



RENOVATION STUDY

INB Performing Arts Center

consultants

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table of contents

1 Vision and Guiding Principles	1
2 Project Overview	2
3 Auditorium	5
Accessibility	
Cosmetic Considerations	
Acoustics	
4 Backstage Area	13
Multi-Level Access	
Room Finishes	
Security Room	
5 Lobby Experience	18
Update Existing	
6 Music Room	21
Creating a Marketable Space	
7 Building Systems	25
Mechanical	
Electrical	
Windows	
Roof	
Appendices	29
A - Acoustical Study	30
B - Codes Study	32
C - Total Cost Estimate	44
D - Meeting Minutes	66



VISION AND GUIDING PRINCIPLES

- *Prepare the facility for the next 50 years*
- *Create an accessible facility for people with disabilities*
- *Respect the architectural integrity of the existing building*
- *Responsible use of funds*
- *Update the patron experience*



2

PROJECT OVERVIEW

Overview

Spokane Public Facilities District (SPFD) reached out to Integrus Architecture (Integrus) in September of 2016 to create a Scoping Study for the INB Performing Arts facility. The SPFD had an Accessible Seating Study completed by Theater Projects that formed the starting point of this study. In addition to updates in accessibility, the SPFD gave direction that this investigation was the opportunity to identify any items of this 45-year-old facility that were not performing as desired. There were 5 sessions:

Session 1: To gather this information, we first had a site walk at the INB to familiarize ourselves with the project. This meeting outlined the direction moving forward. Participants included:

Kevin Twohig	SPFD CEO
Dave Gebhardt	SPFD Operations Manager
Brianna Scott	SPFD Executive Assistant
Colin Anderson	Integrus Project Manager
Preston Potratz	Integrus PIC
Robert Graper	Integrus Structural PIC

Session 2: The second session was held March 16, 2017 at the INB. This meeting was the major information gathering session. It was organized into three separate groups; Performer Experience (back of house), Patron Experience (front of house), and Stage Hands (technical). The combined group gathered for an overview session then proceeded to tour the building with separate focus areas. To end the session, the group came together for a summary. See Appendix D for the meeting minutes. Participants included:

Kevin Twohig	SPFD CEO
Brianna Scott	SPFD Executive Assistant
Stephanie Curran	INB General Manager
Mike Gaffaney	INB Assistant General Manager
Betsy Hammond	INB Booking Manager
Mike Tucker	INB Tech Specialist
Jaye Nordling	IATSE Local #93
Jack Lucas	President West Coast Entertainment
Mark Williams	Staff Pro Security Manager
Nicholas Lawrence	INB Event Manager
Matt Meyer	INB Event Manager
Karen Thompson	INB Event Manager
Michelle McIntyre	Special Events Manager

Dave Brucick	IATSE Local #93
Colin Anderson	Integrus Project Manager
Katie Vingelen	Integrus Interiors
Kandis Larsen	Integrus Project Architect

Session 3: The third session was held March 30, 2017 at the INB. This was primarily a meeting to address mechanical, electrical, plumbing and other building systems. See Appendix D for the meeting minutes. Participants included:

Kevin Twohig	SPFD CEO
Dave Gebhardt	SPFD Operations Manager
Mike Gaffaney	INB Assistant Manager
Ron Rhodes	SPFD
Bill Poffenroth	SPFD
Rick Frieme	SPFD
Russ Yocom	SPFD
Mike Tucker	INB Tech Specialist
Kjersten Kuhta	MW Mechanical
Joel Enevold	MW Electrical
Jeremy Van Lith	MW/ Escent Lighting

Session 4: The fourth session was held April 13, 2017 at Integrus. Prior to this session, Integrus prepared a matrix outlining all the items discussed in sessions 2 and 3 organized by rough cost and building shut down times. This matrix was presented and a Go/NoGo solution was produced. The design team left this session with clear direction on which items to pursue in their design. See Appendix D for this matrix. Participants included:

Kevin Twohig	SPFD CEO
Dave Gebhardt	SPFD Operations Manager
Larry Soehren	SPFD Board Chairman
Colin Anderson	Integrus Project Manager
Preston Potratz	Integrus PIC
Katie Vingelen	Integrus Interiors
Kandis Larsen	Integrus Project Architect
Kjersten Kuhta	MW Mechanical
Joel Enevold	MW Electrical

Session 5: The fifth session was held May 18, 2017 at Integrus. This session was an opportunity to share design ideas and get approval from the SPFD on design intent and direction for items to include in this final scoping document. Participants included:

Kevin Twohig	SPFD CEO
Dave Gebhardt	SPFD Operations Manager
Larry Soehren	SPFD Board Chairman
Stephanie Curran	INB General Manager
Mike Gaffaney	INB Assistant Manager
Mike Tucker	INB Tech Specialist
Colin Anderson	Integrus Project Manager
Mark Dailey	Integrus PIC

Based on the information gathered in the sessions, we have decided to divide this Scoping Study into five major areas of focus. This will serve as an organizing system for scope and cost. The areas are summarized below.

Auditorium

The focus of the Auditorium is to address ADA concerns both inside the space and access to the space. There are also some functional items such as seating, finishes, sound booth access, mechanical and lighting to be addressed. Finally, an acoustical study has been performed to investigate potential concerns.

Backstage Area

The focus of the Backstage Area is to provide a new elevator to access the main 3 levels back of house. Other items are upgrading finishes in the dressing rooms and remodeling the west security entrance. Mechanical and electrical impacts are also addressed.

Lobby Experience

The focus of the Lobby Experience is to update the finishes and give the Lobby a new fresh look worthy of a performing arts center. This included a study of security and ticket processes.

Music Room

The focus of the Music Room is to remodel the current space to become ADA compliant as well as to create a marketable space for events. Mechanical and electrical impacts are also addressed.

Building Systems

The building is 45 years old. This section includes: Mechanical systems, electrical systems, roofing and windows.



3

AUDITORIUM

Rendering of Proposed Accessible Path to Auditorium

Accessibility

Access to Stage Front and Green Room



Existing Auditorium

Current Condition

The PAC has no adequate way to get a person with disabilities to the front of the stage or to the green room. This is due to the steepness of the current ramp in the auditorium which is not to current ADA standards. To access this ramp, one must take the elevator in the lobby up to the terrace level. This is not ideal, so the current process is for someone with disabilities to enter the lobby, have their ticket scanned, then that individual is escorted back outside and around the south edge of the facility on the sidewalk to the exterior doors located near the stage front. Upon entering the doors, they are scanned with a hand-held security device and escorted to their seats. This process has some obvious setbacks. First, it is not ideal in inclement weather to escort people around the outside of the building. Second, there is the potential that individuals feel discriminated against and singled out during this process. Finally, there is no current method of an individual with disabilities to escort themselves out of the auditorium during a show to use the facilities.

Proposed Solution

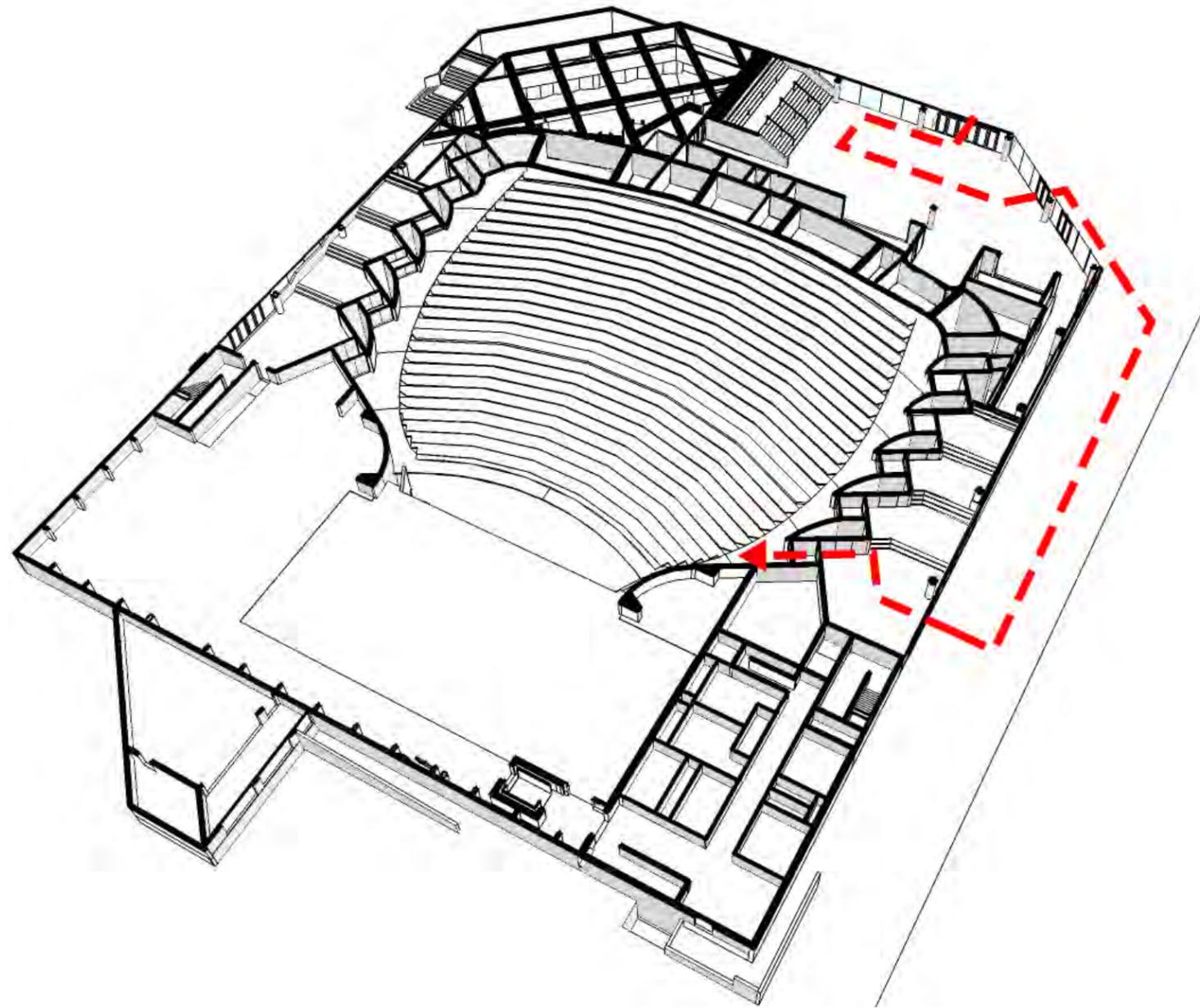
One viable solution presented in this document is to create a vomitorium from the lobby along the south side of the building. This would allow the person with disabilities to enter the lobby, have their ticket scanned and access the stage front and green room without navigating any stairs. The stairs along the south side of the building are constructed above a return air plenum. Upon investigation, this plenum is open from the basement level up to the bottom of the stairs which are constructed on pan deck. All major utility lines are kept at the lower level, so there is a large void that could be used as a passageway. This vomitorium would be accessible from the lobby near the south glass wall, adjacent to the coffee bar. This space is currently a storage closet for props and other items that can be relocated.

Architectural/Structural Implications: This will require demo of a portion of the existing stair, back to the structural concrete wall located 5 feet off the south wall of the building. This wall will require finishing as well as the exposed column and wall footings along the south wall. A new ramp with a very minimum slope will be installed to parallel the exterior grade. There will be new paint and carpet as well as a new railing. Egress will be maintained and all minimum widths can be met. See Demo Plans, New Plans in this section as well as code study in Appendix B.

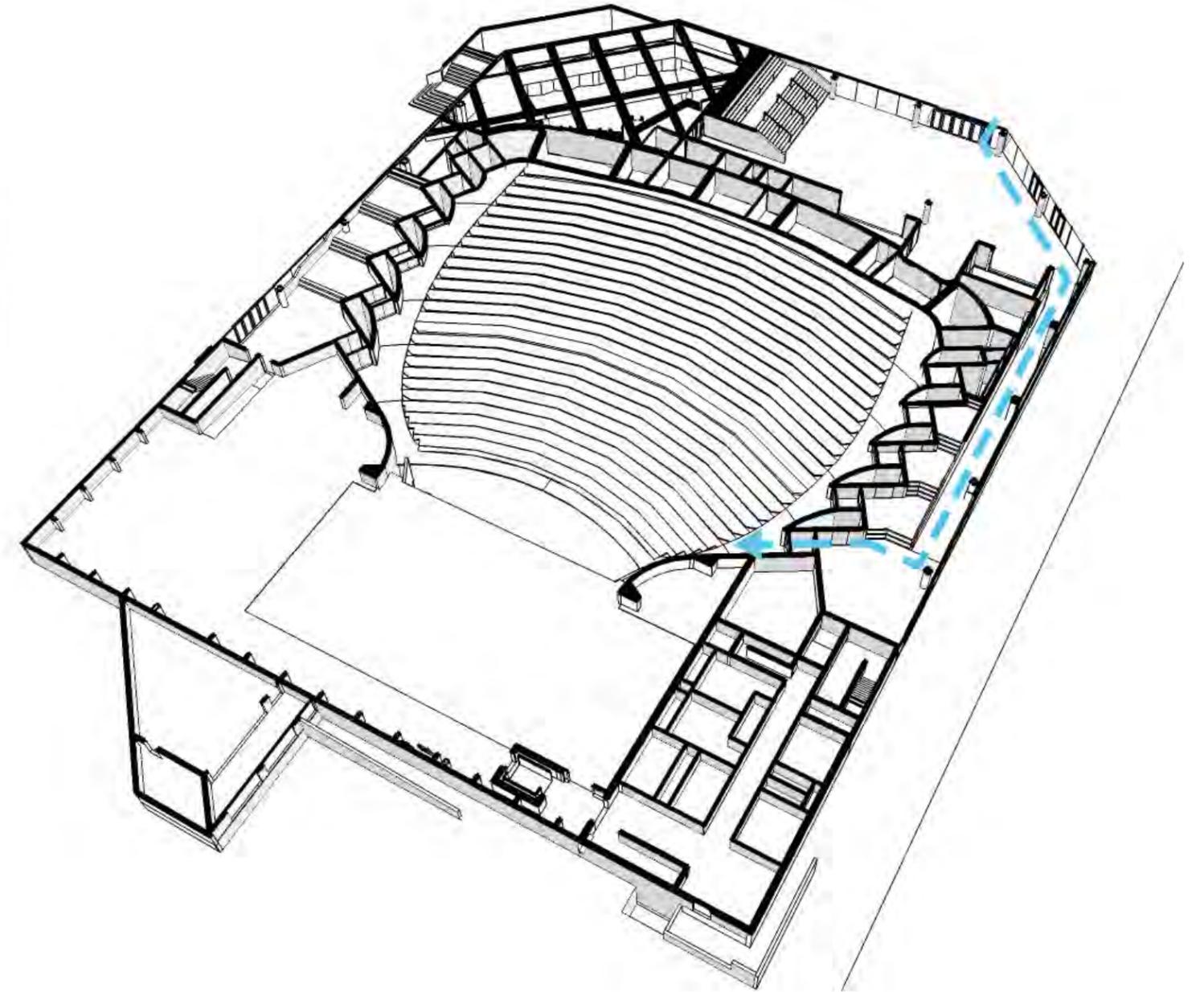
Mechanical & Electrical Considerations

Existing floor return air grilles located along the south exterior wall will need to be replaced within the new floor. Pipe in the tunnel below will require temporary pipe supports when the floor is removed and reinstalled. It is assumed that the floor will be constructed in phases so that the pipe does not have to be completely removed and reinstalled. After completion of new floor, provide new pipe hangers with vibration isolation similar to existing to new overhead structure.

Modifications to existing floor slab may impact the existing electrical services located below at the tunnel ceiling. Services include an electrical busway which serves as the main electrical service to the convention center side of the campus. Provide temporary support of existing electrical busway and electrical conduits during this phase of work.



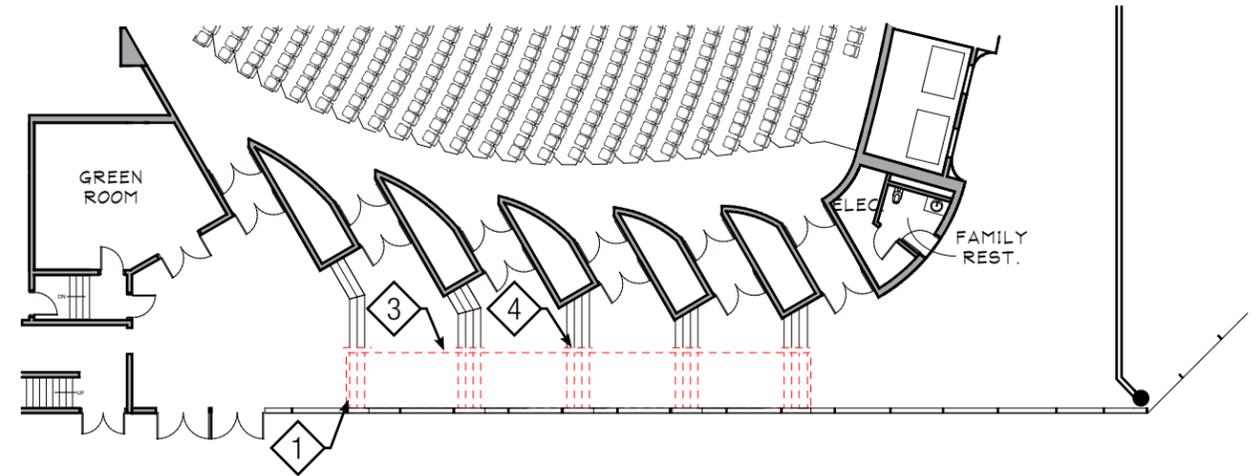
Current Access for Person with Disabilities



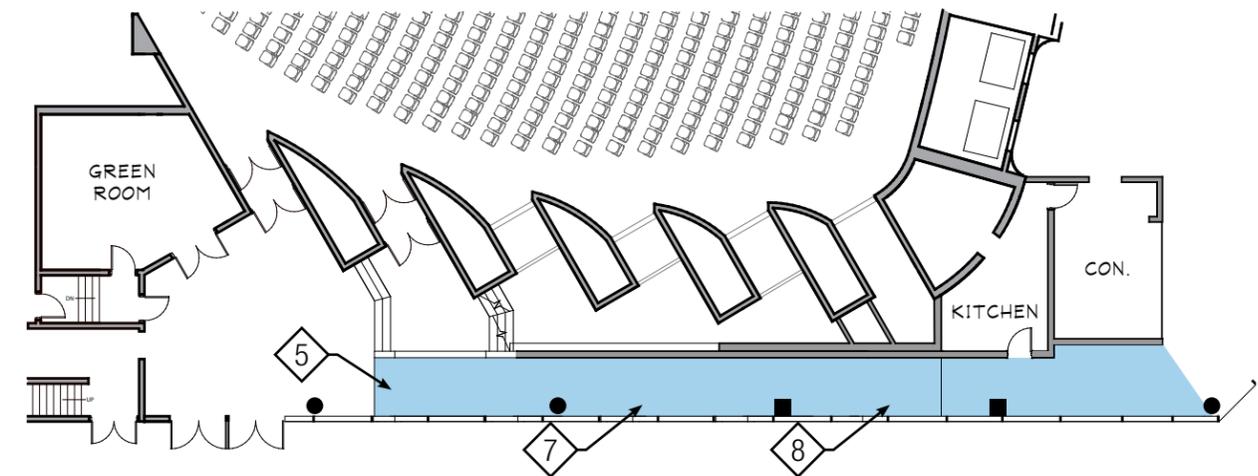
Proposed Access for Person with Disabilities

KEY NOTES:

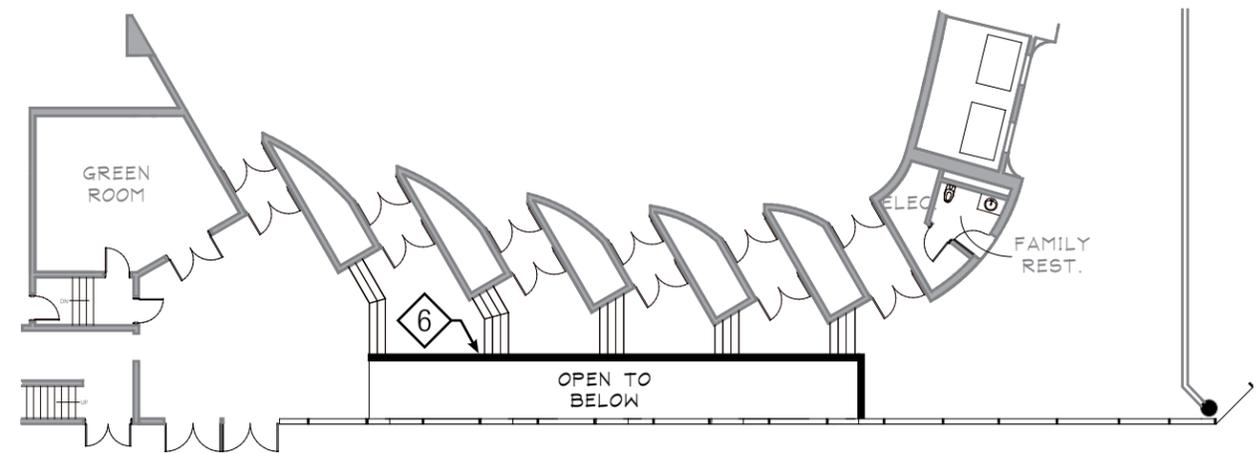
- 1 Remove stair
- 2 Remove concrete wall
- 3 Saw-cut floor
- 4 Remove existing handrails
- 5 New carpet
- 6 New half height wall with railing
- 7 New ramp and pandeck to match exterior grade
- 8 New finish at foundation wall & columns



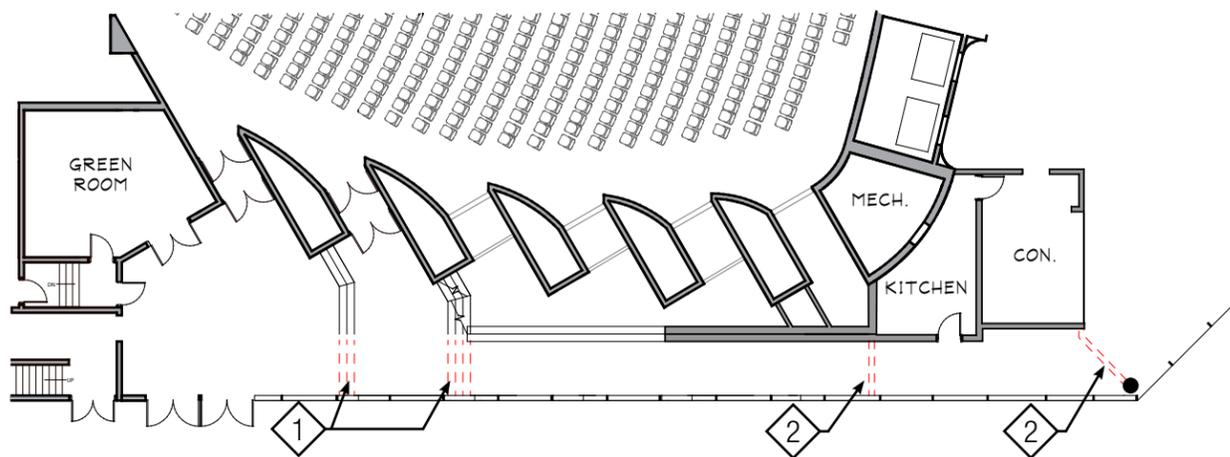
2nd Level Demo Plan



Lobby Level Proposed Plan



2nd Level Proposed Plan



Lobby Level Demo Plan

ADA Seating

Current Condition

The PAC auditorium is not up to current ADA code. SPFD hired Theatre Projects in 2016 to evaluate the ADA requirements. That summary is available by contacting the SPFD. Based on their summary, to meet 100% compliance would be extremely costly and highly invasive. The current continental seating arrangement is highly desirable from both a guest experience and loading/unloading the theater. The cross aisles proposed in the study were not a direction the SPFD desired to pursue.

