard

- The main switchboard is a Square D Bolt Lock type switchgear with fusible switches. The main fusible switch is rated for 3000 amps. The gear is rated 208Y/120 volts, 3 phase, 4 wire. This gear was installed as part of the last major renovation in the 1970's.
- Assessment – The switchgear appears to be in satisfactory condition but is over 40 years old and in need of upgrading. There is an existing column located directly in front of one gear section which creates a potential working condition hazard and violates the current version of the National Electrical Code (NEC). There are also several water pipes that route directly over this electrical gear without any sort of leak protection. This is also a violation of the current NEC.
- Improvements – Replace the existing switchgear in place. The intent would be to reuse the existing service entrance conductors and provide a new 3000 amp main circuit breaker in a new section of gear to replace the existing 3000 amp bolt lock switch. We are currently working directly with Square D to develop several options for replacement of the feeder distribution sections of this existing gear. We are waiting on some price verification to determine which option is most cost beneficial. The most probable solution is to replace the large fusible switches (those rated 800 amps and above) with circuit breakers of equal size and retrofit the existing cabinets. The 3000 amp bus would then be extended and fitted with lugs to serve a remote 1200 amp distribution section which would likely be located outside the main mechanical room on the wall opposite the chillers.
- ***Benefits – The new gear arrangement will allow for proper working clearance as required by the NEC. The new overcurrent protective devices will be coordinated with the downstream devices to ensure any faults are isolated. The new gear will also be provided with a power quality meter to allow for real time monitoring and trending data of power usage. This gear will allow for expansion as necessary to accommodate future program adjustments.***

Electrical Distribution System

- The downstream electrical panelboards and utilization equipment are fed directly at 208Y/120 volts, 3 phase. As such there are no dry type transformers in this building. Most of the panels are fed directly from the Main Switchboard described above.
- Assessment – This electrical gear has been in operation since the previous renovation. Though most of the panelboards appear to be in fair condition

there is no guarantee that the circuit breakers will operate when needed. There is one wall in the basement main mechanical room that is currently packed with individual motor starters mounted above a common wiring trough. The cover from the trough has been removed leaving all of the wires, splices, and taps exposed. This in combination with the standing water in the space is a major safety concern.

- Improvements – Provide new downstream electrical panelboards to replace existing panels in place where possible. The existing conduits should be reused where feasible but feeder conductors should be replaced. Remove the existing motor starters and wiring trough. Replace with a standalone motor control center with combination starters for all new and any reused HVAC equipment requiring starters.
- Provide new stage mounted lighting and sound power connections to serve road show requirements. 400-amp sound power and 200-amp lighting power recommended.
- **Benefits – Replacing the electrical gear now will offer greater security that the circuit breakers will perform as they were designed to perform. Also considering the possible length of time until the next renovation, now is the time to make these changes. Replacing both the switchboard and the downstream distribution at the same time will ensure that the circuit breakers are properly coordinated. This coordination helps ensure that any circuit breakers that trip due to electrical faults are isolated to the area of the fault.**

Lighting

- The existing building lighting is comprised of a combination of fluorescent, HID, and incandescent sources.
- Assessment – The lighting technologies currently in use are out of date and not very energy efficient. All of the existing lighting controls appear to be manual. Light levels in many areas of the auditorium do not provide code minimum required illumination levels during events.
- Improvements – Provide new LED lighting throughout. Provide automatic shutoff for new lights utilizing a combination of vacancy sensors and time clock control through a new lighting control panel. Provide a new lighting control system dedicated to the auditorium house lights. Provide control from the sound booth and entry controllers for use by authorized personnel only.
- **Benefits – The LED lights and appropriate lighting controls with automatic shutoff will greatly reduce energy consumption.**