Proposed Solution

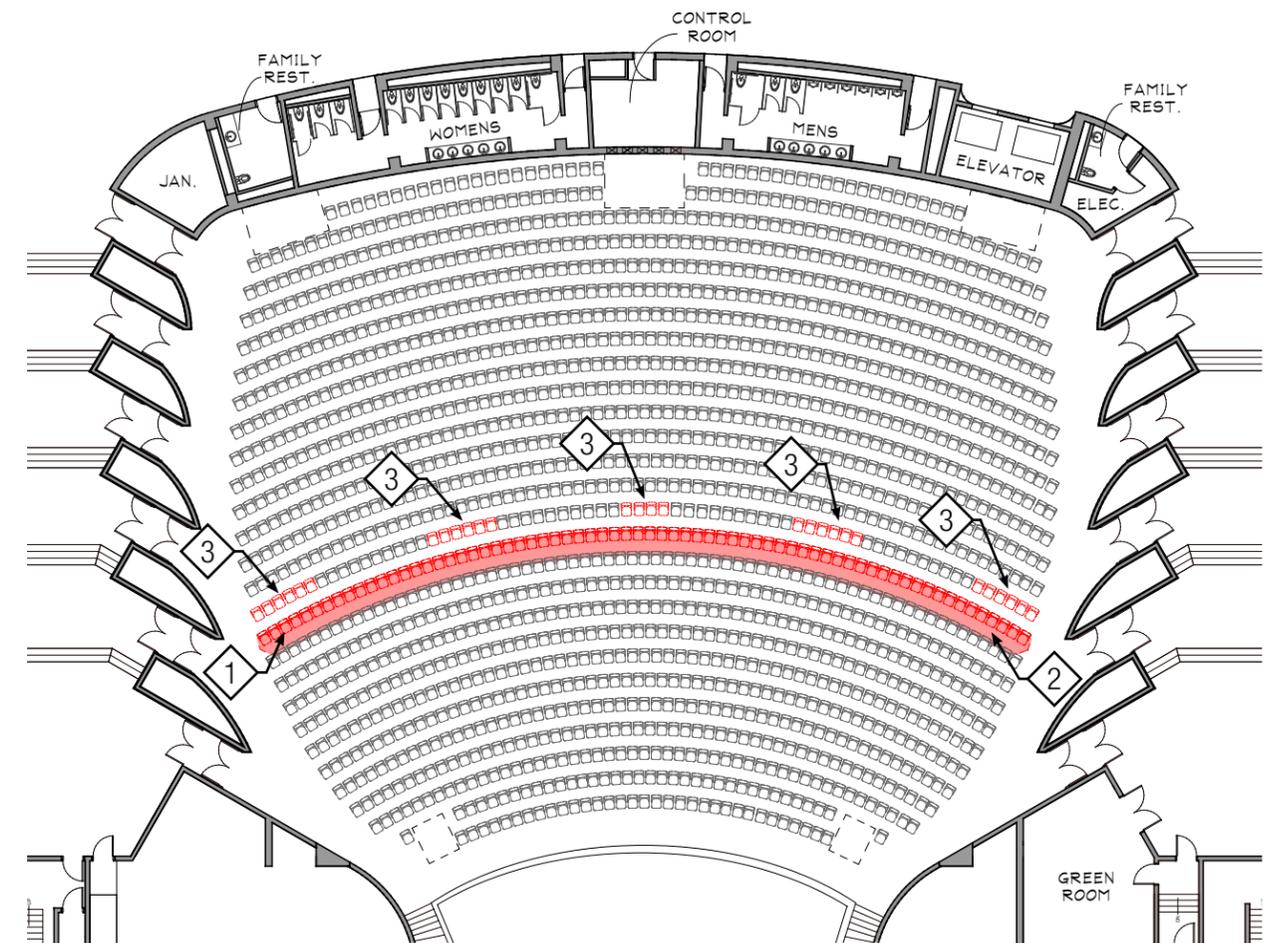
After discussions with the SPFD, the main priority of any accessible updates was to offer the adequate number of accessible seating and to disperse it equally throughout the space. To achieve this at minimal cost impact, we are proposing to remove the entire Row K. This row currently has 73 seats with accessible seating extending into the aisles at both sides. Row K was chosen because the ramp between there and the stage is at accessible compliance. Above Row K however, the ramp is too steep and has a cross slope that does not comply. Also at Row K center there is a power box where conduit from the stage has been extended. Removing Row K then allows for a temporary camera or other device to be implemented depending on the venue function. There are already accessible options at the front of the house and at the rear of the main level. By removing this row, we will be dispersing 34 accessible locations throughout the auditorium at all pricing levels. This exceeds the 22 seat requirement for ADA capacity in an auditorium of this scale. By removing the row, it will create a clear 48" aisle when seated. This will allow people with disabilities to exit during an event without disturbing adjacent patrons. When not in use, temporary seating can be placed in the accessible seating areas.

Mechanical Considerations

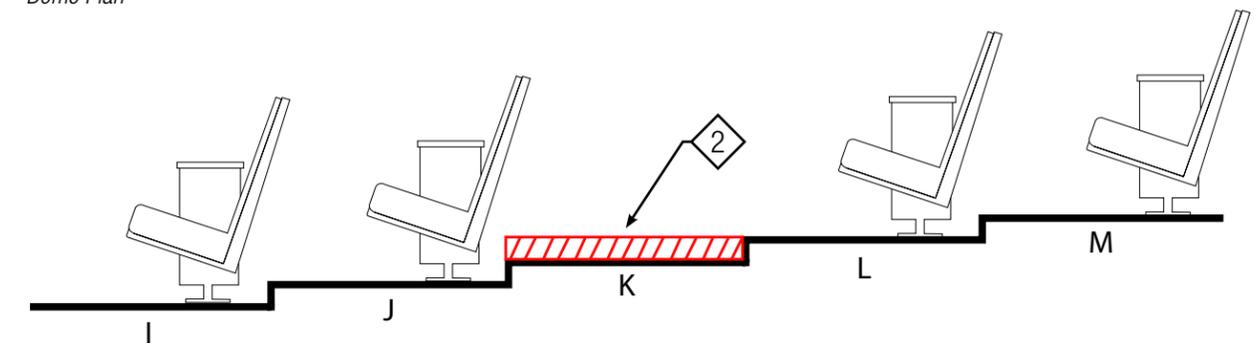
Nine of the rows of seating on the orchestra level have supply air mushroom ventilators beneath the seats. Adjust supply air mushroom ventilators from beneath the seats to the toe-kick space when seats are removed. Impacts are expected to be minimal as the aisle row final location will not be the row with ventilators.

KEY NOTES:

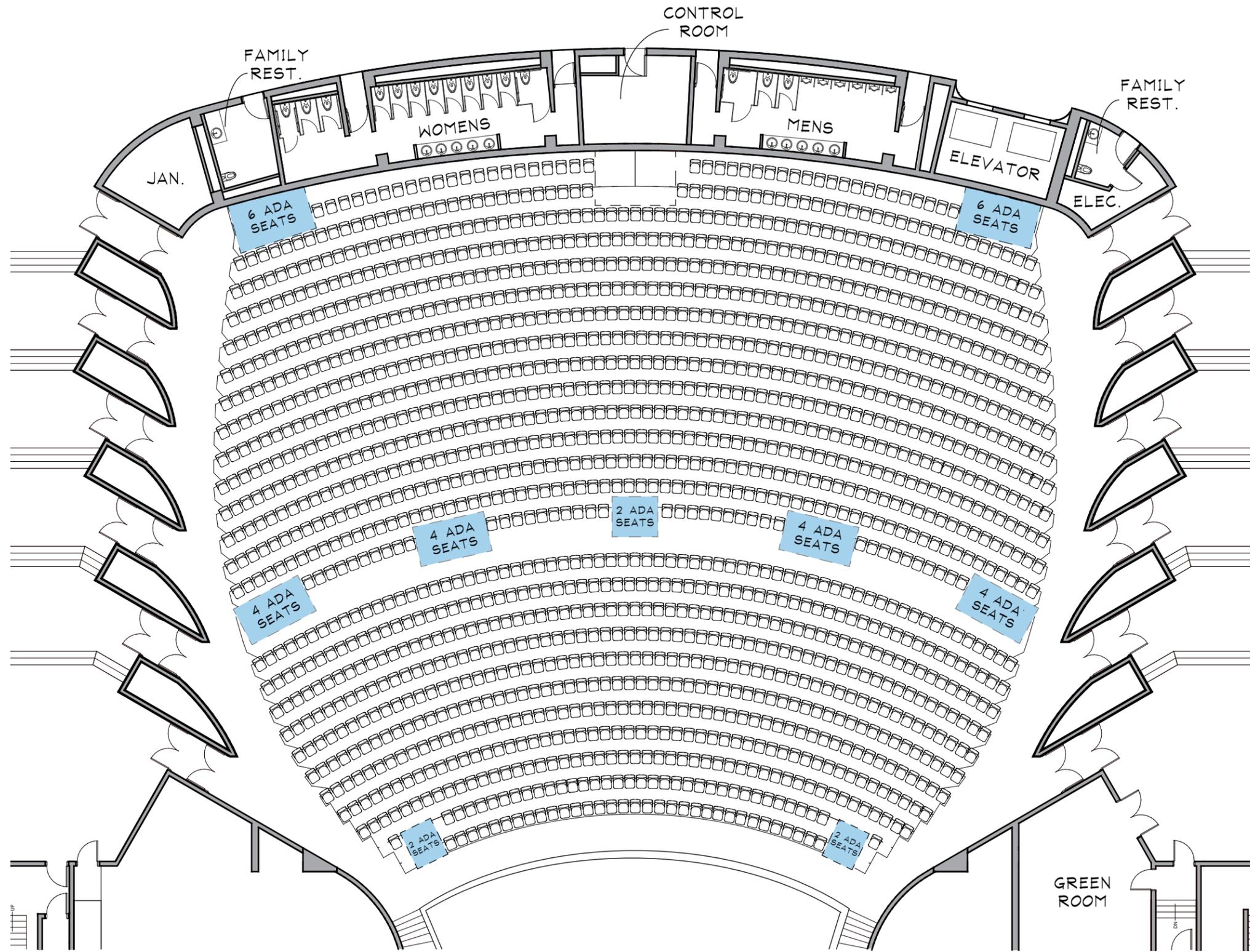
- 1 Remove seats
- 2 New poured in place concrete slab with carpet
- 3 Replace with removable seats



Demo Plan



Auditorium Section



Proposed Auditorium Seating

Sound Booths

Current Condition

The Production Sound has voiced desire to be located more center of house similar to the House Sound platform. Currently the Production Sound platform is located house right, rear. There is no way for technicians to exit the house sound platform during a performance without disturbing patrons.

Proposed Solution

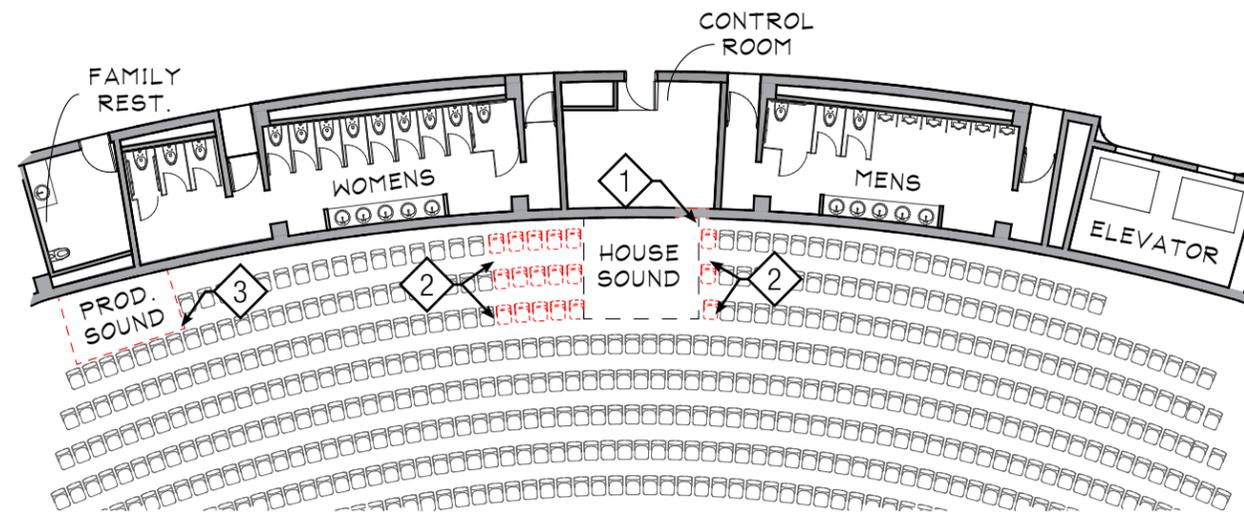
By moving the Production Sound platform adjacent to the house sound platform, all sound technicians will have ideal listening conditions. By cutting a small door in the wall adjacent to the existing window and adding a small flight of stairs, it will allow access from both sound platforms to and through the sound booth. There is a projected loss of 12 seats (18 removed – 6 added back at old production booth)

Mechanical Considerations

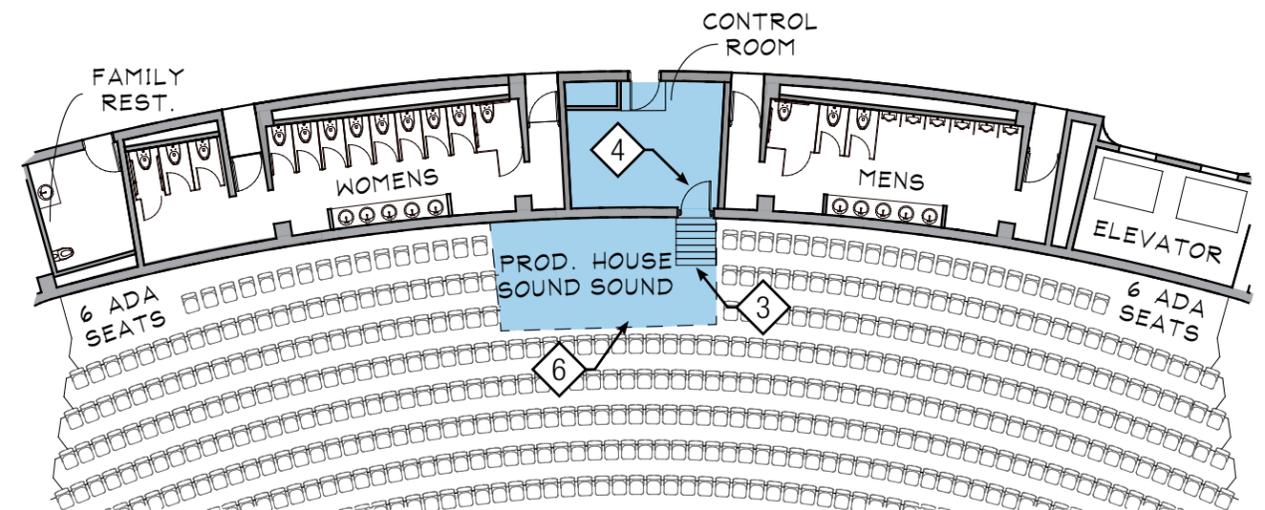
Adjust supply air mushroom ventilators from beneath the seats to the toe-kick space when seats are removed.

KEY NOTES:

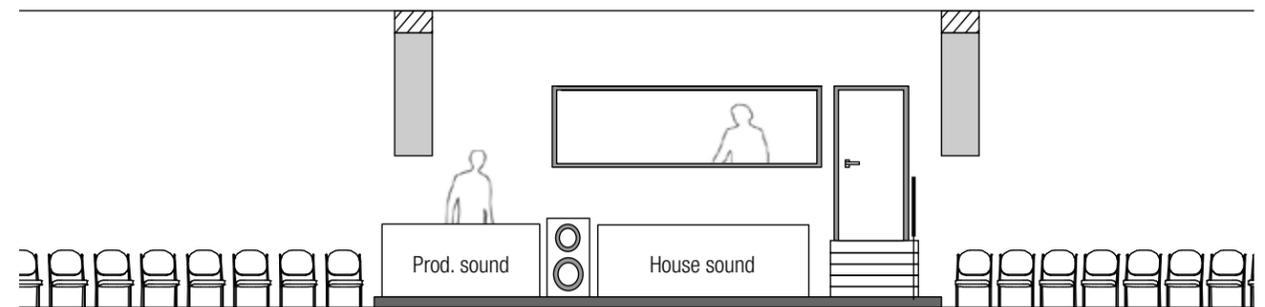
- 1 Cut hole in wall for door
- 2 Remove seats
- 3 Move production sound platform to house sound platform
- 4 New door
- 5 New steps and railing to auditorium floor
- 6 Expand platform for both production sound and house sound



Demographic Plan



Proposed Plan



Proposed Elevation

Cosmetic Considerations

Concealed Wiring

Accommodations will need to be made for an aesthetically appealing raceway above the auditorium doors and along the walls to the rear of the house for sound. This could be achieved by a wood or steel cable tray that could be built into the existing structure.

Electrical Considerations

Useable pathways connecting from Stage Left & Stage Right to the center sound booth are not present. A pathway system equal to 12" diameter conduit was requested by the District for temporary cabling during events. A dedicated pathway from each side of Stage to the center sound booth was requested.

- Provide new cable tray system for installation of temporary cabling during shows/events. Cable tray shall provide pathway from both sides of the stage to the sound booth.

Seating Upgrades

All seats are to be replaced in the auditorium

Acoustical Study

Part of this document was to investigate the acoustics of the facility and determine if it functions well as a performing arts center although designed as an opera house. These two functions have different acoustical demands. The list below summarizes the study. The full study can be found in Appendix A.

- **Existing reverberation time** - is longer than optimum for a Broadway-type venue but the volume of the room results in so much absorption that the reverberant sound level is manageable.
- **The low frequency response** - would ideally be less but the amount of existing low frequency absorption in the room makes it virtually impossible to improve it.
- **Reflections** – In general, the facility shape performs well. Entrance doors to the room have curtains in front of them to prevent unwanted reflections. If the curtains were removed, absorption would need to be added to the face of the doors or the angle of the doors would need to be changed to redirect the reflections toward the rear of the hall.

Auditorium Cost Estimates

Access to Stage Front	\$690,047
ADA Seating	\$111,613
Sound Booths	\$96,673
Concealed Wiring	\$145,223
<u>Seating Upgrades</u>	<u>\$1,816,852</u>
Total	\$2,860,408



4

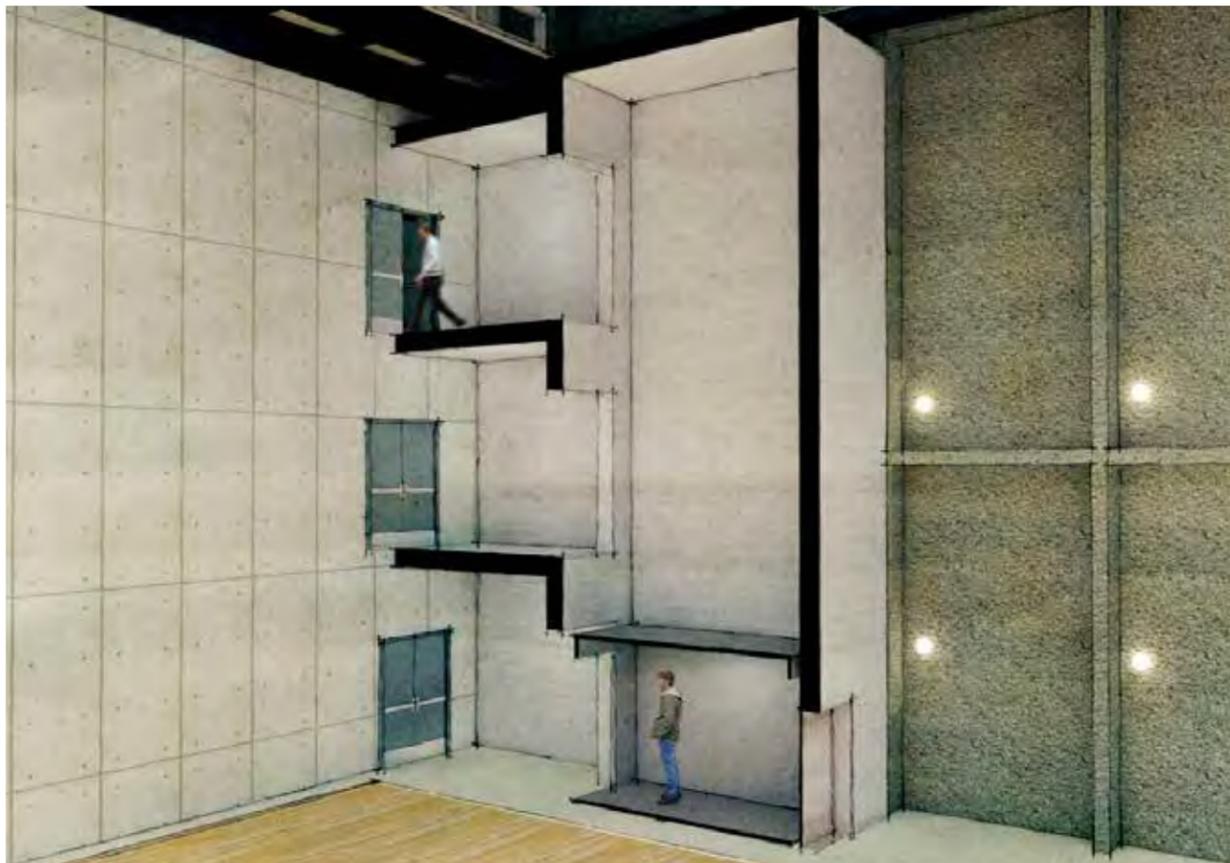
BACKSTAGE AREA

Rendering of Proposed Elevator

Elevator Addition



Existing Backstage Area



Proposed Elevator Section

Current Condition

There is no current means of accessibility to the backstage area. There is also not an ideal process for delivering heavy props, costume racks and other back of house items to the upper levels. Currently there is a chain hoist at stage right rear that is used. All catering must be carried up three flights of stairs and all performers must navigate three flights of stairs.

Proposed Solution

Previous studies have looked at constructing an elevator in existing stairwells as well as outside the west face of the building and in the south lobby. These studies were extremely invasive or created an addition to the building that was not aesthetically pleasing. Our proposal is to construct an elevator at the rear of the stage in the current location of the chain hoist that accesses all three levels. There are existing doors at each level to tie into the elevator lobby. The elevator will be double loaded at the first level to allow large props to be delivered to upper levels without turning tight corners. The elevator shaft will be constructed of fully grouted CMU to help with sound isolation. The location of the elevator has been confirmed to not impact performances. There will need to be a new machine room and elevator pit installed under the slab and accessible from the lower hall. There is potential cost savings with a machine room less option if head room allows for it. The elevator will need to be sized for large wardrobe carts reaching 8' long.

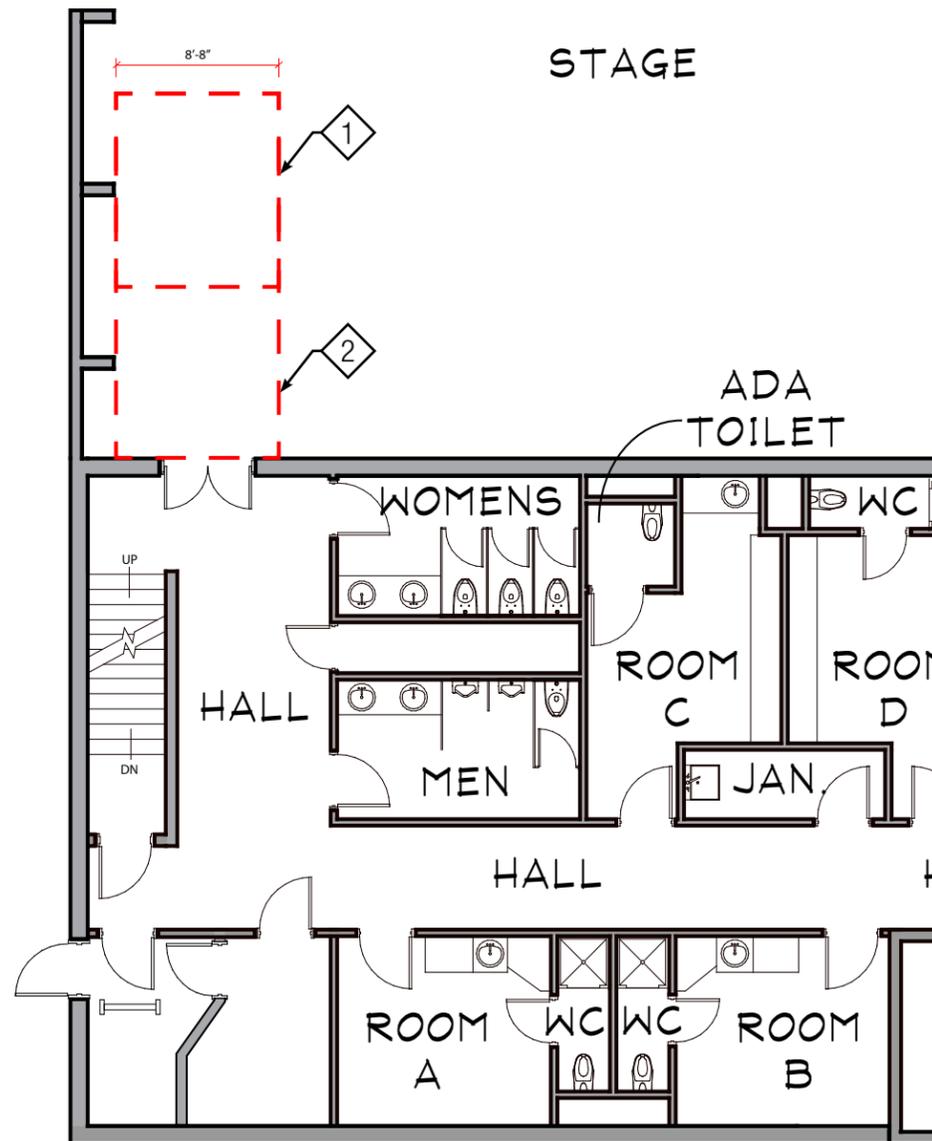
Mechanical & Electrical Considerations

Relocate fire riser and zone valves in area of new elevator. Provide a dedicated air-conditioning unit for machine room. Relocate vertical roof drain pipe and fire stand pipe.

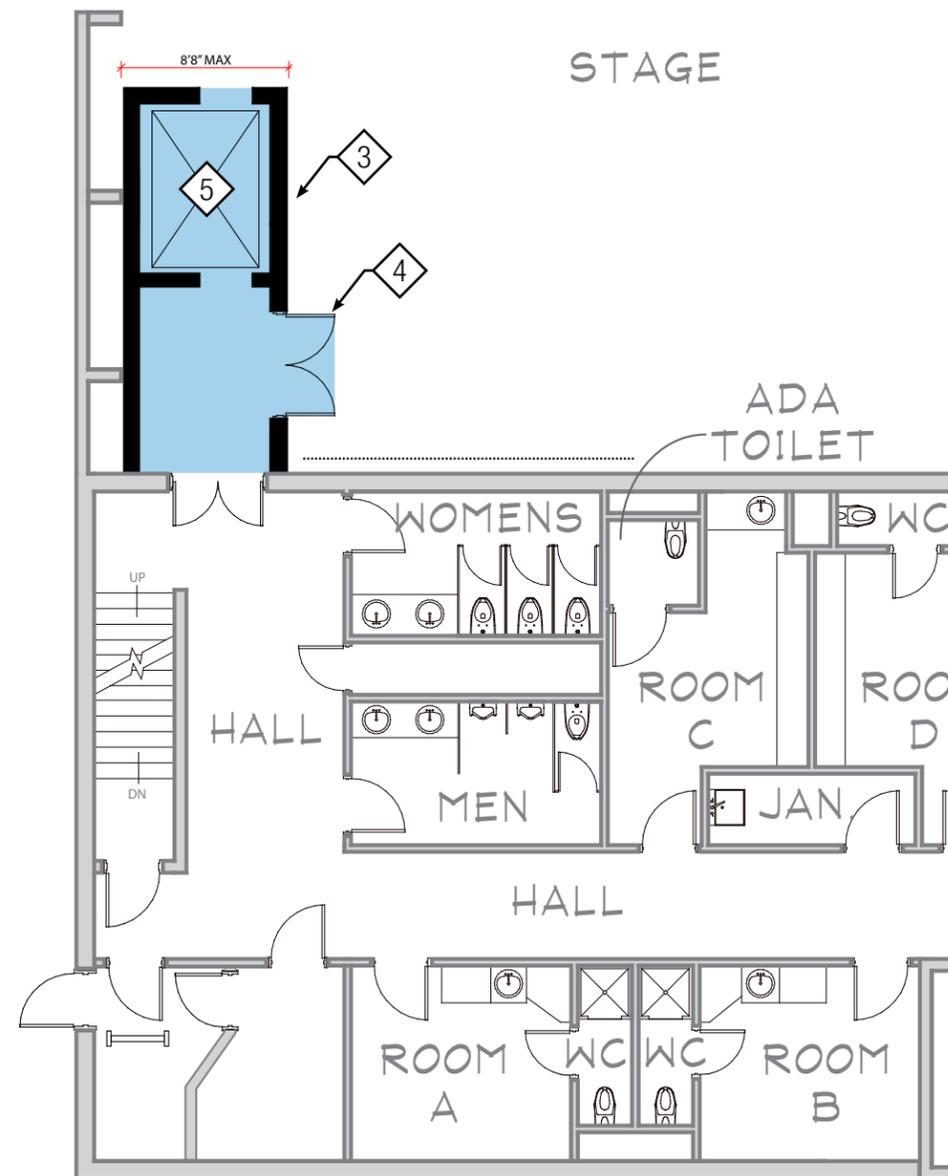
Relocate electrical equipment in area of new elevator. Provide new power for elevator and elevator machine room.

KEY NOTES:

- 1 Saw cut floor for 4' elevator pit
- 2 New mechanical room below
- 3 New acoustically sealed CMU wall
- 4 New double door
- 5 New hydraulic elevator (Potential MRL)



Demo Plan



Proposed Elevator Plan

Room Upgrades

Green Room & Dressing Rooms

Current Condition

The dressing rooms, green room and circulation areas are very dated. There is also no floor drain in the laundry room. The large bathrooms have been updated recently.

Proposed Solution

New carpet, sinks, fixtures and paint are proposed at all back of house areas including corridors. A new floor drain will be installed in the laundry room.

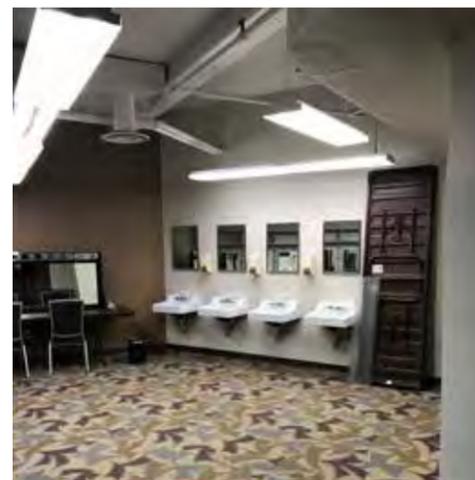
Mechanical & Electrical Considerations

Re-zoning of the air systems and re-piping of the plumbing systems is not anticipated since the walls and fixtures remain in place and the space use does not change. Scope of work consists of replacement of air inlets and outlets as ceilings are finished. If new ceilings are provided, scope of work will include resetting of sprinkler heads in new ceiling.

Replace existing wall mounted devices and cover plates.



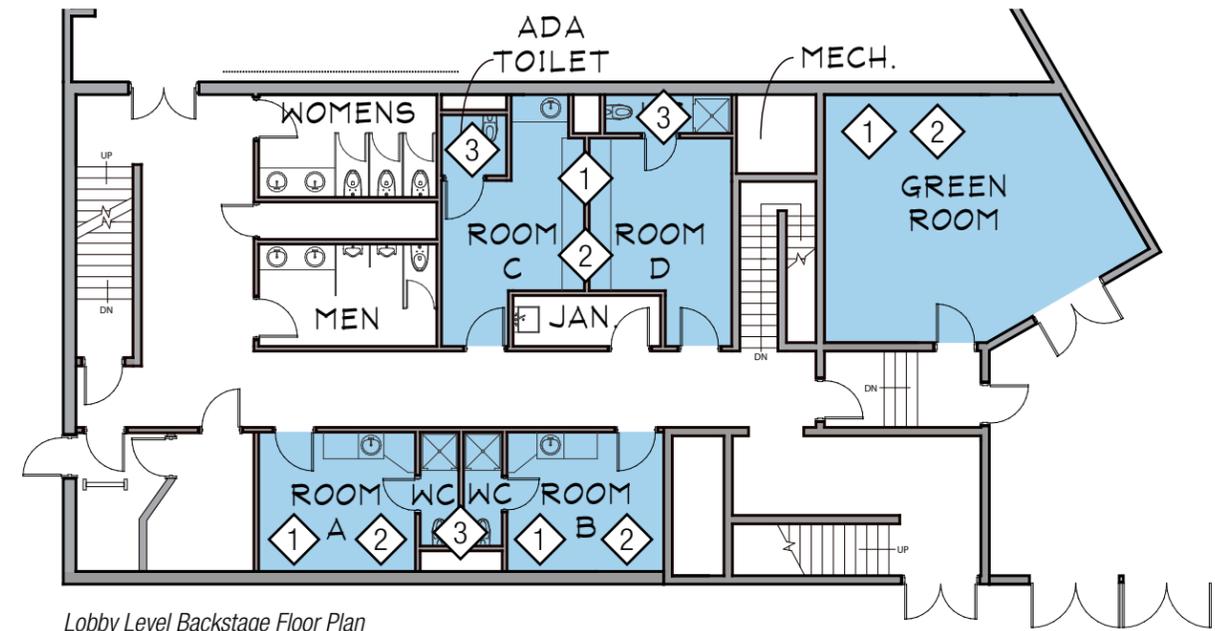
Existing Room C Condition



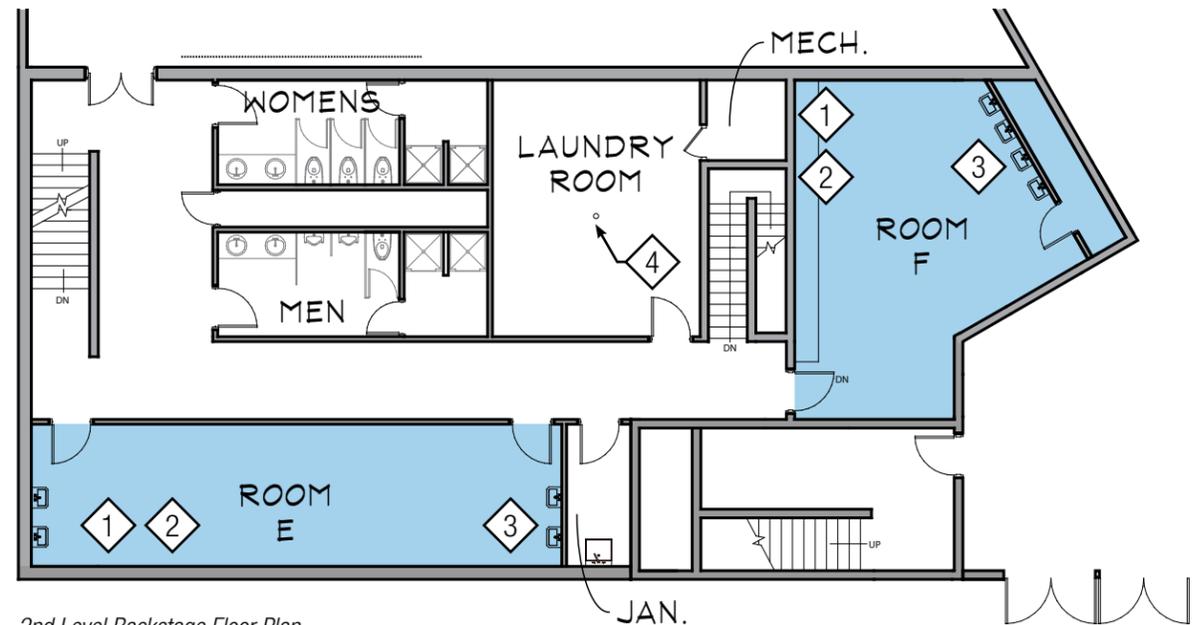
Existing Room F Condition

KEY NOTES:

- 1 New carpet
- 2 New paint
- 3 New sinks/fixtures
- 4 New floor drain



Lobby Level Backstage Floor Plan



2nd Level Backstage Floor Plan

Performer Security Entrance

Current Condition

The current configuration of this space does not allow for ideal security flow. Performers must enter the exterior door and turn hard right while trying to navigate the magnetometer. The current security personnel are behind a glass wall that takes up most of the space. The door has issues tripping the metal detector with the current arrangement. There was a ramp added to the southwest corner of the building to allow ADA access into the performer security entrance.

Proposed Solution

The security staff stated that a closed office is not necessary. By removing the office and installing a simple desk, it creates enough space to rotate the magnetometer 90 degrees and shift it 6' minimum from the door to fix the proximity issues. It also allows more room for security. This will also require removal and patch of an existing door.

LED Stage Lighting

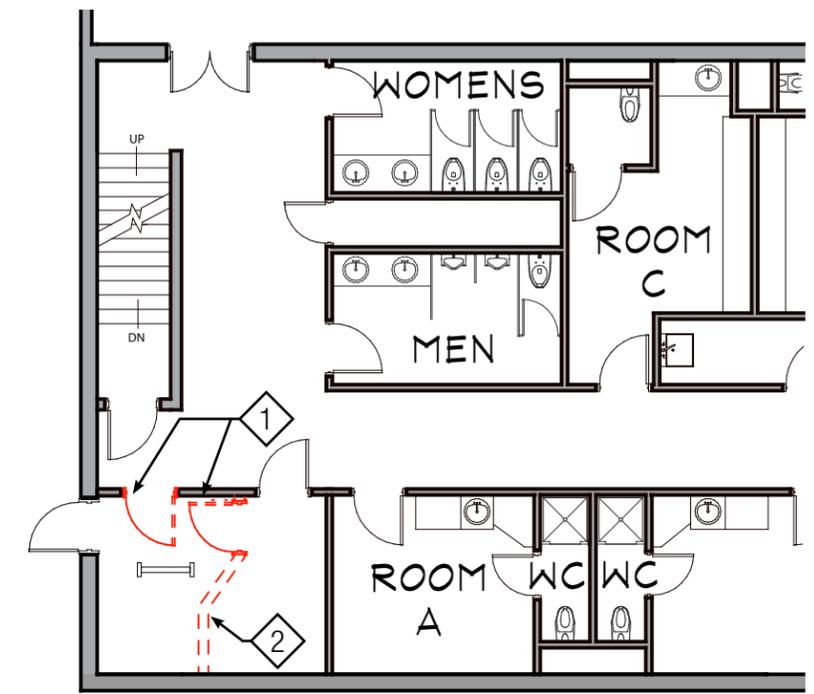
The existing proscenium lights are to be replaced with LED

Backstage Area Cost Estimates

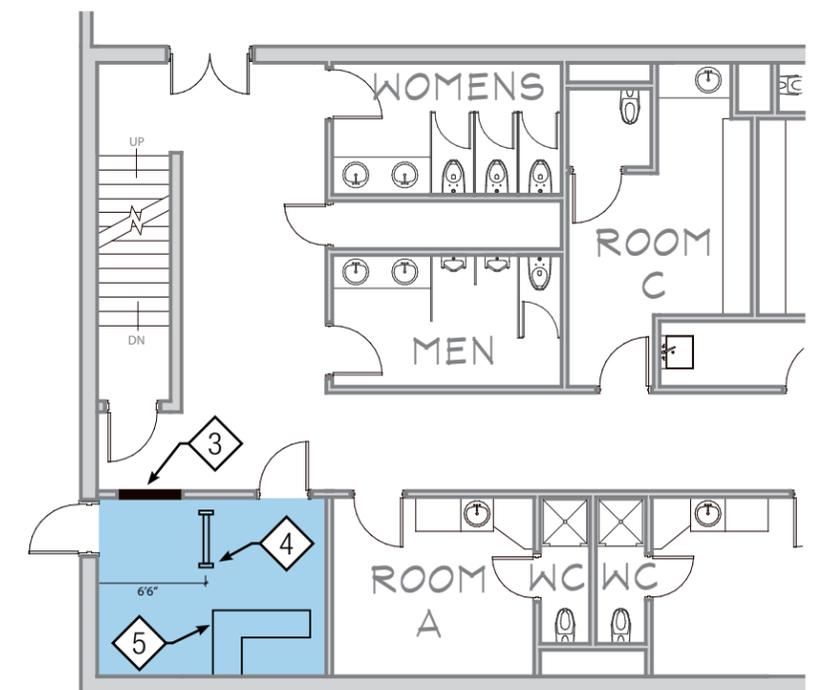
Elevator Addition	\$805,988
Room Upgrades	\$329,495
Performer Security Entrance	\$48,782
LED Stage Lighting	\$40,015
Total	\$1,224,280

KEY NOTES:

- 1 Remove door
- 2 Remove wall
- 3 Infill opening in wall
- 4 Rotate security metal detector
- 5 Relocate security desk



Demo Plan



Proposed Plan



5

LOBBY EXPERIENCE

Proposed Lobby Experience Upgrades

Updating the Existing



Existing Upper Lobby

Current Condition

The current lobby still functions well, but is dated and does not have the energy of a Performing Arts Center. New generations of patrons will demand different, more engaged venues. The current ceiling also contains asbestos and needs to be removed.

Proposed Solution

The original 1972 drawings had a wood soffit along the interior of the building, extending through the breezeway. This was never installed. We propose installing either a tongue and groove fir or ventwood ceiling inside the lobby. A similar grain texture metal or composite product can be installed in the breezeway. This wood will warm the space and could create a beautiful backdrop for a newly commissioned art piece. The art will help give the space scale and provide some bling or wow factor to the lobby. Flooring will be updated and all paint will be updated. We also are proposing a freestanding interactive display. This display would allow patrons to glimpse behind the scenes material associated with each show as well as historical information about the INB and 45 years of amazing productions.

Mechanical & Electrical Considerations

Replace supply and return diffusers in ceiling system. Reset sprinkler heads in new ceilings. Replace floor return grilles not covered in scope items for the auditorium accessibility and music room improvements.

Replace existing lighting with LED type, including controls for automated daylight harvesting. Provide architectural lighting improvements for Lobby.

The existing paging speakers in the lobby are located above the balconies and do not effectively distribute audio throughout the lobby. Replacement of the speakers and addition of speakers above the main lobby area are needed for uniform coverage.

Replacement of existing ceiling mount fire alarm devices is recommended while other work is occurring at the lobby ceiling.

Replace existing wall mounted devices and cover plates.

Provide additional power outlet locations at Lobby perimeter and balcony walls.

Relocating Security

Current Condition

The current ticketing and security approach works functionally, but is not ideal. The current process is for patrons to enter at the east doors and pass through magnetometers and a bag search station. This process takes up a good portion of the lobby. The tickets are taken at the bottom of the stairs. Once a patron decides to head upstairs, many don't venture back down to the main lobby. This works well for the two beverage centers on the terrace level, but both can get overloaded.

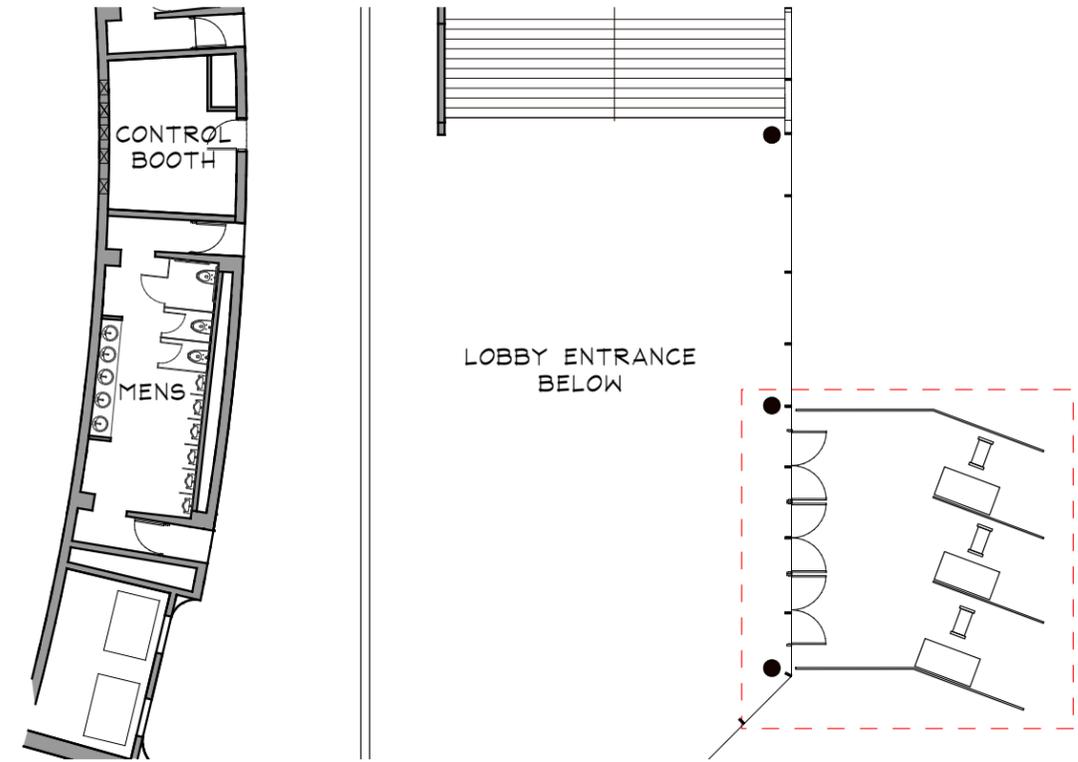
Proposed Solution

By moving the magnetometers outside into the breezeway and the ticketing at the doors, it allows the lobby to be a gathering space. Currently patrons are standing outside in line and the doors are propped during the security process, which is not the most energy efficient approach. This new approach will allow security to happen outside, then ticketing directly inside the doors.

Mechanical & Electrical Considerations

Consider supplemental heat for security personal since this zone with exterior traffic is zoned with other spaces that do not have traffic to the outdoors.

Modify electrical provisions for security equipment as needed.



Security Moved to Exterior

Lobby Experience Cost Estimates

Updating the Existing	\$3,724,383
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MUSIC ROOM

Rendering of Proposed Music Room

Creating a Marketable Space



Existing Music Room



Rendering of Proposed North Addition

Current Condition

The music room is currently used for warm up rehearsal for musicians and is available for pre-function activities. It is not a highly marketable space due to the lack of accessibility and the location in the lowest level.

Proposed Solution

There are five major components that could make this space a highly marketable venue.

- **Engaging the Exterior** - Currently there is a missed opportunity to engage the river and floating stage to the north. By extending the current stairs to the west you can create a new 700sf space that has a sliding door to create an indoor/outdoor experience. This space will have a balcony on the interior that overlooks the existing music room.
- **Natural Daylighting** - The new room and associated movable glass wall will provide ample daylight into the music room, visible from the entry.
- **Visual Displays** - This new space would offer a great opportunity to have historic photos of performances and/or performers. This glimpse of history could help market this space.
- **ADA Accessibility** - There is not current room either above or below for a traditional or machine room less elevator. We propose installing an accessible lift, but encasing it in a wood veneer box to match the existing paneling.
- **New Finishes** - New flooring, paint and refurbishing the wood paneling

The space must still be able to perform as a rehearsal space. We are not proposing anything that would significantly impact the acoustics.

Mechanical & Electrical Considerations

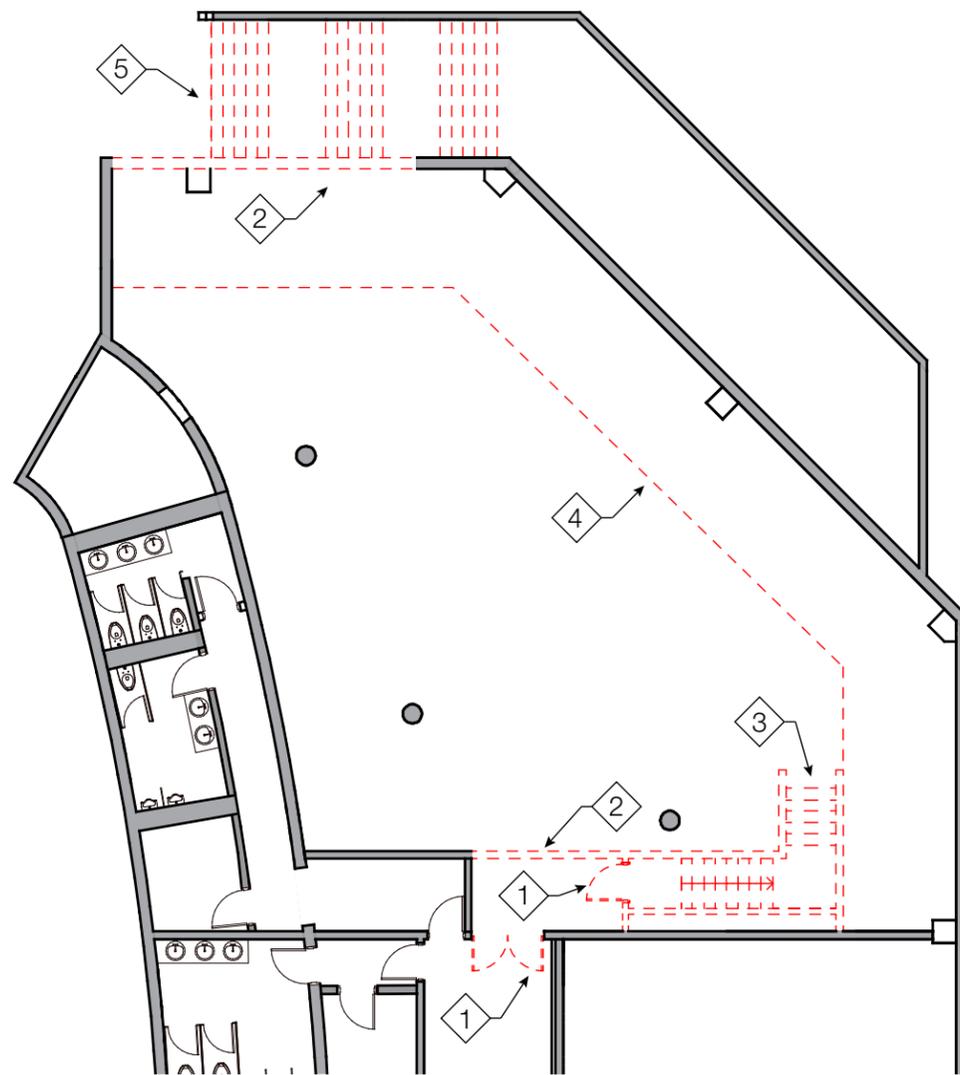
Replace music room 6000 cfm multi-zone (minimum outside air) air-handling unit MZ-4 with new 7,000 cfm VAV air handling unit equipped with air side economizer to serve repurposed and expansion. Provide VAV air terminal units for each zone and new ductwork in the renovated area. Adjust sprinklers with new ceilings and add sprinklers to the addition. Relocate return air grilles in the floor above as part of the stair revisions in the vicinity of the display case.