Emergency Power System

- There is a small gas fired generator located inside the basement mechanical room.
- Assessment – It is unknown whether this system is still operational and there was no clear indication of exactly what it was providing backup power for. The renovation drawings from 1976 indicated a small inverter. There was no sign that this inverter was still in place. The inverter could have been replaced at some point with the small gas fired generator. In any case this generator is too small to provide emergency backup power for the renovated auditorium and supporting spaces. There are some existing self-contained emergency egress light fixtures. These fixtures do not provide adequate egress lighting levels as required by current codes.
- Improvements - There are two options for providing the emergency backup power needed for the renovated building. The first option is to provide integral battery packs for any new light fixtures that will allow for such. The other fixtures, such as fire alarm equipment and aisle lighting in the auditorium, would have to be served from a new inverter battery system that would be placed just outside of the existing mechanical room in the basement. The second option is to provide a new emergency generator on site and serve all emergency lights from there. This would require space for a new Emergency Electrical Room in the Basement. That electrical room would house the automatic transfer switch and the building emergency lighting panel. Provide new emergency egress lighting throughout the building as required by code.
- **Benefits – Modifications are required to conform with current building codes. The benefit of using a generator as opposed to integral batteries is that the maintenance is confined to one location. It is very difficult to perform all of the code mandated tests and maintenance of battery powered lights and exit signs in a building this size. The required testing of an emergency generator system can be automated.**

Fire Alarm System

- There is no building wide fire alarm system currently in place. The Fire Marshal has a list of special provisions that allow for events to occur in this building, including but not limited providing a manned fire watch during these events.
- Improvements – Provide a new addressable fire alarm system throughout the building, complete with visual strobes, pull stations, smoke detection in certain areas, and voice evacuation speakers. An interface will be provided from the new voice evacuation panel to the house sound system so that any alarm condition is automatically broadcast through the house PA. The system will also be provided with a Fire Alarm Communicator which will send any alarm signals directly to the monitoring company and/or First Responders.

- **Benefits – Modifications are required to conform with current building codes. The new fire alarm system will remove the need for maintaining an active fire watch during events. This will also allow for interlocking the air handlers with duct type smoke detectors such that air systems are shut down in a fire event.**

Telecommunications System

- The existing telecommunications system includes an assortment of distributed, pseudo IDF spaces which serve data drops in that general vicinity. The existing copper and fiber entrance cables enter the building from the street and route in flexible innerduct across the basement mechanical room.
- Assessment – None of the existing data cables appear to be properly supported. The network equipment and distribution racks in located in areas with little or no environmental controls. There is no clear, consistent labeling of network drops which hinders troubleshooting and, in particular, any moves, adds, or changes.
- Improvements – Create a new MDF space in the basement. Extend conduit from this new MDF to the site for service entrance. Any new and existing to remain data drops in this area should terminate in this MDF. Create an IDF space on the first floor (possibly opposite side of building from MDF). The idea is that any data drops in the basement and first floor would terminate in either the MDF or IDF depending on which side of the building they originate. A fiber optic and copper riser backbone system will be established between the MDF and IDF.
- Add WIFI and DAS network system equipment serving the facility.
- **Benefits – The new telecom spaces will be conditioned independent of the main building HVAC systems. The racks, patch panels, and network equipment will be protected in dedicated spaces with access to only qualified personnel. The new cables will be properly supported and tested for compliance with the latest standards. Added WIFI and DAS networks will enhance the guest experience.**

DM PLUMBING AND FIRE PROTECTION SYSTEMS

Existing Conditions

The existing systems serving the City Auditorium were installed in the late 1970's building renovation. The majority of the plumbing systems are located in the lower level with a few restrooms and dressing rooms located on the upper floors. Primary piping system is routed in the ceiling space of the lower level and distributed to the fixtures on three levels of the building. The majority of the Plumbing fixtures and equipment should be replaced based on the age/condition and to implement design

revisions necessary to meet the most current ADA, Plumbing, and Energy Code requirements.