Replace existing track lighting with LED type. Replace existing wall mounted devices and cover plates.

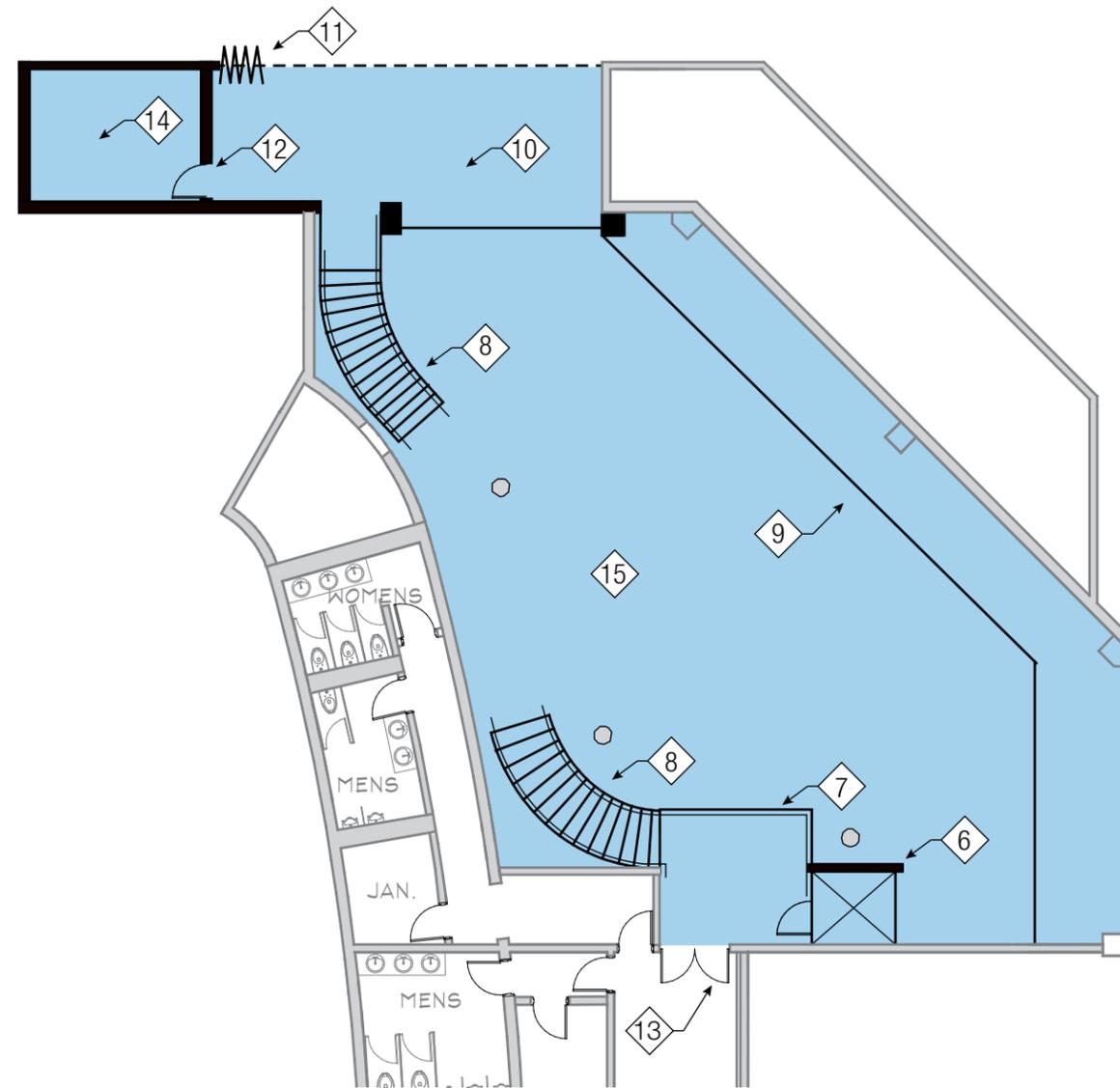
Provide electrical, lighting and low voltage systems for building expansion.

KEY NOTES:

- 1 Remove door
- 2 Remove wall
- 3 Remove interior stair
- 4 Reconfigure plenum
- 5 Remove exterior stair and relocate to the west
- 6 New wheelchair lift
- 7 New mezzanine and railing system
- 8 New stair
- 9 New plenum
- 10 New mezzanine and railing system with exterior access
- 11 New retractable glass wall
- 12 New walls
- 13 New glass doors
- 14 New under stair storage
- 15 New flooring throughout



Demo Floor Plan



Proposed Floor Plan

Music Room Cost Estimate

Creating a Marketable Space

\$1,738,272



Proposed Music Room Interior



Proposed Exterior Music Room Access



Proposed Exterior View



7

BUILDING SYSTEMS

Mechanical

Low cost

- Clean and test fire dampers
- Upgrade AC split system at balcony level sound room
- Remove exhaust fan from main intake air plenum and relocated exhaust fan to the area well on the roof above.

Medium cost

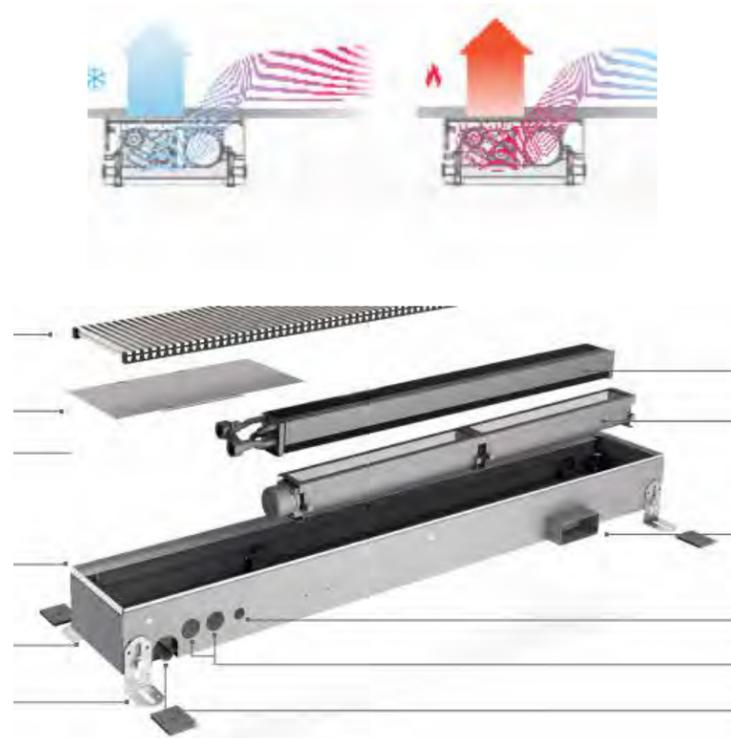
- Provide an independent dryer exhaust vent from the laundry and vent directly to the outside.
- Add laundry floor drain.
- Food service backstage. Catering operations are not anticipated to require mechanical services.
- Replace Boilers: The central heating plant is located near the Double Tree Hotel and Spokane Falls Court entry and services the west side of the Convention Center and the Performing Arts Center. After 30 years of operation, the heating plant has exceeded its useful life and replacement should be considered for continued reliability and improved efficiency. With optimal efficiency this plant operates at 80% efficiency but realistically is operating at something less than this.
- It is recommended that the (2) 7,000 mbh gas input boilers be replaced with new high efficiency boilers that can operate at 90% or greater efficiency through water temperature reset when outside air conditions are favorable. The plant replacement would include replacement of circulating pumps, air separators, expansion tanks, mechanical room piping/valves and associated controls.

- Stage Air Handling Unit: Provide a single zone air handling unit to heat and cool the stage in un-occupied, rehearsal and stage set-up modes. Air Handling units will be equipped with hot water and chilled water coils and will be located on the roof above loading dock. The unit will be hidden from street level view with an extended parapet. Small heat exchangers will be provided for each heating and cooling coil so that the coils can be freeze protected with glycol.

High Cost

- New roof (Architectural): Provide new roof drains when the roof is replaced. Add overflow drains and piping adjacent to existing roof drains.
- Replace Generator System (Electrical): Remove gas piping connections at existing generator located near the heating plant. Add new gas service and piping to the new expanded capacity generator to be located on the west side of the performing arts center.
- Add air economizer to main AHU systems at the upper level (Mechanical). This will involve addition of new fresh air intake and relief louvers sized for 100% of the capacity of the air handling systems in the area wells above each mechanical room. New and expanded roof penetrations will be required.
- Reduce stratification problems in the lobby area (Mechanical). Presently the space is warmer at the upper levels than at the entry level since the heat is being provided from the high lobby ceilings. Solutions to this will be a combination of several items.
 - First, glazing will be replaced (as part of the new windows scope item) with more energy efficient products to reduce the heating demand in the space.
 - Second, air returns at the floor will be upgraded and properly sized (this will be provided as part of scope items for accessibility/south vomitorium, carpet replacement and music room scope items).
 - Third, building pressure controls will be upgraded with addition of adjustable volume relief systems that respond to building pressure to control the building to a positive pressure as part of the scope item to add economizer to the building's main air systems.

- Fourth, heat and cooling will be introduced at the floor level. Heating and cooling will be provided floor grilles equipped with heating and cooling coils and fans. This active fan induced sections with coils would be interspersed between sections with return grilles only. The concept is based upon Clima Canal Hybrid as manufactured by Jaga.



- Replace MZU-1 at the catwalk level (mechanical). This unit will be replaced with an 11,000 cfm VAV air handling unit. Variable air volume terminal units and hydronic heating coils will be added for each of the 9 existing zones. Modification to ductwork in the shaft is anticipated.

Electrical

Low cost

- Lighting within tunnel areas is on batteries and has experienced battery failure. Generator backed circuits are needed to serve tunnel lighting in lieu of batteries.
- Replace tunnel egress lighting with LED type and provide emergency circuits for path of egress.

- Sound equipment racks located at the balcony level closet were noted to be original to the building. Recommended that new 4-post racks with power strips be provided.
- Replace sound equipment racks at Balcony level.

Medium cost

- See respective mechanical narratives for mechanical equipment revisions which will require electrical work. Major items which will require electrical improvements include but are not limited to the following: Boiler Replacement, Stage Air Handler Addition, and Replacement of Air Handler (MZU-1).
- Provide electrical connections for mechanical improvements as required.
- Large lighting dimmer cabinets are present at the stage, basement and balcony level that are no longer used as dimming equipment. The large enclosures are currently used for routing of wires to the lighting fixtures. A solution to reroute the wiring and remove the large dimmer cabinets at each location is necessary.
- Remove legacy lighting dimmer cabinets which are no longer in service. Wiring shall be replaced including new pathways.

High Cost

- The building electrical service equipment, feeders and branch wiring has reached the end of its useful service life and is in need of replacement. In addition, power at specific areas of the building is lacking and therefore additional panelboards may be needed where not currently present
- Replace and supplement electrical distribution equipment, feeders and branch wiring. This scope of work will exclude equipment or wiring which has been installed within the last 10 years. New equipment shall include TVSS units for protection of sensitive loads. Provide electrical connections for mechanical improvements as required.

- A single 83kW 208V generator serves emergency loads in the building. It is recommended the generator be replaced and increased in size to meet current building needs. The District indicated there is a desire to have the entire building on a generator system. The emergency and standby loads would need to be separated to facilitate this need.
- Replace the building generator system to support building loads. The system would support all necessary building functions including life safety. It is estimated that a 500kW generator would be required based upon the Owner provided building demand data and estimated future growth. The generator system replacement shall include a new generator, distribution system and source transfer equipment. It is proposed that the new Generator be located outdoors and North or West of the loading dock in the existing landscape area. Proposed fuel source is Natural Gas.
- If smoke evacuation is required for the building, the generator system will be provided with an NEC 701 legally required standby branch.

Building Systems Cost Estimates

Mechanical & Electrical	\$5,257,707
Glazing System	\$4,999,352
Roofing	\$2,646,998
Total	\$12,904,057

Glazing System

The current glazing system is original to the building. The convention center side was replaced in 2012. The intent of this document is to match the window size/spacing of that renovation. Glass will be to current energy codes.

Roofing

The current roof is original to the building. It is a built-up roofing system. We are proposing replacing it with a modified bitumen roofing system. We feel this is a better alternative to either PVC, TPO or EPDM. It is a little more costly, but will last much longer.



APPENDICES

Reverberation

The INB Performing Arts Center auditorium was initially created to accommodate a wide range of performance types, including symphonic music. Halls designed for symphonic music have acoustic attributes that are different from those designed primarily for Broadway type shows that rely on amplified sound.

Symphonic halls are designed to augment the music created within them. In addition to several more subtle acoustic aspects, highly rated symphonic halls provide desired reverberation and a sense of sound envelopment for the audience. Typical reverberation times for concert halls of this size are in the range of 1.9 seconds.

Performing arts spaces built specifically for Broadway-type shows don't need augmentation from the room. In fact, any significant room response detracts from the sound. The room becomes simply a receptacle for the amplified sound. The more acoustically dampened, the better. The only reasons not to add more acoustic dampening are cost and aesthetics.

The critical parameter for room acoustics in a Broadway-type theatre is signal to noise ratio. Sound has better definition and clarity with a high signal to noise ratio. Reverberant sound is noise in this context. An important distinction, though, is that the reverberant sound level is not directly related to the reverberation time in a room. It is directly related to the amount of absorption in the room.

The reverberation time is directly proportional to the room volume and inversely proportional to the amount of acoustical absorption in the room. Consequently, large volumes require more absorption to create the same reverberation time as rooms with less volume. Because the total room volume of the INB Performing Arts Center is high, the total amount of absorption is high and the reverberant sound level is correspondingly low. The room creates a reasonable signal to noise ratio for amplified sound, even though its reverberation time is higher than optimum.

Reverberation Low Frequency Room Response

Conversations with the sound system staff indicated that the room is reasonably well behaved with respect to sound system operation. That likely stems from the high amount of total absorption in the room and that a high percentage of the surfaces facing the speakers are absorptive. The absorptive surfaces are primarily the seating and the rear walls above the level of the seats.

The one complaint that was heard related to the low frequency response of the room. Concert halls are purposefully designed to augment the low frequency sound created by the musicians. The result is referred to as acoustic "warmth". Although this is advantageous for a concert hall, the high volumes of low frequency sound generated by a Broadway show can overdrive the room's response and create a lack of definition at low frequencies.

The comment received regarding the low frequency response was not that it was bad, since touring sound companies routinely dealt with it satisfactorily, but rather than it could be improved.

The challenge with the INB Performing Arts Center in this regard is the amount of low frequency absorption already present. The seating area absorbs roughly half the low frequency energy that strikes it. The absorptive rear walls are 4" thick so they absorb roughly 30% of the sound that strikes them. Based on the room volume and optimum concert hall low frequency reverberation times, the existing low frequency absorption is on the order of 30,000 sabins! (One sabin is equal to one square foot of total acoustic absorption.)

To make a significant difference in the reverberant energy in the room, a minimum of a 3 dB change in level would be needed. To create a 3 dB difference in the reverberant level, the amount of absorption in the room would need to be doubled. At an absorption efficiency of 50%, 60,000 sf of material would need to be added. Even if the cost was acceptable (likely \$1,000,000), that amount of surface area is not available for modification in the room. Anything short of that would not create a sufficient difference in room response to make the cost worthwhile.

Reflections

The existing surface shapes, orientations and materials of the performing arts center prevent significant unwanted reflections. There are sloped convex reflectors above the rear seating areas that shower the under-balcony seats with a relatively weak reflection from behind and above the audience. These reflections are useful, lessening what would otherwise be a dead acoustic response in these seats. The reflections' time delays are very short and slightly augment the strength and intelligibility of the amplified sound.

An issue historically has been reflections off of the face of the entrance doors to the room. Reflections from these doors were audible to performers on stage. These reflections were eliminated by adding heavy velour curtains in front of each of the doors. If the curtains were removed, either absorption would need to be added to the face of the doors or the angle of the doors would need to be changed to redirect the reflections toward the rear of the hall.

Auditorium ADA Seating & Music Booth Study

Occupancy Type: A-1

Area (approx.): 14,110 sf

Occupancy #: 2700 Max. Sec 1004.4 Fixed Seating

IEBC 2015 References:

Sec 504 - Alteration Level 2

Compliance with Level 1 Alteration Chapter 7 and Chapter 8

Sec 410 – Accessibility for Existing Buildings – If no change of occupancy, then existing stairs and egress routes need no new requirements.

Sec 705 – Accessibility – Not required in existing buildings.

Sec 705.1 – Ramps – Max rise = 6" for 1:12 > 1:10
3" for 1:10 > 1:8

Sec 805 – Egress – To comply with IBC 2015 for egress.

Egress (IBC 2015 SEC 1005)

Sec 1005.5 - Distribution of minimum width and required capacity

Where more than one exit, or access to more than one exit, is required, the means of egress shall be configured such that the loss of any one exit, or access to one exit, shall not reduce the available capacity or width to less than 50 percent of the required capacity or width.

Sec 1006.2.1.1 – Three or more exits or exit access doorways

Three exits or exit access doorways shall be provided from any space with an occupant load of 501 to 1,000. **Four exits or exit access doorways shall be provided from any space with an occupant load greater than 1,000.**

of Exits Required (4) Existing exists; Level 1 (12, 6 each side)

Sec 1007.1.2 – Three or more exits or exit access doorways

Where access to three or more exits is required, not less than two exit or exit access doorways shall be arranged in accordance with the provisions of Section 1007.1.1. Additional required exit or exit access doorways shall be arranged a reasonable distance apart so that if one becomes blocked, the others will be available.

Sec 1007.1.3 Remoteness of exit access stairways or ramps.

Where two exit access stairways or ramps provide the required means of egress to exits at another story, the required separation distance shall be maintained for all portions of such exit access stairways or ramps.

Sec 1007.1.3.1 Three or more exit access stairways or ramps.

Where more than two exit access stairways or ramps provide the required means of egress, not less than two shall be arranged in accordance with Section 1007.1.3.

Sec 1012 – Ramps

Sec 1012.2 Slope.

Ramps used as part of a means of egress shall have a running slope not steeper than one unit vertical in 12 units horizontal (8-percent slope). The slope of other pedestrian ramps shall not be steeper than one unit vertical in eight units horizontal (12.5-percent slope).

1012.3 Cross slope.

The slope measured perpendicular to the direction of travel of a ramp shall not be steeper than one unit vertical in 48 units horizontal (2-percent slope).

1012.4 Vertical rise.

The rise for any ramp run shall be 30 inches (762 mm) maximum.

1012.5 Minimum dimensions.

The minimum dimensions of means of egress ramps shall comply with Sections 1012.5.1 through 1012.5.3.

1012.5.1 Width and capacity.

The minimum width and required capacity of a means of egress ramp shall be not less than that required for corridors by Section 1020.2. The clear width of a ramp between handrails, if provided, or other permissible projections shall be 36 inches (914 mm) minimum.

1012.5.3 Restrictions.

Means of egress ramps shall not reduce in width in the direction of egress travel. Projections into the required ramp and landing width are prohibited. Doors opening onto a landing shall not reduce the clear width to less than 42 inches (1067 mm).

1012.6 Landings.

Ramps shall have landings at the bottom and top of each ramp, points of turning, entrance, exits and at doors. Landings shall comply with Sections 1012.6.1 through 1012.6.5.

1012.6.1 Slope.

Landings shall have a slope not steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Changes in level are not permitted.

1012.6.2 Width.

The landing width shall be not less than the width of the widest ramp run adjoining the landing.

1012.6.3 Length.

The landing length shall be 60 inches (1525 mm) minimum.

Exceptions:

1. In Group R-2 and R-3 individual dwelling and sleeping units that are not required to be Accessible units, Type A units or Type B units in accordance with Section 1107, landings are permitted to be 36 inches (914 mm) minimum.
2. Where the ramp is not a part of an accessible route, the length of the landing shall not be required to be more than 48 inches (1220 mm) in the direction of travel.

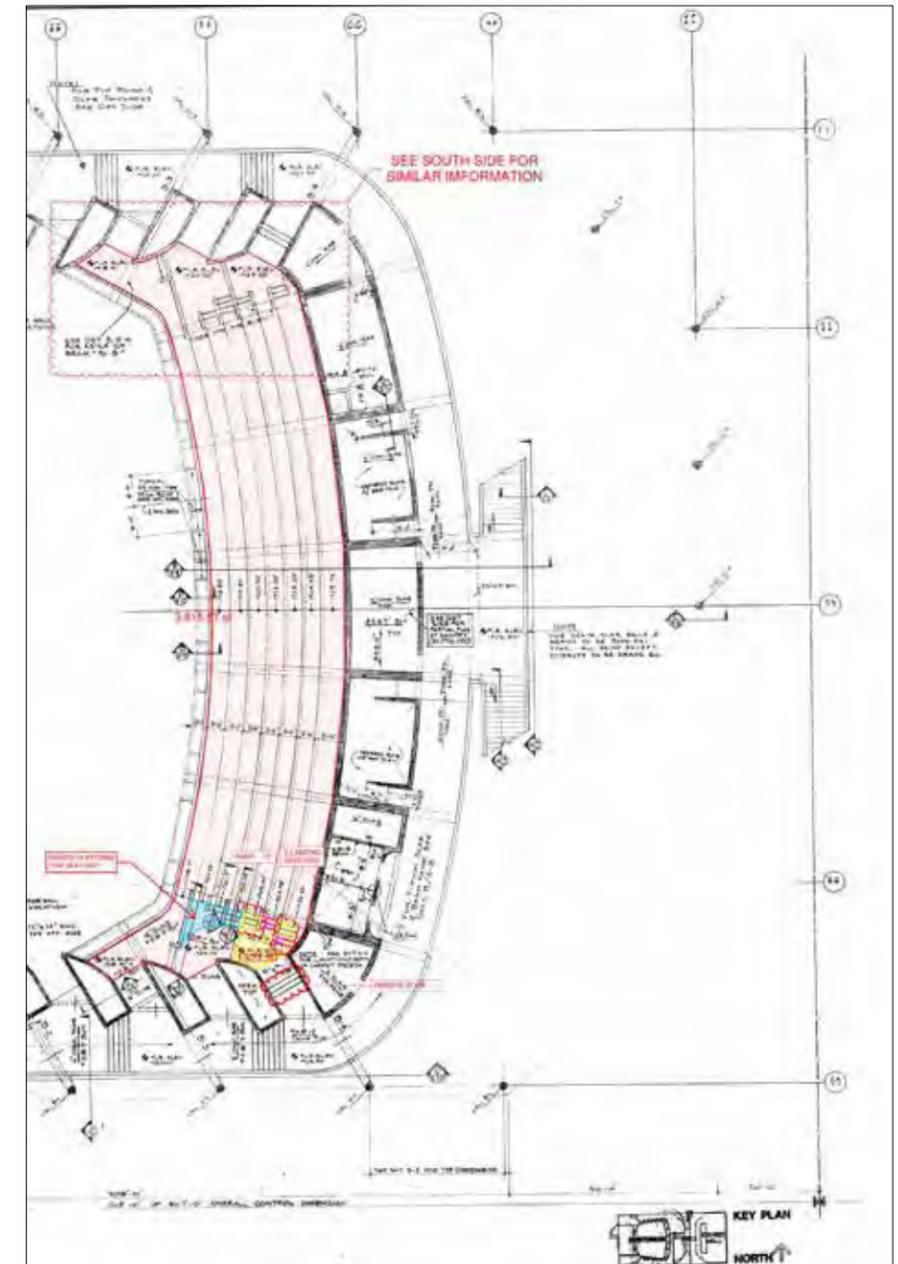
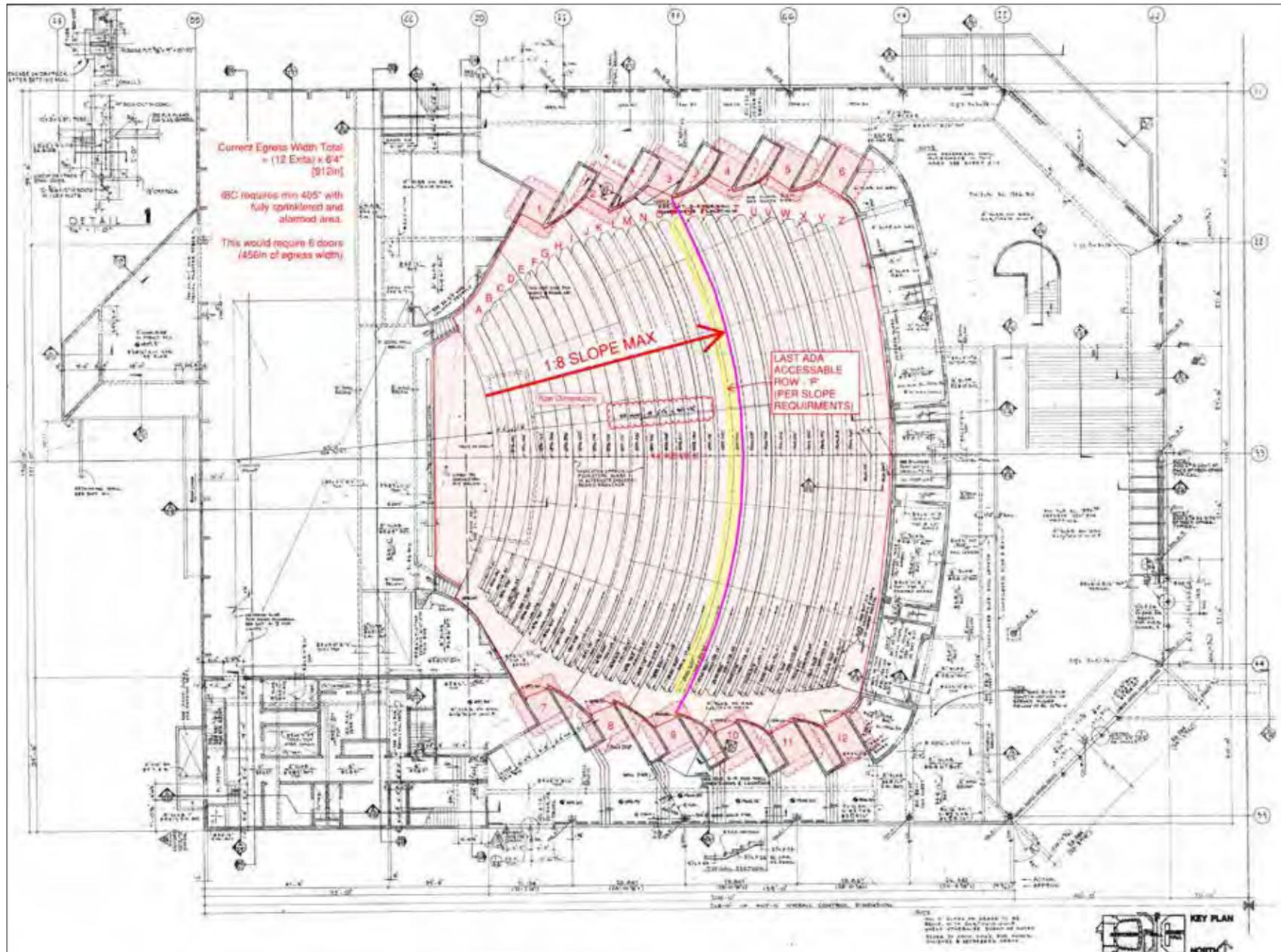
Accessible Means of Egress: IBC 2015 Sec 1009.1 except 1 – not req'd in existing buildings

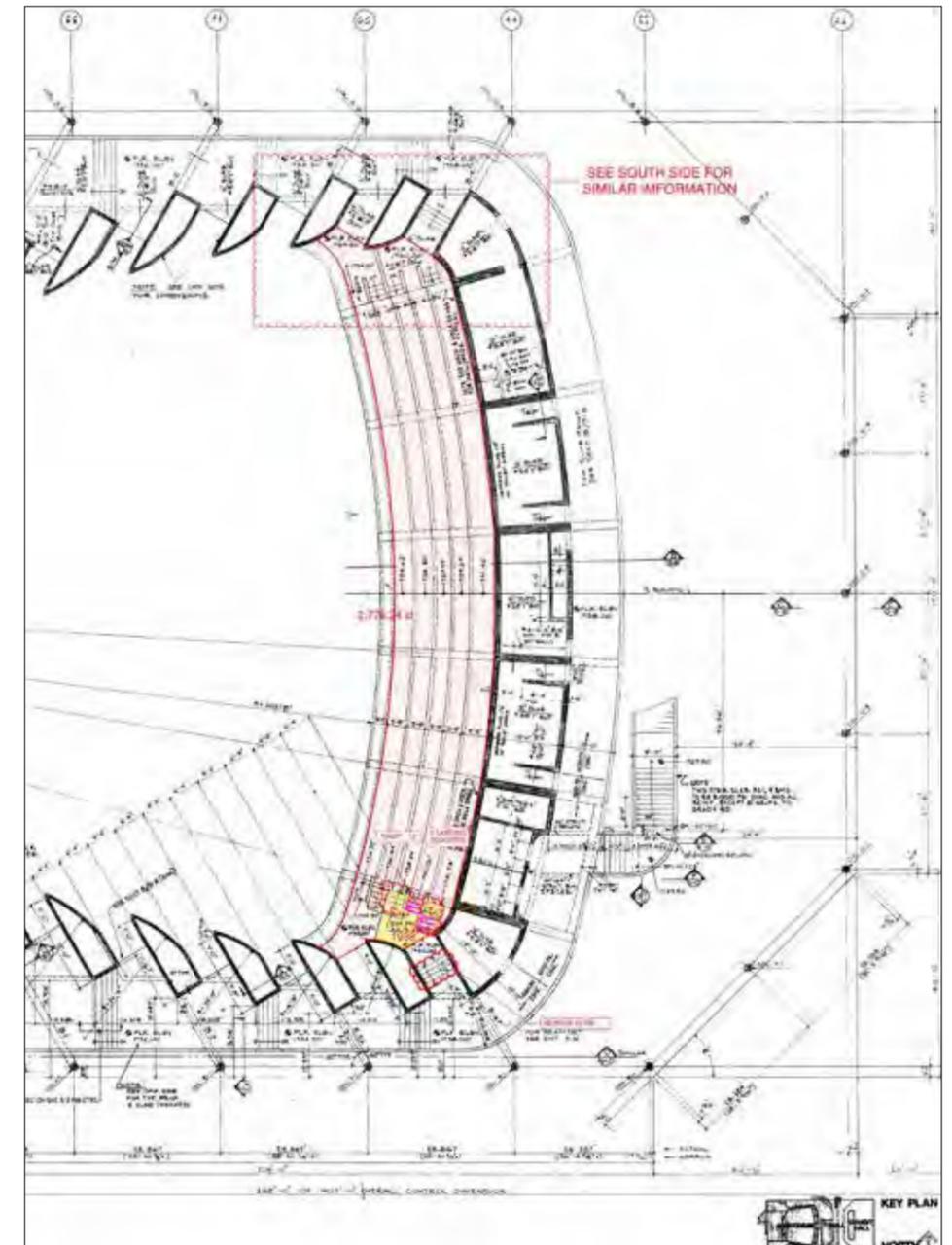
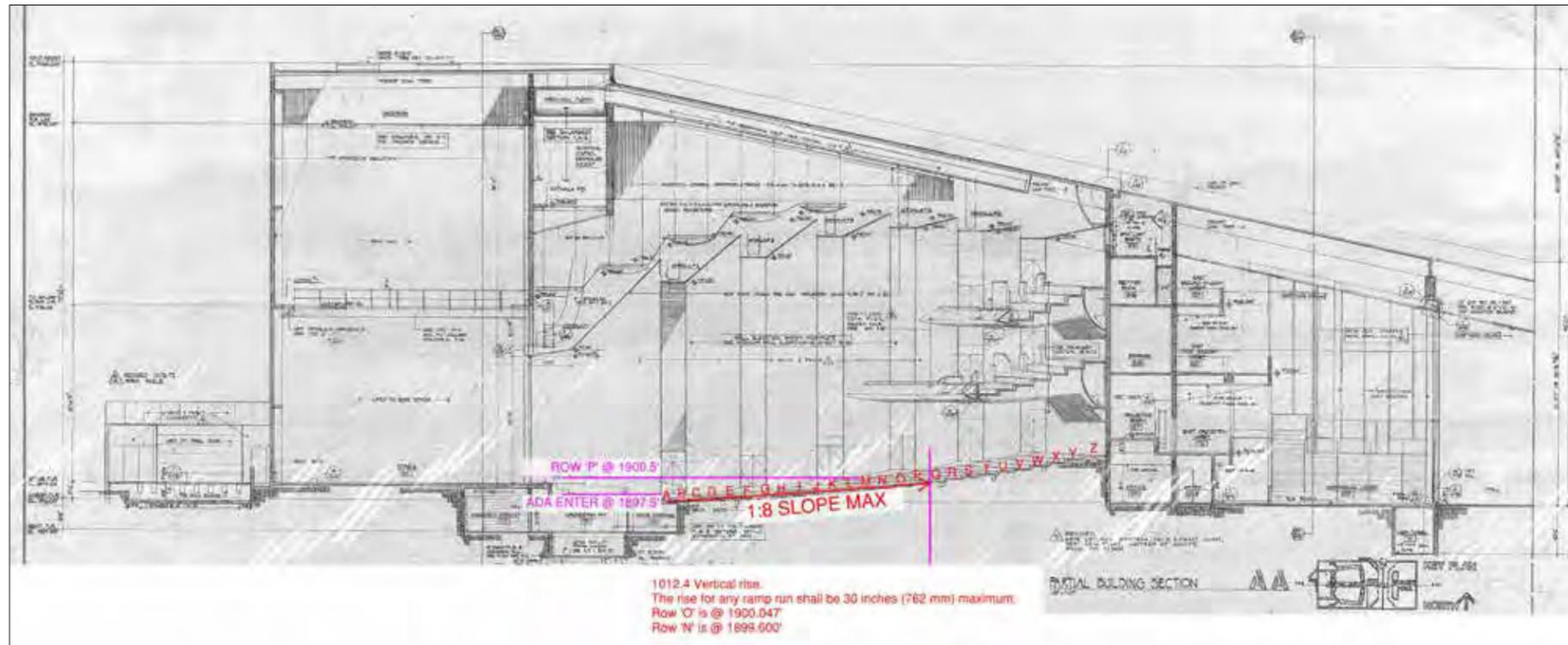
General Mean of Egress

Stairs:	[0.3in * 2700]= 810" for non sprinklered
	[0.2in * 2700]= 540" for FULLY sprinklered + alarm system
Other:	[0.2in * 2700]= 540" for non sprinklered
	[0.15in * 2700]= 405" for FULLY sprinklered + alarm system

Sec 1003.5 – Elevation Change – Less than 12" sloped surface should be used. Sloped greater than 5% shall conform to Sec 1012. Handrails are required.

Exception: 3 – A step is permitted in aisles serving seating that has a difference in elevation less than 12" at locations not required to be accessible, provided risers and treads comply with Sec 1029.15. and the aisle is provided with handrail conforming to Sec 1029.15





Lobby and ADA Tunnel Study

Occupancy Type: A-1

Area (approx.): NA

Occupancy #: 2700 Max. Sec 1004.4 Fixed Seating

IEBC 2015 References:

403.1 General.

Except as provided by Section 401.2 or this section, alterations to any building or structure shall comply with the requirements of the International Building Code for new construction. Alterations shall be such that the existing building or structure is no less conforming to the provisions of the International Building Code than the existing building or structure was prior to the alteration.

Exceptions:

1. An existing stairway shall not be required to comply with the requirements of Section 1011 of the International Building Code where the existing space and construction does not allow a reduction in pitch or slope.
2. Handrails otherwise required to comply with Section 1011.11 of the International Building Code shall not be required to comply with the requirements of Section 1014.6 of the International Building Code regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.

Sec 504 - Alteration Level 2

Compliance with Level 1 Alteration Chapter 7 and Chapter 8

Sec 410 – Accessibility for Existing Buildings – If no change of occupancy, then existing stairs and egress routes need no new requirements.

705.1 General

A facility that is altered shall comply with the applicable provisions in Sections 705.1.1 through 705.1.14, and Chapter 11 of the International Building Code unless it is technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent that is technically feasible.

A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

Exceptions:

1. The altered element or space is not required to be on an accessible route unless required by Section 705.2.
2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing facilities.
3. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in existing facilities undergoing less than a Level 3 alteration.

Sec 705.1 – Ramps – Max rise = 6" for 1:12 > 1:10

3" for 1:10 > 1:8

Sec 805 – Egress – To comply with IBC 2015 for egress.

Sec 1012 – Ramps

Sec 1012.2 Slope.

Ramps used as part of a means of egress shall have a running slope not steeper than one unit vertical in 12 units horizontal (8-percent slope). The slope of other pedestrian ramps shall not be steeper than one unit vertical in eight units horizontal (12.5-percent slope).

1012.3 Cross slope.

The slope measured perpendicular to the direction of travel of a ramp shall not be steeper than one unit vertical in 48 units horizontal (2-percent slope).

1012.4 Vertical rise.

The rise for any ramp run shall be 30 inches (762 mm) maximum.

1012.5 Minimum dimensions.

The minimum dimensions of means of egress ramps shall comply with Sections 1012.5.1 through 1012.5.3.

1012.5.1 Width and capacity.

The minimum width and required capacity of a means of egress ramp shall be not less than that required for corridors by Section 1020.2. The clear width of a ramp between handrails, if provided, or other permissible projections shall be 36 inches (914 mm) minimum.

1012.5.3 Restrictions.

Means of egress ramps shall not reduce in width in the direction of egress travel. Projections into the required ramp and landing width are prohibited. Doors opening onto a landing shall not reduce the clear width to less than 42 inches (1067 mm).

1012.6 Landings.

Ramps shall have landings at the bottom and top of each ramp, points of turning, entrance, exits and at doors. Landings shall comply with Sections 1012.6.1 through 1012.6.5.

1012.6.1 Slope.

Landings shall have a slope not steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Changes in level are not permitted.

1012.6.2 Width.

The landing width shall be not less than the width of the widest ramp run adjoining the landing.

1012.6.3 Length.

The landing length shall be 60 inches (1525 mm) minimum.

Exceptions:

1. In Group R-2 and R-3 individual dwelling and sleeping units that are not required to be Accessible units, Type A units or Type B units in accordance with Section 1107, landings are permitted to be 36 inches (914 mm) minimum.
2. Where the ramp is not a part of an accessible route, the length of the landing shall not be required to be more than 48 inches (1220 mm) in the direction of travel.

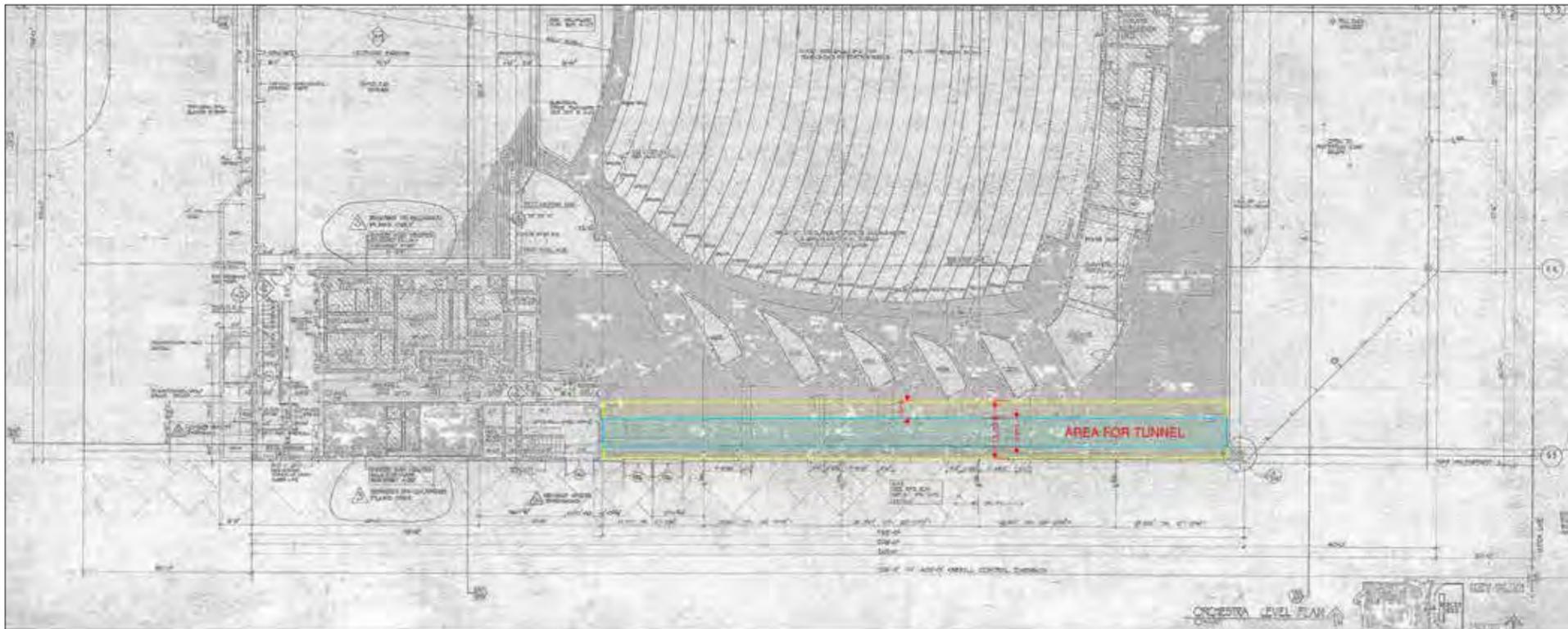
Accessible Means of Egress: IBC 2015 Sec 1009.1 except 1 – not req'd in existing buildings

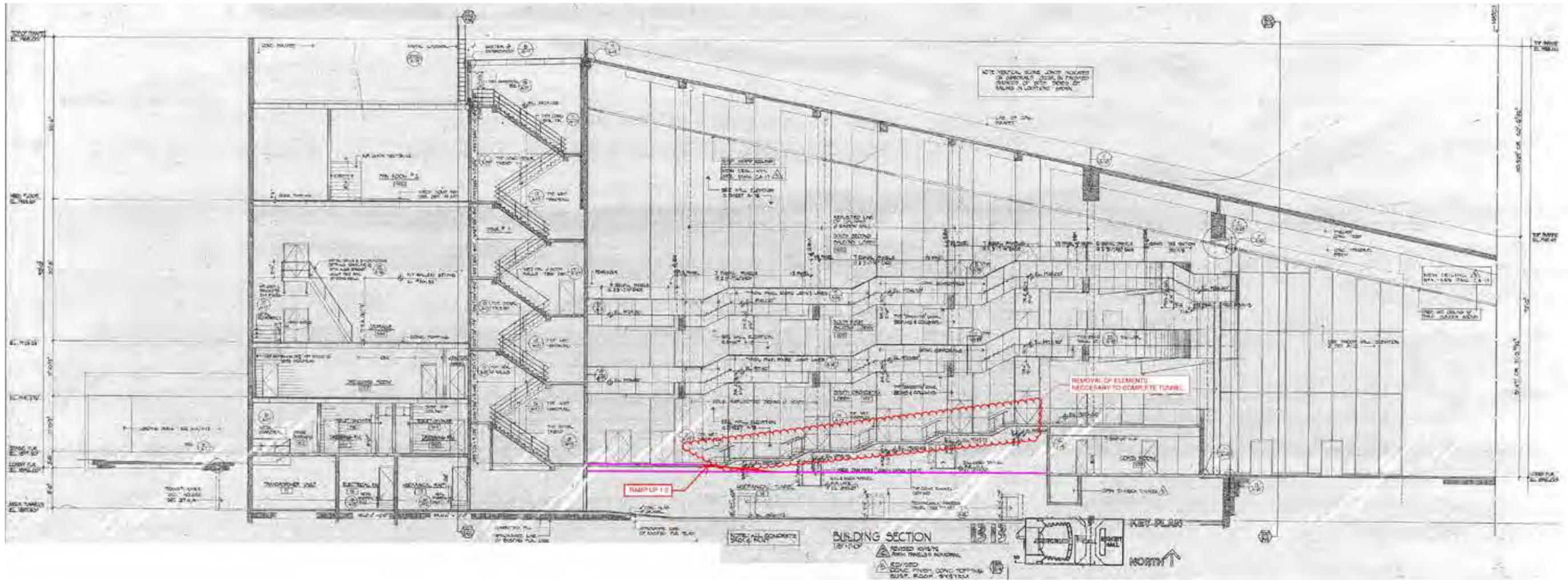
General Mean of Egress

Stairs:	[0.3in * 2700]= 810" for non sprinklered
	[0.2in * 2700]= 540" for FULLY sprinklered + alarm system
Other:	[0.2in * 2700]= 540" for non sprinklered
	[0.15in * 2700]= 405" for FULLY sprinklered + alarm system

Sec 1003.5 – Elevation Change – Less than 12" sloped surface should be used. Sloped greater than 5% shall conform to Sec 1012. Handrails are required.

Exception: 3 – A step is permitted in aisles serving seating that has a difference in elevation less than 12" at locations not required to be accessible, provided risers and treads comply with Sec 1029.15. and the aisle is provided with handrail conforming to Sec 1029.15





Service Elevator Study

Occupancy Type: A-1

Area (approx.): N/A

Occupancy #: N/A

IEBC 2015 References:

Sec 504 – Alteration level 2

Compliance with Level 1 Alteration Chapter 7 and Chapter 8

IBC 2015 References:

Sec 410 – Stages, Platforms & Technical Production Areas

410.4 – Platform construction

410.7 – Automatic Sprinkler System

Sec 707 – Fire Barriers

707.5 – Continuity – Exception, shaft enclosures shall be permitted to terminate at a top enclosure complying with 713.12