Domestic Water Heating System

- Domestic Water Heating – Domestic water heating is provided by a single gas-fired water heater located in the lower level boiler room. Domestic hot water is distributed to the plumbing fixtures and looped back to the water heater. An inline circulator pump keeps hot water circulating through the loop to minimize heat loss in the system.
- Assessment – The water heater and circulator pump are nearing the end of its useful life and should be replaced with more energy efficient equipment in the renovation design.
- Improvements – Provide one high efficiency condensing water heater and circulation pump to replace the existing equipment.
- ***Benefits – Condensing water heaters will operate at a much higher efficiency and allow staging of the heating elements as required to meet the diverse domestic hot water demands of the building.***

Plumbing Fixtures

- Fixtures – Plumbing fixtures are located throughout the entire building in the restrooms, dressing rooms, concession stands, and kitchen.
- Assessment – The plumbing fixtures throughout the building nearing the end of their useful life. They do not meet the current efficiency requirements of the Plumbing Code, and they do not meet the current Georgia Accessibility Code.
- Improvements – The fixtures should be replaced with more water efficient fixtures that meet the requirements of the Plumbing Code. The fixtures will be selected to meet the Accessibility Code and to match the new renovation design.
- ***Benefits – The more efficient fixtures will reduce the water consumption of the building and meet Plumbing Code requirements.***

Water Piping System

- Water Piping – A 6” water main serves the building. The water mains are routed around the lower level to serve plumbing fixtures and equipment. The piping is insulated.
- Assessment – The piping and insulation appears to be in good condition throughout most of the building. There are a few areas in mechanical rooms

and janitor's closets where insulation has been removed for repairs or piping additions.

- Improvements – Provide a new RPZ backflow preventer on the domestic water entrance. Re-route water piping from above switchgear and elsewhere as needed. Provide new insulation to match the new renovation design.
- **Benefits – The new backflow preventer will be able to protect the building water supply from backflow from the fire sprinkler system.**

Sanitary Piping System

- The sanitary sewer piping inside the building is cast iron piping in most areas. Some of the recent changes and additions to the system have been made with PVC piping. The main restrooms and mechanical rooms on the lower level are gathered into one 6" sanitary main that leaves the building to the North. The kitchen has a separate 6" sanitary exit to the north on the west side of the building.
- Assessment – The sanitary main for the restrooms and mechanical rooms has been prone to backups. In some instances, the main lower level restrooms have been closed. The floor drains in the mechanical rooms appear to be functional but there is water standing on the floors due to inconsistent floor slope and floor damage.
- Improvements – We recommend that the owner immediately begin investigation into the sanitary sewer system backups. Once the deficiencies of the system can be found the appropriate fixes can be implemented into the renovation design. The other sanitary mains should be investigated with cameras to ensure integrity and proper slope for reuse. Any deficiencies found can be repaired.
- **Benefits – The restrooms will be fully functional and will not require closure that might affect the operation of the building.**

Kitchen Systems

- Kitchen Systems – The existing kitchen is served by domestic water from the main building systems. The sanitary piping is routed through an exterior grease trap. The sanitary sewer leaving the building in this area too low so a duplex sump pump is utilized to bring the sanitary to the elevation necessary to connect to the site sanitary sewer system.
- Assessment – The kitchen area is not anticipated to be included in the scope of the renovation work. However, the duplex sump pump is nearing the end of its useful life and should be replaced. The grease trap should be inspected and clean to ensure proper functionality.

Fire Protection System:

- Fire Protection System – A 6" fire water main serves the building. The fire protection system covers the entire lower level and the stage. The balcony and Main levels are not protected by a sprinkler system. The sprinkler heads and piping are over 40 years old.
- Assessment – The piping appears to be in good condition. The sprinkler heads are nearing the end of their useful life expectancy.
- Improvements – Investigate the integrity of the fire protection piping system in accordance with NFPA 25. This will include exterior inspections of piping and select inspections of the interior condition of the piping. If the piping is in good condition it can be reused to serve the renovated design. The sprinkler heads have a life expectancy of 50 years and they should be replaced for the entire system.
- ***Benefits – The sprinkler system will be fully functional to protect the lower level and stage in the event of a fire.***