707.5.1 Construction shall be 2hr from table 707.3.10 **CONFLICTS WITH 713.4**

Sec 711 – Horizontal Assemblies

Sec 712 – Vertical Openings

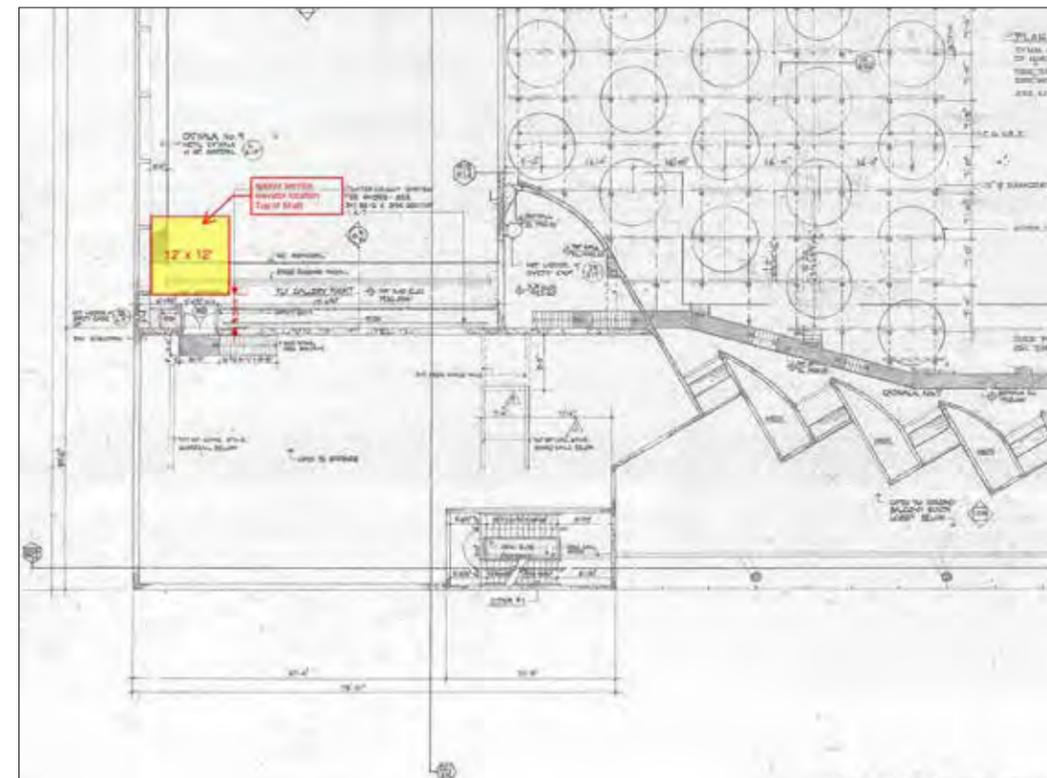
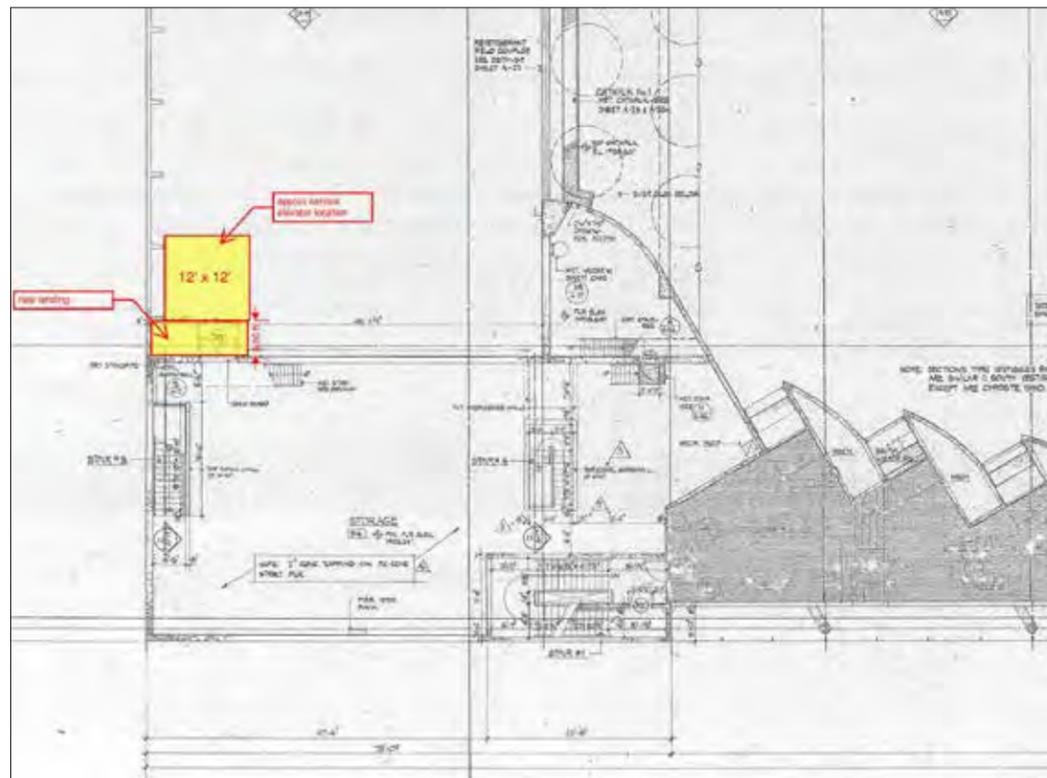
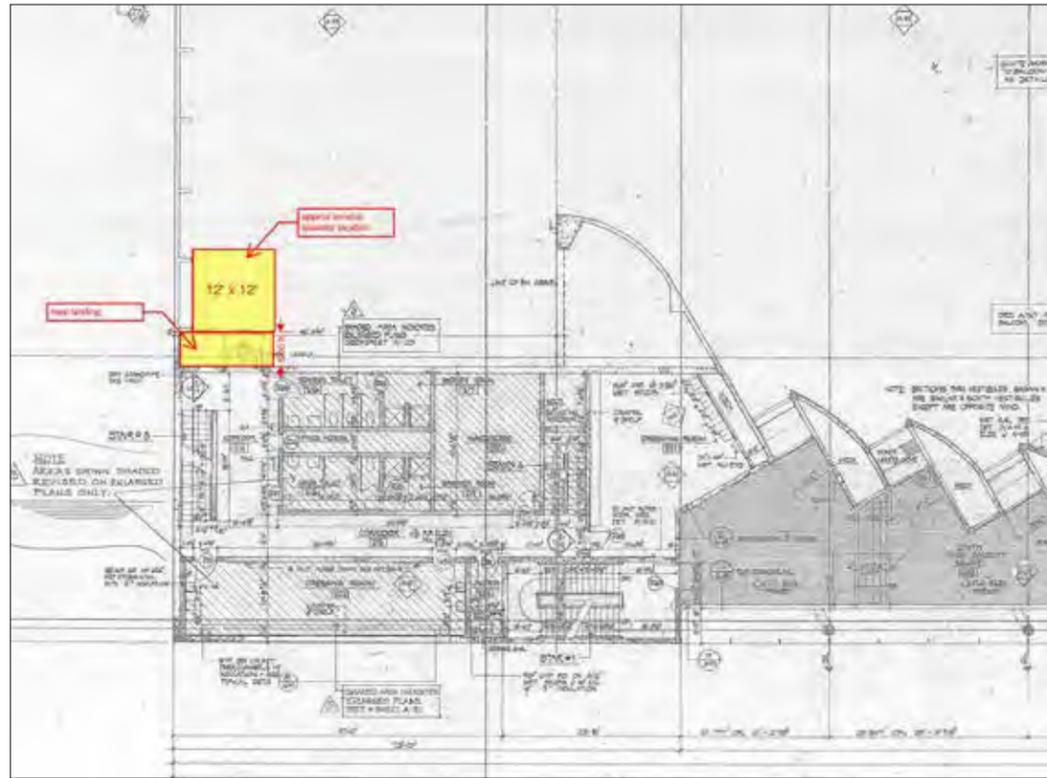
Sec 713 – Shaft Enclosures

713.4 - Fire rating of 1hr for less than 4 stories

Must comply with sec 707 and or 711

713.12 – Shaft that does not extend to underside of roof sheathing must have a top with same fire rating as top-most floor.

Chapter 30 – Elevators & conveying Systems



Rehearsal/ Music Room Study

Occupancy Type: A-1

Area (approx.): 2,866 sf

Occupancy #: 192

IEBC 2015 References:

Sec 504 - Alteration Level 2

Compliance with Level 1 Alteration Chapter 7 and Chapter 8

Sec 405 – Fire Escapes (new) – min 22” wide, 8” risers & treads and landing of 40”W x 36”L

Sec 410 – Accessibility for Existing Buildings – If no change of occupancy, then existing stairs and egress routes need no new requirements.

Sec 705 – Accessibility – Not required in existing buildings.

Sec 705.1 – Ramps – Max rise = 6” for 1:12 > 1:10
3” for 1:10 > 1:8

Sec 801.2 – Alteration lvl 1 Compliance – MIN Ceiling height of 7’-0” in all spaces.

Sec 804 – Fire Protection – Clarification needed.

Sec 805 – Egress – To comply with IBC 2015 for egress.

Egress (IBC 2015 SEC 1005)

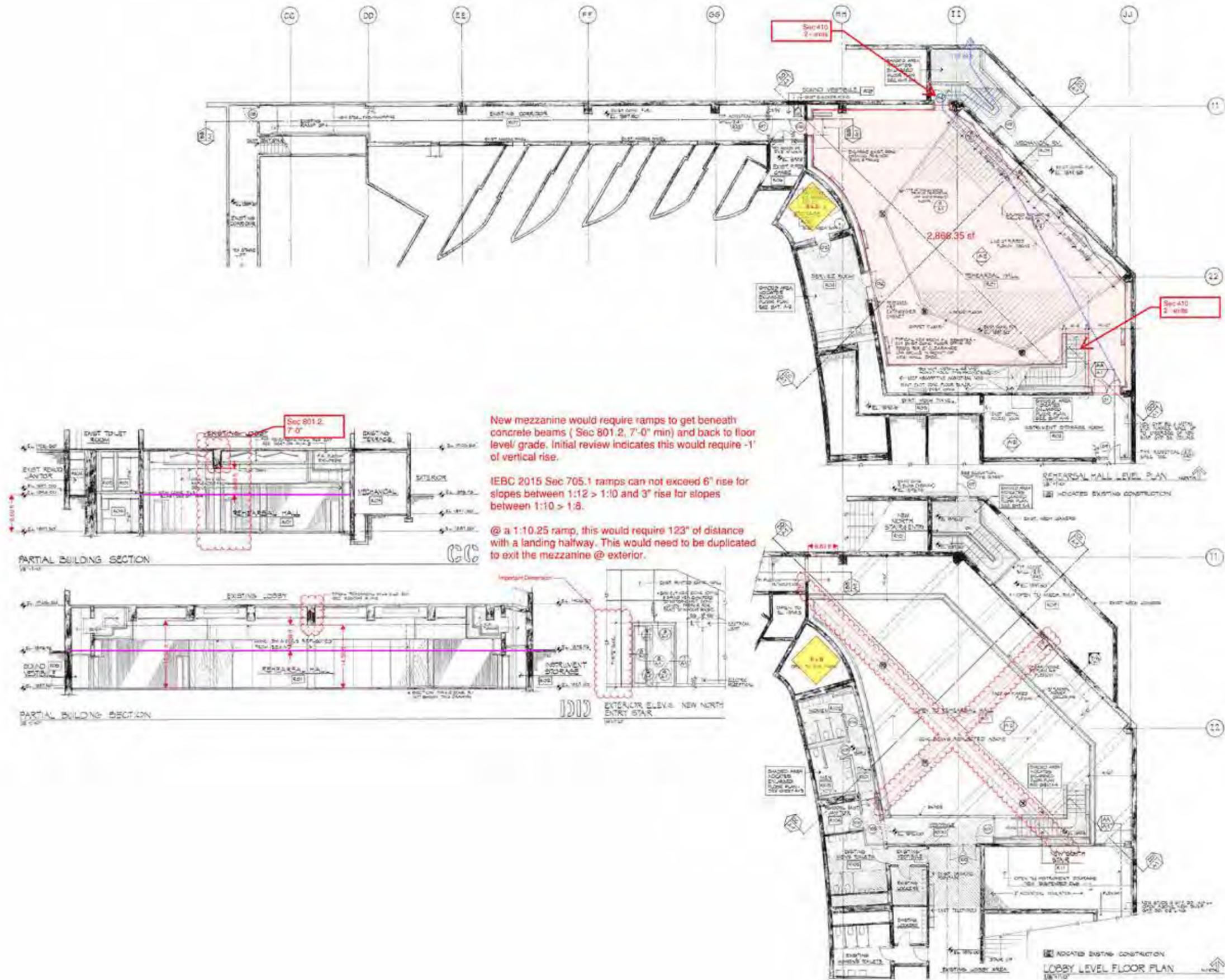
Stairs: [0.3in * 192]= 57.6” for non sprinklered
[0.2in * 192]= 38.4” for FULLY sprinklered + alarm system

Other: [0.2in * 192]= 38.4” for non sprinklered
[0.15in * 192]= 28.8” for FULLY sprinklered + alarm system

of Exits (2) Existing exists, required to go upstairs. How will disabled exit?

Accessible Means of Egress: IBC 2015 Sec 1009.1 except 1 – not req’d in existing buildings

IBC 2015 Sec 1009.4 – Elevators as Egress



New mezzanine would require ramps to get beneath concrete beams (Sec 801.2, 7'-0" min) and back to floor level/ grade. Initial review indicates this would require -1' of vertical rise.

IEBC 2015 Sec 705.1 ramps can not exceed 6" rise for slopes between 1:12 > 1:10 and 3" rise for slopes between 1:10 > 1:8.

@ a 1:10.25 ramp, this would require 123" of distance with a landing halfway. This would need to be duplicated to exit the mezzanine @ exterior.

Roen Associates
1526 1/2 West Riverside
Spokane, WA 99201

INB Performing Arts Center
Renovation Study
Budget Estimate



Project Owner: **Spokane Public Facilities District**
Project Name: **INB Performing Arts Center Renovation Study**
Project Location: Spokane, WA
Start Date: July 1, 2019
Estimate Date: July 10, 2017

Architect: Integrus
Duration: TBD
Project GSF: 1
Site GSF:

ESTIMATE SUMMARY		Item Estimate	Total Estimated
No.	Description	Cost	Cost
	ADA Seating Revision	\$111,613	
	Wiring Chase	\$145,223	
	Projection Room	\$96,673	
	Vomitorium (ADA Ramp)	\$690,047	
	Replace Seating	\$1,816,852	
	Subtotal Auditorium		\$2,860,409
	LED Stage Lighting	\$40,015	
	Elevator / Shaft / Tower	\$805,988	
	Security Room	\$48,782	
	Backstage Room Upgrades	\$329,495	
	Subtotal Backstage Area		\$1,224,280
	Lobby Upgrades	\$3,724,383	
	Subtotal Lobby Experience		\$3,724,383
	Music Room	\$1,738,272	
	Subtotal Music Room		\$1,738,272
	Replace Curtainwall	\$4,999,352	
	MEP Systems Upgrades	\$5,257,707	
	Replace Existing Roof	\$2,646,998	
	Subtotal Building Systems		\$12,904,057
	CONSTRUCTION COSTS ESTIMATE TOTAL		\$22,451,401

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

Roen Associates
1526 1/2 West Riverside
Spokane, WA 99201

INB Performing Arts Center
Renovation Study
ADA Seating Revision



Project Owner: **Spokane Public Facilities District**
Project Name: **INB Performing Arts Center Renovation Study**
Project Location: Spokane, WA
Start Date: July 1, 2019
Estimate Date: July 10, 2017

Architect: Integrus
Duration:
Project GSF: 1
Site GSF:

ESTIMATE SUMMARY		Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	Foundations	1	BGSF	\$17,450.00	\$17,450
C10	Interior Construction	1	BGSF	\$2,000.00	\$2,000
C30	Interior Finishes	1	BGSF	\$7,900.00	\$7,900
D30	HVAC	1	BGSF	\$4,356.00	\$4,356
D50	Electrical	1	BGSF	\$9,900.00	\$9,900
F20	Selective Demolition	1	BGSF	\$10,400.00	\$10,400
Building Construction Subtotal					\$52,006
Z10	General Requirements	1	BGSF	\$30,000.00	\$30,000
Estimate Subtotal					\$82,006
Contingency				20.00%	\$16,401
Subtotal					\$98,407
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00%	\$6,889
Subtotal					\$105,296
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.00%	\$6,318
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$111,613

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10 FOUNDATIONS					
	Slab-on-Grade				
	Extend Slab Row at Removed Seating. Apply bonding agent and dowel new to existing. All concrete is hand work due to location.	450	sf	25.00	\$11,250
	Misc. Concrete Construction				
	Misc slab patch at seat removal (2nd row only)	24	ea	50.00	\$1,200
	Form and pour wing walls at ends to eliminate safety hazard	2	ea	2,500.00	\$5,000
	SUBTOTAL FOUNDATIONS	1	BGSF	\$17,450.00	\$17,450
C10 INTERIOR CONSTRUCTION					
	Signage	1	gsf	2,000.00	\$2,000
	SUBTOTAL INTERIOR CONSTRUCTION	1	BGSF	\$2,000.00	\$2,000
C30 INTERIOR FINISHES					
	Wall Finishes				
	Painting - wing walls	2	ea	200.00	\$400
	Wood Wall Paneling	50	sf	50.00	\$2,500
	Floor Finishes				
	Sealed Concrete	1,000	sf	5.00	\$5,000
	SUBTOTAL INTERIOR FINISHES	1	BGSF	\$7,900.00	\$7,900
D30 HVAC					
	HVAC	1	MW	4,356.00	\$4,356
	SUBTOTAL HVAC	1	BGSF	\$4,356.00	\$4,356
D50 ELECTRICAL					
	Electrical	1	MW	9,900.00	\$9,900
	SUBTOTAL ELECTRICAL	1	BGSF	\$9,900.00	\$9,900
F20 SELECTIVE BUILDING DEMOLITION					
	Building Demolition				
	Remove Seating and dispose	92	ea	25.00	\$2,300
	Remove / Replace seating in row below for edge form access	67	ea	50.00	\$3,350
	Rough up slab surface for overlay	450	sf	5.00	\$2,250
	Protect adjacent surfaces	1	sf	2,500.00	\$2,500
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	1	BGSF	\$10,400.00	\$10,400

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
Z10 GENERAL REQUIREMENTS					
	General Conditions	2	MO	\$20,000	\$30,000
	SUBTOTAL GENERAL REQUIREMENTS	1	BGSF	\$30,000.00	\$30,000

Project Owner: **Spokane Public Facilities District**
Project Name: **INB Performing Arts Center Renovation Study**
Project Location: Spokane, WA
Start Date: July 1, 2019
Estimate Date: July 10, 2017

Architect: Integrus
Duration:
Project GSF: 1
Site GSF:

Wiring Chase

ESTIMATE SUMMARY				
No.	Description	Quantity	Unit of Measure	Total Estimated Cost
C10	Interior Construction	1	BGSF	\$68,000.00
D50	Electrical	1	BGSF	\$28,700.00
Building Construction Subtotal				\$96,700
Z10	General Requirements	1	BGSF	\$10,000.00
Estimate Subtotal				\$106,700
Contingency				20.00%
Subtotal				\$21,340
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00%
Subtotal				\$8,963
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.00%
Subtotal				\$8,220
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL				\$145,223

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE				
No.	Description	Quantity	Unit of Measure	Total Estimated Cost
C10 INTERIOR CONSTRUCTION				
Partitions				
	Provide Custom Finished Chase to conceal conduits	450	lf	150.00
	Sealants	1	ls	500.00
SUBTOTAL INTERIOR CONSTRUCTION				\$68,000.00
D50 ELECTRICAL				
Electrical				
	Electrical System per Program Requirements - MW	1	gsf	28,700.00
SUBTOTAL ELECTRICAL				\$28,700.00
Z10 GENERAL REQUIREMENTS				
General Conditions				
		0.5	MO	\$20,000
SUBTOTAL GENERAL REQUIREMENTS				\$10,000.00

Project Owner: **Spokane Public Facilities District**
Project Name: **INB Performing Arts Center Renovation Study**
Project Location: Spokane, WA
Start Date: July 1, 2019
Estimate Date: July 10, 2017

Architect: Integrus
Duration:
Project GSF: 1
Site GSF:

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C10	Interior Construction	1	BGSF	\$20,250.00	\$20,250
C20	Stairs	1	BGSF	\$2,500.00	\$2,500
C30	Interior Finishes	1	BGSF	\$2,440.00	\$2,440
D30	HVAC	1	BGSF	\$1,089.00	\$1,089
D50	Electrical	1	BGSF	\$1,800.00	\$1,800
F20	Selective Demolition	1	BGSF	\$12,950.00	\$12,950
Building Construction Subtotal					\$41,029
Z10	General Requirements	1	BGSF	\$30,000.00	\$30,000
Estimate Subtotal					\$71,029
Contingency				20.00%	\$14,206
Subtotal					\$85,235
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00%	\$5,966
Subtotal					\$91,201
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.000%	\$5,472
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$96,673

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C10 INTERIOR CONSTRUCTION					
	Platform				
	Enlarge / Build deck	320	sf	50.00	\$16,000
	Railings				
	Stair Rails	20	lf	125.00	\$2,500
	Interior Doors, Frames, Hardware				
	Door, HM Frame, Fin Hardware, single	1	ea	1,750.00	\$1,750
	SUBTOTAL INTERIOR CONSTRUCTION	1	BGSF	\$20,250.00	\$20,250
C20 STAIRS					
	Stair Construction -metal for fire rating				
		1	flights	2,500.00	\$2,500
	SUBTOTAL STAIRS	1	BGSF	\$2,500.00	\$2,500
C30 INTERIOR FINISHES					
	Wall Finishes				
	Painting	1	ls	1,000.00	\$1,000
	Floor Finishes				
	Carpet	320	sf	4.50	\$1,440
	SUBTOTAL INTERIOR FINISHES	1	BGSF	\$2,440.00	\$2,440
D30 HVAC					
	HVAC	1	MW	1,089.00	\$1,089
	SUBTOTAL HVAC	1	BGSF	\$1,089.00	\$1,089
D50 ELECTRICAL					
	Electrical				
	Electrical System per Program Requirements - MW	1	gsf	1,800.00	\$1,800
	SUBTOTAL ELECTRICAL	1	BGSF	\$1,800.00	\$1,800

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
F20 SELECTIVE BUILDING DEMOLITION					
Building Demolition					
	Protect Surfaces	1	LS	500.00	\$500
	Sawcut through concrete wall	24	lf	75.00	\$1,800
	Remove small deck	225	sf	5.00	\$1,125
	Remove seats and dispose	17	ea	25.00	\$425
	Misc Demo	1	ls	1,000.00	\$1,000
Hazardous Components Abatement					
	Misc. Abatement - Allowance	2,700	sf	3.00	\$8,100
SUBTOTAL SELECTIVE BUILDING DEMOLITION					
		1	BGSF	\$12,950.00	\$12,950
Z10 GENERAL REQUIREMENTS					
General Conditions					
		1	MO	\$30,000	\$30,000
SUBTOTAL GENERAL REQUIREMENTS					
		1	BGSF	\$30,000.00	\$30,000

Project Owner: **Spokane Public Facilities District**
 Project Name: **INB Performing Arts Center Renovation Study**
 Project Location: Spokane, WA
 Start Date: July 1, 2019
 Estimate Date: July 10, 2017
 Architect: Integrus
 Duration:
 Project GSF: 1
 Site GSF:

ESTIMATE SUMMARY						
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost	
Vomitorium (ADA Ramp)						
B10	Superstructure	1	BGSF	\$75,350.00	\$75,350	
C10	Interior Construction	1	BGSF	\$41,700.00	\$41,700	
C30	Interior Finishes	1	BGSF	\$31,812.50	\$31,813	
D20	Plumbing	1	BGSF	\$0.00	\$0	
D30	HVAC	1	BGSF	\$114,710.00	\$114,710	
D40	Fire Protection	1	BGSF	\$0.00	\$0	
D50	Electrical	1	BGSF	\$55,400.00	\$55,400	
F20	Selective Demolition	1	BGSF	\$68,027.50	\$68,028	
Building Construction Subtotal					\$387,000	
Z10	General Requirements	1	BGSF	\$120,000.00	\$120,000	
Estimate Subtotal					\$507,000	
				Contingency	20.00%	\$101,400
				Subtotal		\$608,400
				General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)	7.00%	\$42,588
				Subtotal		\$650,988
				Escalation to Mid-Point (Jul '19 @ 3.00% / YR)	6.00%	\$39,059
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$690,047	

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
B10 SUPERSTRUCTURE					
Structural Framing System					
	Structural Beams at New Ramp 1100 sf x 12#/sf	13,200	lbs	4.00	\$52,800
	Drill for Wall Plate Anchors 30 plates x 4 bolts	120	ea	25.00	\$3,000
	Headers at new openings in concrete walls	1,200	lbs	4.00	\$4,800
Metal Deck and Topping Slabs					
	Metal Ramp at Deck	1,100	sf	5.50	\$6,050
	Cut / Form for HVAC Returns	10	ea	100.00	\$1,000
	Concrete Slab on Deck - pump concrete	1,100	sf	7.00	\$7,700
Fireproofing					
	Type II-B - not required		none		\$0
	SUBTOTAL SUPERSTRUCTURE	1	BGSF	\$75,350.00	\$75,350
C10 INTERIOR CONSTRUCTION					
Partitions					
	6" Metal Studs with sound batts and 5/8" gyp ea side	400	sf	12.00	\$4,800
	Finish wall below storefront	600	sf	8.00	\$4,800
	Structural wall - ramp up to top of low wall - avg 10'	800	sf	15.00	\$12,000
	Patch adjacent walls	1	ls	2,500.00	\$2,500
	Blocking	1	ls	1,500.00	\$1,500
Railings					
	Handrails	110	lf	125.00	\$13,750
Interior Doors, Frames, Hardware					
	Door, HM Frame, Fin Hardware, single	1	ea	1,350.00	\$1,350
	Signage	1	gsf	500.00	\$500
	Misc. Specialties Allowance	1	gsf	500.00	\$500
	SUBTOTAL INTERIOR CONSTRUCTION	1	BGSF	\$41,700.00	\$41,700
C30 INTERIOR FINISHES					
Wall Finishes					
	Painting	2,950	2.25	2.00	\$5,900
	Wood Base	400	lf	15.00	\$6,000
Floor Finishes					
	Carpet	2,950	sf	5.50	\$16,225
	Floor Sealer at Ramp for Carpet	2,950	sf	1.25	\$3,688
	SUBTOTAL INTERIOR FINISHES	1	BGSF	\$31,812.50	\$31,813

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
D20 PLUMBING					
Plumbing					
	included w/ HVAC			-	\$0
	SUBTOTAL PLUMBING	1	BGSF	\$0.00	\$0
D30 HVAC					
HVAC - MW Engineers Pricing					
	HVAC, Plumbing and Fire Protection per Program Requirements	1	gsf	114,710.00	\$114,710
	SUBTOTAL HVAC	1	BGSF	\$114,710.00	\$114,710
D40 FIRE PROTECTION					
Fire Protection					
	included w/ HVAC			-	\$0
	SUBTOTAL FIRE PROTECTION	1	BGSF	\$0.00	\$0
D50 ELECTRICAL					
Electrical					
	Electrical System per Program Requirements - MW	1	gsf	55,400.00	\$55,400
	SUBTOTAL ELECTRICAL	1	BGSF	\$55,400.00	\$55,400
F20 SELECTIVE BUILDING DEMOLITION					
Building Demolition					
	Protect storefront at South side - 110' x 10'	1,100	sf	3.00	\$3,300
	Remove Railing - 6 @ 7'	42	lf	10.00	\$420
	Remove Carpet	2,950	sf	1.25	\$3,688
	Remove Piping below ramp - to be reinstalled		see MW		\$0
	Sawcut slab on deck at ramp area	400	lf	20.00	\$8,000
	Remove slab on deck at ramp area	780	sf	4.00	\$3,120
	Clean concrete wall south of ramp	660	sf	5.00	\$3,300
	Sawcut concrete walls for ramp access 2@10x10 + Crosscuts	160	lf	25.00	\$4,000
	Remove concrete at walls	200	sf	15.00	\$3,000
	Dust containment tent	600	sf	8.00	\$4,800
	Work Platform below	1,100	sf	20.00	\$22,000
	Temp enclosure at lobby side	400	sf	6.00	\$2,400
	Misc Demo	1	ls	5,000.00	\$5,000
	Dump Fees	1	ls	5,000.00	\$5,000
Hazardous Components Abatement					
			None		
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	1	BGSF	\$68,027.50	\$68,028

DETAILED ESTIMATE				
No.	Description	Quantity	Unit of Measure	Total Estimated Cost
Z10 GENERAL REQUIREMENTS				
	General Conditions	4	MO	\$30,000
	SUBTOTAL GENERAL REQUIREMENTS	1	BGSF	\$120,000.00

Project Owner: **Spokane Public Facilities District** Architect: Integrus
 Project Name: **INB Performing Arts Center Renovation Study** Duration:
 Project Location: Spokane, WA Project GSF: 2,700
 Start Date: July 1, 2019 Site GSF:
 Estimate Date: July 10, 2017

ESTIMATE SUMMARY				
No.	Description	Quantity	Unit of Measure	Total Estimated Cost
D50	Electrical	2,700	BGSF	\$9,300
E20	Casework & Furnishings	2,700	BGSF	\$1,215,000
F20	Selective Demolition	2,700	BGSF	\$85,600
Building Construction Subtotal				\$1,309,900
Z10	General Requirements	2,700	BGSF	\$25,000
Estimate Subtotal				\$1,334,900
Contingency				20.00% \$266,980
Subtotal				\$1,601,880
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00% \$112,132
Subtotal				\$1,714,012
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.000% \$102,841
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL				\$1,816,852

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
D50 ELECTRICAL					
	Electrical disconnect / reconnect way finding lights				
	Electrical System per Program Requirements - MW	1	ls	9,300.00	\$9,300
	SUBTOTAL ELECTRICAL	2,700	BGSF	\$3.44	\$9,300
E20 CASEWORK & FURNISHINGS					
	Fixed Furnishings				
	New seats in theater	2,700	none	450.00	\$1,215,000
	SUBTOTAL FURNISHINGS	2,700	BGSF	\$450.00	\$1,215,000
F20 SELECTIVE BUILDING DEMOLITION					
	Building Demolition				
	Protect finishes	1	ls	10,000.00	\$10,000
	Remove seats and dispose	2,700	ea	25.00	\$67,500
	Hazardous Components Abatement				
	Misc. Abatement - Allowance	2,700	sf	3.00	\$8,100
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	2,700	BGSF	\$31.70	\$85,600
Z10 GENERAL REQUIREMENTS					
	General Conditions	1	MO	\$25,000	\$25,000
	SUBTOTAL GENERAL REQUIREMENTS	2,700	BGSF	\$9.26	\$25,000

Project Owner: **Spokane Public Facilities District** Architect: Integrus
 Project Name: **INB Performing Arts Center Renovation Study** Duration:
 Project Location: Spokane, WA Project GSF: 1
 Start Date: July 1, 2019 Site GSF:
 Estimate Date: July 10, 2017

LED Stage Lighting

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C30	Interior Finishes	1	BGSF	\$0.00	\$0
D50	Electrical	1	BGSF	\$29,400.00	\$29,400
Building Construction Subtotal					\$29,400
Z10	General Requirements	1	BGSF	\$0.00	\$0
Estimate Subtotal					\$29,400
Contingency				20.00%	\$5,880
Subtotal					\$35,280
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00%	\$2,470
Subtotal					\$37,750
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.000%	\$2,265
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$40,015

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C30 INTERIOR FINISHES					
	Wall Finishes				
	Painting		gbsf	2.00	\$0
	SUBTOTAL INTERIOR FINISHES	1	BGSF	\$0.00	\$0
D50 ELECTRICAL					
	Electrical				
	Electrical System per Program Requirements - MW	1	gsf	29,400.00	\$29,400
	SUBTOTAL ELECTRICAL	1	BGSF	\$29,400.00	\$29,400
Z10 GENERAL REQUIREMENTS					
	General Conditions		MO	\$40,000	\$0
	SUBTOTAL GENERAL REQUIREMENTS	1	BGSF	\$0.00	\$0

Project Owner: **Spokane Public Facilities District** Architect: Integrus
 Project Name: **INB Performing Arts Center Renovation Study** Duration:
 Project Location: Spokane, WA Project GSF: 1
 Start Date: July 1, 2019 Site GSF:
 Estimate Date: July 10, 2017

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
Elevator / Shaft / Tower					
A10	Foundations	1	BGSF	\$90,756.56	\$90,757
B10	Superstructure	1	BGSF	\$57,070.00	\$57,070
B20	Exterior Enclosure	1	BGSF	\$0.00	\$0
C10	Interior Construction	1	BGSF	\$40,070.00	\$40,070
C30	Interior Finishes	1	BGSF	\$27,010.00	\$27,010
D10	Conveying Systems	1	BGSF	\$150,000.00	\$150,000
D20	Plumbing	1	BGSF	\$0.00	\$0
D30	HVAC	1	BGSF	\$32,809.00	\$32,809
D40	Fire Protection	1	BGSF	\$0.00	\$0
D49	Electrical	1	BGSF	\$21,700.00	\$21,700
F20	Demolition	1	BGSF	\$22,770.00	\$22,770
Building Construction Subtotal					\$442,186
Z10	General Requirements	1	BGSF	\$150,000.00	\$150,000
Estimate Subtotal					\$592,186
Contingency				20.00%	\$118,437
Subtotal					\$710,623
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00%	\$49,744
Subtotal					\$760,366
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.00%	\$45,622
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$805,988

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10 FOUNDATIONS					
Foundation Earthwork					
	Footing Excavation,	222	cy	40.00	\$8,889
	Haul Off - includes excess off site storage	289	cy	35.00	\$10,101
	Haul Back for Backfill and Compact	217	cy	35.00	\$7,595
	Backfill and Compact	217	cy	30.00	\$6,510
	Dump Truck/Backhoe Rental	2	mo	7,500.00	\$15,000
	Bobcat Rental	2	mo	3,500.00	\$7,000
	Added Dock Clean Up	1	ls	2,500.00	\$2,500
Foundations					
	Continuous Footings	7	cy	500.00	\$3,333
	Pad Footings - elev pad	5	cy	600.00	\$2,933
	Foundation Walls	420	sf	40.00	\$16,800
	Dampproofing / Foundation Insulation	420	sf	3.75	\$1,575
Slab-on-Grade					
	4" Slab on Grade (inc reinforcing, base course and vapor barrier)	440	sf	8.00	\$3,520
Misc. Concrete Construction					
		1	allow	5,000.00	\$5,000
	SUBTOTAL FOUNDATIONS	1	BGSF	\$90,756.56	\$90,757
B10 SUPERSTRUCTURE					
Structural Framing System					
	Steel Structural Framing	14,000	lbs	3.50	\$49,000
	Elevator Hoist Beam	400	lbs	3.00	\$1,200
Metal Deck and Topping Slabs					
	At Elevated Slabs	300	sf	5.50	\$1,650
	At Roof of Elevator / lobbies	160	sf	4.50	\$720
	Slab on Deck (small qty / access issues)	300	sf	15.00	\$4,500
Fireproofing					
	Type II-B - not required		none		\$0
	SUBTOTAL SUPERSTRUCTURE	1	BGSF	\$57,070.00	\$57,070
B20 EXTERIOR ENCLOSURE					
Exterior Louvers					
	Vent Louver for Elevator Shaft		sf	85.00	\$0
	SUBTOTAL EXTERIOR ENCLOSURE	1	BGSF	\$0.00	\$0
C10 INTERIOR CONSTRUCTION					
Partitions					
	6" Metal Studs with sound batts and 5/8" gyp ea side	1,280	sf	12.00	\$15,360
	Shaft Wall at Elevator	720	sf	18.00	\$12,960
	Wood Blocking	1	ea	250.00	\$250

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Fire Caulking	1	ea	500.00	\$500
	Sealants	1	ea	250.00	\$250
Railings					
	Guardrails around Slab Openings		lf	125.00	\$0
	Ladder at Pit	1	ea	500.00	\$500
Interior Doors, Frames, Hardware					
	Door, HM Frame, Fin Hardware, single	1	ea	1,750.00	\$1,750
	Door, HM Frame, Fin Hardware, pair	3	ea	2,500.00	\$7,500
	Access Door Allowance	1	ea	500.00	\$500
Fittings / Specialties					
	Signage	1	gsf	500.00	\$500
	SUBTOTAL INTERIOR CONSTRUCTION	1	BGSF	\$40,070.00	\$40,070
C30 INTERIOR FINISHES					
Wall Finishes					
	Painting	480	gsf	4.00	\$1,920
	Rubber Base	160	lf	1.25	\$200
	Wood Base at Stage	30	lf	15.00	\$450
Floor Finishes					
	Sealed Concrete	400	sf	2.00	\$800
	Patch Stage Floor	440	sf	50.00	\$22,000
Ceilings					
	Acoustic Ceilings at 3 elevator lobbies	288	sf	5.00	\$1,440
	Exposed Ceilings - Paint	100	sf	2.00	\$200
	SUBTOTAL INTERIOR FINISHES	1	BGSF	\$27,010.00	\$27,010
D10 CONVEYING SYSTEMS					
Elevators & Lifts					
	Passenger Elevator, 3 stops	1	ea	150,000.00	\$150,000
	SUBTOTAL CONVEYING SYSTEMS	1	BGSF	\$150,000.00	\$150,000
D20 PLUMBING					
Plumbing					
	included w/ HVAC			-	\$0
	SUBTOTAL PLUMBING	1	BGSF	\$0.00	\$0

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
D30 HVAC					
	HVAC - MW Engineers Pricing				
	Plumbing, HVAC and Fire Sprinklers per Program Requirements	1	ls	32,809.00	\$32,809
	SUBTOTAL HVAC	1	BGSF	\$32,809.00	\$32,809
D40 FIRE PROTECTION					
	Fire Protection				
	included w/ HVAC			-	\$0
	SUBTOTAL FIRE PROTECTION	1	BGSF	\$0.00	\$0
D50 ELECTRICAL					
	Electrical				
	Electrical System per Program Requirements - MW	1	gsf	21,700.00	\$21,700
	SUBTOTAL ELECTRICAL	1	BGSF	\$21,700.00	\$21,700
F20 SELECTIVE BUILDING DEMOLITION					
	Selective Building Demolition				
	Sawcut and Remove Stage Flooring	600	sf	3.50	\$2,100
	Sawcut slab on stage	170	lf	15.00	\$2,550
	Remove Slab on Stage	600	sf	4.00	\$2,400
	Sawcut wall in Basement for Machine Room	28	lf	40.00	\$1,120
	Remove Concrete at Machine Room Wall	32	sf	50.00	\$1,600
	Clean Basement wall in machine room	200	sf	5.00	\$1,000
	Misc Demo for Shaft and Walls	1	ls	2,000.00	\$2,000
	Dump Fees	1	ls	2,500.00	\$2,500
	Protect Adjacent Surfaces - stage flooring	1	ls	2,500.00	\$2,500
	Tenting / Dust Containment	1	ls	5,000.00	\$5,000
	Hazardous Components Abatement				
			None		
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	1	BGSF	\$22,770.00	\$22,770
Z10 GENERAL REQUIREMENTS					
	General Conditions				
		.5	MO	\$30,000	\$150,000
	SUBTOTAL GENERAL REQUIREMENTS	1	BGSF	\$150,000.00	\$150,000

Project Owner: **Spokane Public Facilities District**
Project Name: **INB Performing Arts Center Renovation Study**
Project Location: Spokane, WA
Start Date: July 1, 2019
Estimate Date: July 10, 2017

Architect: **Integrus**
Duration:
Project GSF: **160**
Site GSF:

ESTIMATE SUMMARY						
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost	
Security Room						
C10	Interior Construction	160	BGSF	\$11.00	\$1,760	
C30	Interior Finishes	160	BGSF	\$15.44	\$2,470	
D30	HVAC	160	BGSF	\$39.33	\$6,292	
D40	Fire Protection	160	BGSF	\$6.25	\$1,000	
D50	Electrical	160	BGSF	\$18.13	\$2,900	
E10	Equipment	160	BGSF	\$31.25	\$5,000	
E20	Casework & Furnishings	160	BGSF	\$33.75	\$5,400	
F20	Selective Demolition	160	BGSF	\$6.38	\$1,020	
Building Construction Subtotal					\$25,842	
Z10	General Requirements	160	BGSF	\$62.50	\$10,000	
Estimate Subtotal					\$35,842	
				Contingency	20.00%	\$7,168
				Subtotal		\$43,010
				General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)	7.00%	\$3,011
				Subtotal		\$46,021
				Escalation to Mid-Point (Jul '19 @ 3.00% / YR)	6.000%	\$2,761
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$48,782	

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C10 INTERIOR CONSTRUCTION					
Partitions					
	Infill wall at removed door	32	sf	20.00	\$640
	Misc wall patch	400	sf	2.00	\$800
Fittings / Specialties					
	Signage	160	gsf	1.00	\$160
	Misc. Specialties Allowance	160	gsf	1.00	\$160
	SUBTOTAL INTERIOR CONSTRUCTION	160	BGSF	\$11.00	\$1,760
C30 INTERIOR FINISHES					
Wall Finishes					
	Painting	160	gsf	3.00	\$480
	Rubber Base	75	lf	2.00	\$150
Floor Finishes					
	Sheet Vinyl	160	sf	7.00	\$1,120
Ceilings					
	Acoustic Grid Ceilings - 2x2	160	sf	4.50	\$720
	SUBTOTAL INTERIOR FINISHES	160	BGSF	\$15.44	\$2,470
D30 HVAC					
HVAC					
	HVAC per Program Requirements - MW	1	ls	6,292.00	\$6,292
	SUBTOTAL HVAC	160	BGSF	\$39.33	\$6,292
D40 FIRE PROTECTION					
Fire Protection					
	Sprinkler System mods allowance	1	ls	1,000.00	\$1,000
	SUBTOTAL FIRE PROTECTION	160	BGSF	\$6.25	\$1,000
D50 ELECTRICAL					
Electrical					
	Electrical System per Program Requirements - MW	1	ls	2,900.00	\$2,900
	SUBTOTAL ELECTRICAL	160	BGSF	\$18.13	\$2,900
E10 EQUIPMENT					
Special Equipment					
	Remove and reinstall security detector	1	allow	5,000.00	\$5,000
	SUBTOTAL EQUIPMENT	160	BGSF	\$31.25	\$5,000

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
E20 CASEWORK & FURNISHINGS					
Fixed Casework					
	Security Counter	12	lf	450.00	\$5,400
	SUBTOTAL FURNISHINGS	160	BGSF	\$33.75	\$5,400
F20 SELECTIVE BUILDING DEMOLITION					
Building Demolition					
	Demo Floor	160	sf	1.50	\$240
	Demo Ceiling	160	sf	2.00	\$320
	Remove Door / Frame	2	ea	75.00	\$150
	Remove Wall	12	lf	5.00	\$60
	Misc Demo	1	ls	250.00	\$250
Hazardous Components Abatement					
		1	LS		\$0
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	160	BGSF	\$6.38	\$1,020
Z10 GENERAL REQUIREMENTS					
General Conditions					
		1	MO	\$10,000	\$10,000
	SUBTOTAL GENERAL REQUIREMENTS	160	BGSF	\$62.50	\$10,000

Project Owner: **Spokane Public Facilities District**
Project Name: **INB Performing Arts Center Renovation Study**
Project Location: Spokane, WA
Start Date: July 1, 2019
Estimate Date: July 10, 2017

Architect: **Integrus**
Duration:
Project GSF: 3,050
Site GSF:

Backstage Room Upgrades

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C10	Interior Construction	3,050	BGSF	\$6.53	\$19,930
C30	Interior Finishes	3,050	BGSF	\$12.92	\$39,405
D20	Plumbing	3,050	BGSF	\$0.00	\$0
D30	HVAC	3,050	BGSF	\$20.83	\$63,528
D40	Fire Protection	3,050	BGSF	\$0.00	\$0
D50	Electrical	3,050	BGSF	\$16.20	\$49,400
E20	Casework & Furnishings	3,050	BGSF	\$6.49	\$19,800
F20	Selective Demolition	3,050	BGSF	\$3.29	\$10,028
Building Construction Subtotal					\$202,091
Z10	General Requirements	3,050	BGSF	\$13.11	\$40,000
Estimate Subtotal					\$242,091
Contingency				20.00%	\$48,418
Subtotal					\$290,509
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00%	\$20,336
Subtotal					\$310,844
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.00%	\$18,651
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$329,495

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C10 INTERIOR CONSTRUCTION					
Partitions					
	Metal Studs with sound batts and 5/8" gyp ea side	170	sf	12.00	\$2,040
	Wall Patching allowance	7,785	sf	2.00	\$15,570
	Wood Blocking	1	ls	500.00	\$500
	Fire Caulking	1	allow	500.00	\$500
	Sealants	1	allow	100.00	\$100
	Signage	3,050	gsf	0.20	\$610
	Misc. Specialties Allowance	3,050	gsf	0.20	\$610
SUBTOTAL INTERIOR CONSTRUCTION					\$19,930
C30 INTERIOR FINISHES					
Wall Finishes					
	Painting	3,050	gbsf	2.00	\$6,100
	Wall Coverings in Green Room	720	sf	5.00	\$3,600
	Rubber Base	865	lf	2.00	\$1,730
Floor Finishes					
	Carpet	2,000	sf	4.50	\$9,000
	Sheet Vinyl	1,050	sf	5.00	\$5,250
Ceilings					
	Acoustic Grid Ceilings - 2x2	3,050	sf	4.50	\$13,725
SUBTOTAL INTERIOR FINISHES					\$39,405
D20 PLUMBING					
Plumbing					
	included w/ HVAC			-	\$0
SUBTOTAL PLUMBING					\$0
D30 HVAC					
HVAC - MW Engineers Pricing					
	Plumbing, HVAC and Fire Sprinklers per Program Requirements	1	ls	63,528.00	\$63,528
SUBTOTAL HVAC					\$63,528
D40 FIRE PROTECTION					
Fire Protection					
	included w/ HVAC			-	\$0
SUBTOTAL FIRE PROTECTION					\$0

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
D50 ELECTRICAL					
	Electrical				
	Electrical System per MW	1	ls	49,400.00	\$49,400
	SUBTOTAL ELECTRICAL	1	BGSF	\$49,400.00	\$49,400
E20 CASEWORK & FURNISHINGS					
	Fixed Casework				
	Replace existing Casework	66	lf	300.00	\$19,800
	SUBTOTAL FURNISHINGS	3,050	BGSF	\$6.49	\$19,800
F20 SELECTIVE BUILDING DEMOLITION					
	Building Demolition				
	Remove Flooring	3,050	sf	1.50	\$4,575
	Remove Ceilings	3,050	sf	1.25	\$3,813
	Remove Casework	66	lf	15.00	\$990
	Care for floor drain	1	ea	150.00	\$150
	Misc demo	1	ls	500.00	\$500
	Hazardous Components Abatement				
		1	LS		\$0
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	3,050	BGSF	\$3.29	\$10,028
Z10 GENERAL REQUIREMENTS					
	General Conditions				
		1	MO	\$40,000	\$40,000
	SUBTOTAL GENERAL REQUIREMENTS	3,050	BGSF	\$13.11	\$40,000

Project Owner: **Spokane Public Facilities District** Architect: Integrus
 Project Name: **INB Performing Arts Center Renovation Study** Duration:
 Project Location: Spokane, WA Project GSF: 32,500
 Start Date: July 1, 2019 Site GSF:
 Estimate Date: July 10, 2017

Lobby Upgrades

ESTIMATE SUMMARY						
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost	
B20	Exterior Enclosure	32,500	BGSF	\$12.06	\$392,000	
C10	Interior Construction	32,500	BGSF	\$1.05	\$34,250	
C30	Interior Finishes	32,500	BGSF	\$39.50	\$1,283,750	
D20	Plumbing	32,500	BGSF	\$0.00	\$0	
D30	HVAC	32,500	BGSF	\$5.61	\$182,349	
D40	Fire Protection	32,500	BGSF	\$0.00	\$0	
D50	Electrical	32,500	BGSF	\$7.42	\$241,200	
E10	Equipment	32,500	BGSF	\$0.31	\$10,000	
F10	Special Construction	32,500	BGSF	\$1.54	\$50,000	
F20	Selective Demolition	32,500	BGSF	\$14.40	\$467,875	
Building Construction Subtotal					\$2,661,424	
Z10	General Requirements	32,500	BGSF	\$2.31	\$75,000	
Estimate Subtotal					\$2,736,424	
				Contingency	20.00%	\$547,285
				Subtotal		\$3,283,709
				General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)	7.00%	\$229,860
				Subtotal		\$3,513,568
				Escalation to Mid-Point (Jul '19 @ 3.00% / YR)	6.00%	\$210,814
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$3,724,383	

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
B20 EXTERIOR ENCLOSURE					
	Exterior Soffits				
	Breezeway Linear Wood/Metal Soffit	11,200	sf	35.00	\$392,000
	SUBTOTAL EXTERIOR ENCLOSURE	32,500	BGSF	\$12.06	\$392,000
C10 INTERIOR CONSTRUCTION					
	Partitions				
	Patch partitions at demo areas	1,500	sf	15.00	\$22,500
	Wood Blocking	32,500	sgbsf	0.10	\$3,250
	Fire Caulking	32,500	sf	0.10	\$3,250
	Sealants	32,500	sf	0.10	\$3,250
	Fittings / Specialties				
	Signage	1	gsf	1,000.00	\$1,000
	Misc. Specialties Allowance	1	gsf	1,000.00	\$1,000
	SUBTOTAL INTERIOR CONSTRUCTION	32,500	BGSF	\$1.05	\$34,250
C30 INTERIOR FINISHES					
	Wall Finishes				
	Painting	32,500	gbsf	3.00	\$97,500
	Rubber Base	5,000	lf	1.25	\$6,250
	Floor Finishes				
	Carpet	32,500	sf	5.50	\$178,750
	Floor Prep Allowance	32,500	sf	1.50	\$48,750
	Ceilings				
	Clear Fir T&G Ceiling	32,500	sf	25.00	\$812,500
	Patch holes at MEP Demo	1,000	sf	10.00	\$10,000
	Add for added lifts and scaffold	32,500	sf	4.00	\$130,000
	SUBTOTAL INTERIOR FINISHES	32,500	BGSF	\$39.50	\$1,283,750
D20 PLUMBING					
	Plumbing				
	included w/ HVAC			-	\$0
	SUBTOTAL PLUMBING	32,500	BGSF	\$0.00	\$0
D30 HVAC					
	HVAC - MW Engineers Pricing				
	Plumbing, HVAC and Fire Sprinklers per Program Requirements	1	ls	182,349.00	\$182,349
	SUBTOTAL HVAC	32,500	BGSF	\$5.61	\$182,349

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
D40 FIRE PROTECTION					
	Fire Protection				
	included w/ HVAC			-	\$0
	SUBTOTAL FIRE PROTECTION	32,500	BGSF	\$0.00	\$0
D50 ELECTRICAL					
	Electrical				
	Electrical System per Program Requirements - MW	1	gsf	241,200.00	\$241,200
	SUBTOTAL ELECTRICAL	32,500	BGSF	\$7.42	\$241,200
E10 EQUIPMENT					
	Special Equipment				
	Relocate security equipment	1	ls	10,000.00	\$10,000
	SUBTOTAL EQUIPMENT	32,500	BGSF	\$0.31	\$10,000
F10 SPECIAL CONSTRUCTION					
	Special Facilities				
	Artwork Allowance	1	ls	50,000.00	\$50,000
	SUBTOTAL SPECIAL CONSTRUCTION	32,500	BGSF	\$1.54	\$50,000
F20 SELECTIVE BUILDING DEMOLITION					
	Building Demolition				
	Remove Floor coverings	32,500	sf	1.25	\$40,625
	Floor Prep Allowance	32,500	sf	1.00	\$32,500
	Cut ceiling for MEP access	1,000	sf	5.00	\$5,000
	Cut in walls for added electrical	200	sf	5.00	\$1,000
	Sawcut slab for security power at exterior	50	lf	25.00	\$1,250
	Misc Demo	1	ls	5,000.00	\$5,000
	Hazardous Components Abatement				
	Demo and Abate Contaminated Lobby Ceiling	17,300	sf	10.00	\$173,000
	Demo and Abate Contaminated Breezeway Soffit	11,200	sf	10.00	\$112,000
	Abatement of other Misc. Contaminated - Allowance	32,500	sf	3.00	\$97,500
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	32,500	BGSF	\$14.40	\$467,875
Z10 GENERAL REQUIREMENTS					
	General Conditions				
		3	MO	\$25,000	\$75,000
	SUBTOTAL GENERAL REQUIREMENTS	32,500	BGSF	\$2.31	\$75,000

Project Owner: **Spokane Public Facilities District**
Project Name: **INB Performing Arts Center Renovation Study**
Project Location: Spokane, WA
Start Date: July 1, 2019
Estimate Date: July 10, 2017

Architect: **Integrus**
Duration:
Project GSF: 3,000
Site GSF:

Music Room

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	Foundations	3,000	BGSF	\$4.66	\$13,983
B10	Superstructure	3,000	BGSF	\$27.53	\$82,590
B20	Exterior Enclosure	3,000	BGSF	\$21.53	\$64,600
C10	Interior Construction	3,000	BGSF	\$12.21	\$36,620
C20	Stairs	3,000	BGSF	\$50.00	\$150,000
C30	Interior Finishes	3,000	BGSF	\$55.03	\$165,100
D10	Conveying Systems	3,000	BGSF	\$13.33	\$40,000
D20	Plumbing	3,000	BGSF	\$0.00	\$0
D30	HVAC	3,000	BGSF	\$143.40	\$430,204
D40	Fire Protection	3,000	BGSF	\$0.00	\$0
D50	Electrical	3,000	BGSF	\$18.97	\$56,900
E20	Casework & Furnishings	3,000	BGSF	\$2.16	\$6,480
F20	Selective Demolition	3,000	BGSF	\$16.90	\$50,688
Building Construction Subtotal					\$1,097,165
Z10	General Requirements	3,000	BGSF	\$60.00	\$180,000
Estimate Subtotal					\$1,277,165
Contingency				20.00%	\$255,433
Subtotal					\$1,532,597
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00%	\$107,282
Subtotal					\$1,639,879
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.000%	\$98,393
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$1,738,272

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10 FOUNDATIONS					
Foundation Earthwork					
	Footing Excavation, Backfill	98	cy	35.00	\$3,422
	Haul Off	90	cy	25.00	\$2,250
Foundations					
	Continuous Footings	5	cy	375.00	\$1,958
	Foundation Walls	94	sf	40.00	\$3,760
Slab-on-Grade					
	4" Slab at new deck N side (below ext stair / ramp)	432	sf	6.00	\$2,592
Misc. Concrete Construction					
SUBTOTAL FOUNDATIONS		3,000	BGSF	\$4.66	\$13,983
B10 SUPERSTRUCTURE					
Structural Framing System					
	Header Beam at new folding wall	2,070	lbs	4.00	\$8,280
Poured in Place Concrete Walls					
	New walls n side of stair	1,082	sf	40.00	\$43,280
Metal Deck and Topping Slabs					
	At stairs and deck	860	sf	5.50	\$4,730
	Concrete Slab on Deck	860	sf	7.00	\$6,020
	Waterproof new ext elevated deck over enclosed space	420	sf	20.00	\$8,400
	Exterior Steps	216	lftn	55.00	\$11,880
Fireproofing					
	Type II-B - not required		none		\$0
SUBTOTAL SUPERSTRUCTURE		3,000	BGSF	\$27.53	\$82,590
B20 EXTERIOR ENCLOSURE					
Exterior Wall Construction					
	Paint Concrete Walls	1,600	sf	2.50	\$4,000
Exterior Railings					
	Stainless at Stairs	54	lf	150.00	\$8,100
Exterior Windows					
	Retractable Glass Wall	300	sf	175.00	\$52,500
SUBTOTAL EXTERIOR ENCLOSURE		3,000	BGSF	\$21.53	\$64,600
C10 INTERIOR CONSTRUCTION					
Partitions					
	6" Metal Studs with sound batts and 5/8" gyp ea side - plug	1,000	sf	9.00	\$9,000
	Frame and drywall new plenum	840	sf	18.00	\$15,120
	Wood Blocking	1	sgbsf	500.00	\$500
	Fire Caulking	1	sf	500.00	\$500
	Sealants	1	sf	500.00	\$500

DETAILED ESTIMATE				
No.	Description	Quantity	Unit of Measure	Total Estimated Cost
Expansion Joints				
Railings				
	Guardrails at elevated decks	30	lf	\$4,500
Interior Doors, Frames, Hardware				
	Wood Door, HM Frame, Fin Hdwe - single	1	ea	1,750.00
	Glass door and hardware - pair from lobby	1	pair	3,500.00
	Access Door Allowance	1	ea	250.00
Fittings / Specialties				
	Signage	1	gsf	500.00
	Misc. Specialties Allowance	1	gsf	500.00
SUBTOTAL INTERIOR CONSTRUCTION		3,000	BGSF	\$12.21
C20 STAIRS				
Stair Construction -				
	Sets of curved stairs - custom - up one level	2	ea	75,000.00
SUBTOTAL STAIRS		3,000	BGSF	\$50.00
C30 INTERIOR FINISHES				
Wall Finishes				
	Painting	3,000	gsf	2.00
	Upgrade wall finish	1,600	sf	10.00
	Wood Wall Paneling	2,800	sf	25.00
	Wood Base	200	lf	15.00
Floor Finishes				
	Upgraded Floor Finish	3,000	sf	7.00
	Wood Floor - Acoustic at elevated decks	800	sf	40.00
Ceilings				
	Acoustic Grid Ceilings - 2x2	3,800	sf	4.50
SUBTOTAL INTERIOR FINISHES		3,000	BGSF	\$55.03
D10 CONVEYING SYSTEMS				
Elevators & Lifts				
	Wheelchair lift	1	ea	40,000.00
SUBTOTAL CONVEYING SYSTEMS		3,000	BGSF	\$13.33
D20 PLUMBING				
Plumbing				
	included w/ HVAC			\$0
SUBTOTAL PLUMBING		3,000	BGSF	\$0.00

DETAILED ESTIMATE				
No.	Description	Quantity	Unit of Measure	Total Estimated Cost
D30 HVAC				
HVAC - MW Engineers Pricing				
	Plumbing, HVAC and Fire Sprinklers per Program Requirements	1	ls	430,204.00
SUBTOTAL HVAC		3,000	BGSF	\$143.40
D40 FIRE PROTECTION				
Fire Protection				
	included w/ HVAC			-
SUBTOTAL FIRE PROTECTION		3,000	BGSF	\$0.00
D50 ELECTRICAL				
Electrical				
	Electrical System per Program Requirements - MW	1	ls	56,900.00
SUBTOTAL ELECTRICAL		3,000	BGSF	\$18.97
E20 CASEWORK & FURNISHINGS				
Window Treatment				
	Electric Roller Shades	360	sf	18.00
SUBTOTAL FURNISHINGS		3,000	BGSF	\$2.16
F20 SELECTIVE BUILDING DEMOLITION				
Building Demolition				
	Sawcut Terrace	200	lf	10.00
	Remove Terrace Slab	500	sf	5.00
	Sawcut Wall at 11 line	140	lf	20.00
	Remove Wall at 11 line	300	sf	8.00
	Sawcut N Wall at Ext Stairs	150	lf	20.00
	Remove Wall at N side stairs	360	sf	8.00
	Remove Exterior Stairs	463	sf	7.00
	Remove interior floor coverings	3,000	sf	1.25
	Remove Interior Walls	1,600	sf	3.00
	Remove HVAC Plenum	1,764	sf	3.00
	Remove interior wallfinishes	4,400	sf	0.75
	Remove interior stairs	1	ls	2,500.00
	Remove doors	3	ea	75.00
	Protect Terrace	1,000	sf	3.00
	Dump Fees	1	ls	4,000.00

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Misc Demo	1	LS	5,000.00	\$5,000
	Hazardous Components Abatement				
		1	LS		\$0
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	3,000	BGSF	\$16.90	\$50,688
Z10 GENERAL REQUIREMENTS					
	General Conditions	6	MO	\$30,000	\$180,000
	SUBTOTAL GENERAL REQUIREMENTS	3,000	BGSF	\$60.00	\$180,000

Project Owner: **Spokane Public Facilities District** Architect: Integrus
 Project Name: **INB Performing Arts Center Renovation Study** Duration:
 Project Location: Spokane, WA Project GSF: 22,931
 Start Date: July 1, 2019 Site GSF:
 Estimate Date: July 10, 2017

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
Replace Curtainwall					
B10	Superstructure	22,931	BGSF	\$1.50	\$34,397
B20	Exterior Enclosure	22,931	BGSF	\$92.16	\$2,113,290
C10	Interior Construction	22,931	BGSF	\$3.03	\$69,397
C30	Interior Finishes	22,931	BGSF	\$3.00	\$68,862
D50	Electrical	22,931	BGSF	\$0.52	\$12,000
F20	Selective Demolition	22,931	BGSF	\$52.12	\$1,195,240
Building Construction Subtotal					\$3,493,185
Z10	General Requirements	22,931	BGSF	\$7.85	\$180,000
Estimate Subtotal					\$3,673,185
Contingency				20.00%	\$734,637
Subtotal					\$4,407,822
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00%	\$308,548
Subtotal					\$4,716,370
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.000%	\$282,982
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$4,999,352

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE				
No.	Description	Quantity	Unit of Measure	Total Estimated Cost
B10 SUPERSTRUCTURE				
Structural Framing System				
	Misc Framing adjustment / upgrade	22,931	sf	\$34,397
SUBTOTAL SUPERSTRUCTURE		22,931	BGSF	\$1.50
B20 EXTERIOR ENCLOSURE				
Exterior Windows				
	Curtainwall with anodized black finish premium	22,931	sf	\$2,063,790
Exterior Doors				
	Storefront Doors - pairs	11	ea	4,500.00
SUBTOTAL EXTERIOR ENCLOSURE		22,931	BGSF	\$92
C10 INTERIOR CONSTRUCTION				
Partitions				
	Patch existing adjacent drywall allowance	1,500	lf	20.00
	Sealants	22,931	sf	1.50
	Signage - remove and replace	1	ls	5,000.00
SUBTOTAL INTERIOR CONSTRUCTION		22,931	BGSF	\$3.03
C30 INTERIOR FINISHES				
Wall Finishes				
	Painting - touch up allowance at steel frame and adjacent drywall	22,931	sf	2.00
Floor Finishes				
	Touch up adjacent finishes - 4' width	2,000	sf	7.00
Ceilings				
	Patch ceiling adjacent to new curtain wall - 4' width	2,000	sf	4.50
SUBTOTAL INTERIOR FINISHES		22,931	BGSF	\$3.00
D50 ELECTRICAL				
Electrical				
	Electrical System per Program Requirements - MW	1	ls	12,000.00
SUBTOTAL ELECTRICAL		22,931	BGSF	\$0.52
F20 SELECTIVE BUILDING DEMOLITION				
Building Demolition				
	Protect slab - interior and exterior	12,500	sf	2.00
	Build temp partition - studs, gyp x2, insulation, tyvek	22,931	sf	15.00
	Remove temp partition	22,931	sf	5.00
	Remove existing curtainwall	22,931	sf	20.00
	Add for craning in and out of glass	5	mo	50,000.00

DETAILED ESTIMATE				
No.	Description	Quantity	Unit of Measure	Total Estimated Cost
	Add temp fence	600	lf	5.00
Hazardous Components Abatement				
			None	\$0
SUBTOTAL SELECTIVE BUILDING DEMOLITION		22,931	BGSF	\$52.12
Z10 GENERAL REQUIREMENTS				
General Conditions				
		6	MO	\$30,000
SUBTOTAL GENERAL REQUIREMENTS		22,931	BGSF	\$7.85

Project Owner: **Spokane Public Facilities District**
Project Name: **INB Performing Arts Center Renovation Study**
Project Location: Spokane, WA
Start Date: July 1, 2019
Estimate Date: July 10, 2017

Architect: Integrus
Duration:
Project GSF: 1
Site GSF:

MEP Systems Upgrades

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
B10	Superstructure	1	BGSF	\$86,875.00	\$86,875
B20	Exterior Enclosure	1	BGSF	\$19,050.00	\$19,050
B30	Roofing	1	BGSF	\$22,820.00	\$22,820
C10	Interior Construction	1	BGSF	\$11,500.00	\$11,500
C30	Interior Finishes	1	BGSF	\$23,000.00	\$23,000
D20	Plumbing	1	BGSF	\$0	\$0
D30	HVAC	1	BGSF	\$2,011,762	\$2,011,762
D40	Fire Protection	1	BGSF	\$0.00	\$0
D50	Electrical	1	BGSF	\$1,435,500	\$1,435,500
F20	Selective Demolition	1	BGSF	\$132,500.00	\$132,500
Building Construction Subtotal					\$3,743,007
Z10	General Requirements	1	BGSF	\$120,000.00	\$120,000
Estimate Subtotal					\$3,863,007
Contingency				20.00%	\$772,601
Subtotal					\$4,635,608
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00%	\$324,493
Subtotal					\$4,960,101
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.00%	\$297,606
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$5,257,707

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
B10 SUPERSTRUCTURE					
Structural Framing System					
	Bracing of New Concrete Walls	25	ea	500.00	\$12,500
	Add Structural Supports at Roof for Mech	1	ls	25,000.00	\$25,000
Poured in Place Concrete Walls					
	Concrete walls to screen MEP Panels (105' x 5')	525	sf	75.00	\$39,375
	Misc Mech Curbs and Pads	500	sf	20.00	\$10,000
Fireproofing					
	Type II-B - not required		none		\$0
SUBTOTAL SUPERSTRUCTURE					\$86,875.00
B20 EXTERIOR ENCLOSURE					
Exterior Wall Construction					
	Paint New Concrete Walls - figure entire dock area	2,850	sf	3.00	\$8,550
	Caulk joints in concrete walls	1	ls	500.00	\$500
	Cut and Patching allowance for MEP Work	500	sf	20.00	\$10,000
SUBTOTAL EXTERIOR ENCLOSURE					\$19,050.00
B30 ROOFING					
Roof Coverings					
	Patch Membrane Roof Assembly w/ Insulation (entire dock area)	1,300	sf	14.00	\$18,200
	Misc. Flashing & Blocking	15	%	18,200	\$2,730
	Standard Coping Cap	105	lf	18.00	\$1,890
SUBTOTAL ROOFING					\$22,820.00
C10 INTERIOR CONSTRUCTION					
Partitions					
	Patching for MEP work	1,000	sf	9.00	\$9,000
	Fire Caulking	1	sf	1,500.00	\$1,500
	Sealants	1	sf	1,000.00	\$1,000
Expansion Joints					
			none		
SUBTOTAL INTERIOR CONSTRUCTION					\$11,500.00
C30 INTERIOR FINISHES					
Wall Finishes					
	Painting	2,500	gbsf	2.00	\$5,000
Floor Finishes					
	Carpet	2,000	sf	4.50	\$9,000

DETAILED ESTIMATE				
No.	Description	Quantity	Unit of Measure	Total Estimated Cost
	Ceilings			
	Patch Acoustic Grid Ceilings - 2x2	2,000	sf	\$9,000
	SUBTOTAL INTERIOR FINISHES	1	BGSF	\$23,000.00
D20 PLUMBING				
	Plumbing			
	Included with HVAC			\$0
	SUBTOTAL PLUMBING	1	BGSF	\$0
D30 HVAC				
	HVAC			
	Clean and Test Fire Dampers	1	ls	19,941.00
	AC at Balcony Sound Room	1	ls	13,020.00
	Remove and relocate Exhaust Fan in Intake Plenum	1	ls	12,197.00
	Dryer Vent	1	ls	10,064.00
	Catering Backstage - No Mech Impact			\$0
	Replace Boilers	1	ls	782,888.00
	Add Stage AHU	1	ls	363,543.00
	Add Air and Economizer Controls	1	ls	255,240.00
	Reduce Stratification in Lobby	1	ls	114,710.00
	Replace MZU-1 at Upper Level Mechanical Room	1	ls	410,159.00
	New 500kw Generator System	1	ls	30,000.00
	SUBTOTAL HVAC	1	BGSF	\$2,011,762
D40 FIRE PROTECTION				
	Fire Protection			
	Included with HVAC			\$0
	SUBTOTAL FIRE PROTECTION	1	BGSF	\$0.00
D50 ELECTRICAL				
	Electrical			
	AC at Balcony Sound Room	1	ls	3,000.00
	Remove and relocate Exhaust Fan in Intake Plenum	1	ls	3,000.00

DETAILED ESTIMATE				
No.	Description	Quantity	Unit of Measure	Total Estimated Cost
	Dryer Vent	1	ls	1,500.00
	Catering Backstage	1	ls	5,000.00
	Replace Boilers	1	ls	26,800.00
	Add Stage AHU	1	ls	9,000.00
	Add Air and Economizer Controls	1	ls	3,000.00
	Reduce Stratification in Lobby	1	ls	6,200.00
	Replace MZU-1 at Upper Level Mechanical Room	1	ls	11,000.00
	Replace Electrical Distribution System	1	ls	712,000.00
	New 500kw Generator System	1	ls	573,500.00
	Remove Legacy Dimmer Cabinets	1	ls	81,500.00
	SUBTOTAL ELECTRICAL	1	BGSF	\$1,435,500
F20 SELECTIVE BUILDING DEMOLITION				
	Building Demolition			
	Sawcut holes for new mechanical floor heaters at curtainwall	1,000	sf	5.00
	Cut and Patch for Mechanical	1,500	sf	25.00
	Cut and Patch Openings in Roof Deck	500	sf	30.00
	Scaffold Allowance for MEP Work in Lobby	1	ls	75,000.00
	Hazardous Components Abatement			
	EXCLUDED		None	\$0
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	1	BGSF	\$132,500.00
Z10 GENERAL REQUIREMENTS				
	General Conditions			
		6	MO	\$20,000
				\$120,000
	SUBTOTAL GENERAL REQUIREMENTS	1	BGSF	\$120,000.00

Project Owner: **Spokane Public Facilities District**
Project Name: **INB Performing Arts Center Renovation Study**
Project Location: Spokane, WA
Start Date: July 1, 2019
Estimate Date: July 10, 2017

Architect: Integrus
Duration:
Project GSF: 83,000
Site GSF:

Replace Existing Roof

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
B30	Roofing	83,000	BGSF	\$19.16	\$1,590,200
D20	Plumbing	83,000	BGSF	\$0.63	\$52,635
D50	Electrical	83,000	BGSF	\$0.04	\$3,000
F20	Selective Demolition	83,000	BGSF	\$3.00	\$249,000
Building Construction Subtotal					\$1,894,835
Z10	General Requirements	83,000	BGSF	\$0.60	\$50,000
Estimate Subtotal					\$1,944,835
Contingency				20.00%	\$388,967
Subtotal					\$2,333,802
General Contractor Mark Up (OH&P, Insurance, P&P Bond & B&O Tax)				7.00%	\$163,366
Subtotal					\$2,497,168
Escalation to Mid-Point (Jul '19 @ 3.00% / YR)				6.000%	\$149,830
CONSTRUCTION COSTS ESTIMATE GRAND TOTAL					\$2,646,998

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
B30 ROOFING					
Roof Coverings					
	Membrane Roof Assembly w/ Insulation	83,000	sf	16.00	\$1,328,000
	Misc. Flashing & Blocking	15	%	1,328,000	\$199,200
	Standard Coping Cap	3,500	lf	18.00	\$63,000
Roof Accessories					
	None				
SUBTOTAL ROOFING					\$1,590,200
D20 PLUMBING					
Plumbing					
	Plumbing per Program Requirements - MW (drains)	1	ls	52,635.00	\$52,635
SUBTOTAL PLUMBING					\$52,635
D50 ELECTRICAL					
Electrical					
	Electrical per Program Requirements - MW (drains)	1	ls	3,000.00	\$3,000
SUBTOTAL ELECTRICAL					\$3,000
F20 SELECTIVE BUILDING DEMOLITION					
Building Demolition					
	Remove Existing Roofing	83,000	sf	3.00	\$249,000
Hazardous Components Abatement					
	None				\$0
SUBTOTAL SELECTIVE BUILDING DEMOLITION					\$249,000
Z10 GENERAL REQUIREMENTS					
General Conditions					
		2	MO	\$25,000	\$50,000
SUBTOTAL GENERAL REQUIREMENTS					\$50,000

Notes from Patron Walkthrough:

Kandis Larsen:	Integrus (moderator)
Nicholas Lawrence:	PFD Event Manager
Mark Williams:	Staff Pro
Karen Thompson:	PFD Event Manager
Michelle McIntyre:	PFD Special Events Manager

Lobby

Security

- Entry
 - A total of six double doors, two bays is ideal. The two pairs currently farthest south do not function well.



- Would like to get electrical floor boxes in place for the metal detectors. Right now, they have some cords running across the floor and clumped up in between the detectors. They also have a table off to the side that has tons of cords underneath it.
- The tables stored against the curtain wall, directly to the right as you come in the entry are used for bag checking and dividing lines to the doors at nearly every event.
- More space!
- Exits
 - Northwest and southwest exit doors are chained closed so people won't just be able to let others in.
- Would prefer them either inside the Opera House lobby or just outside the doors to the north, maybe under the stair somehow.

- The main line to enter never wraps that way, so staying north of the main entry doors should work. The only way the line can safely run is southeast from the entry doors toward Division and that is what it always seems to do even if they try to reposition it.

Atmosphere & Gathering

- If people are meeting someone they tend to linger in the level 1 lobby which becomes congested with security and café and bar lines. Level 2 balcony furniture is always in use.
- Once furniture is full people migrate to the balconies and line up along the edges of the balconies while they wait for the show to start.
- Drinks are usually placed on balcony ledges and security must walk around and ask people to remove them.
- Some sort of surface, lip or ledge along the balconies would be great.
- Stratification is an issue in the lobby. Level 1 is very cold and the upper levels get very warm. They have had people faint on the upper levels.
- Need 24 hour notice just to start up the system and get the building warmed up.
- The show posters that hang off level 2 are cool and have a retro theatre feel. They want to keep them, but would consider a different method for displaying them that looks more intentional.

Merchandise

- Currently tables and showcases are setup at the right-side top of the grand stair. Impedes on stair and line for merch can start to impede on the stair traffic.
- They do not want built-in casework because often shows bring their own pre-stocked display cases and just want to set those out.
- One point of merchandise sale is fine.

Concessions

- Working well, but it would ease congestion if we had a way to get them on the upper balcony levels too. The level 1 and level 2 north are usually the busiest.
- Maybe find a way to draw more attention to them?

Accessibility

- People get through security and then must go back outside to come around to one of the north or south doors.
- Once they are to their seat, they then have no access to concessions or restrooms.

Technology

- Add some screens for marketing and live feed of the show.
 - Could show a count down during intermission.
- Improve performance cues in lobby with technology.
 - Want the ability to dim the lights so there is visual cue that the performance is starting or resuming. Not the ambient lighting, but maybe some colored or accent lighting along the balcony edges.
 - Current PA system is inaudible.

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 - Want the ability to dim the lights so there is visual cue that the performance is starting or resuming. Not the ambient lighting, but maybe some colored or accent lighting along the balcony edges.
 - Current PA system is inaudible.

North Exterior Balcony (Exit)

- This could be better utilized since it has such great views of the river. Poses a bit of a security issue and must be blocked off in a safe way when they do use it.
- Create indoor/outdoor connection with windows that open.
- Concrete area at bottom of stairs is a missed opportunity. They sometimes put out tables and chairs when there are events in the park. Maybe a more permanent exterior seating solution?

Elevator

- Very old and slow and is constantly breaking down.
- Lobby elevator could be located as indicated in the image below and would be able to access all the auditorium/balcony levels.

Group Suggestions

- Move the east curtain wall out maybe 10 feet. This would give security more room now that they have the metal detectors. Could create a space at the top of the stair for merch that won't impede the stair traffic. Could also create a space for ticket booths and small breakaways along the stair itself.
- Better signage (digital). Current directional seat number signs are too small and blends in too much.
- More space at balconies; expand them out over the lobby.
- Lots of wasted space along the north and south sides of the auditorium

Auditorium

Accessibility

- Biggest issue.
- Want a “fair” way to get ADA access to stage without leaving the auditorium.



Other

- Curtains at entry doors are in rough shape. People try to pull them open, but they are stationary.
- Row indicator letters are small, not lit and hard to read.
- Mixing station is in good location, but sometimes they must remove seats around it to accommodate equipment for certain shows that bring their own.
- The aisles along the perimeter are also too dark. Security uses flashlights.
- Hydraulics of the “pit” were damaged when they lowered it and let people stand at the front of the auditorium. People were jumping and dancing.
- Adaptable seating would be great. Draw new types of performances if standing is an option in the space. (theatre in Dallas)
- Some box seats would be good.

Music Room

- Not accessible and no restroom access.
- Improve access to outside for events that use the space.
- Difficult for food service to get here. They currently must come down through the tunnels.
- Track lights along perimeter are very difficult to manipulate, reposition and control, large panel with dials in kitchenette that has handwritten notes.
- Still used for rehearsals too.
- Need better projection capabilities. Screen is small.
- Acoustics are good!

Notes from Performer Experience Walkthrough:

Katie Vingelen	Integrus Architecture
Jack Lucas	West Coast Entertainment
Michael Gaffaney	PFD Assistant General Manager
Betsy Hammond	PFD – Booking Manager
Matt Meyer	PFD – Event Manager

Circulation/ Corridors

- When performers are using the dressing rooms on the stage level they utilize the corridors for wardrobe and coffee service, the corridors are currently too narrow to accommodate this functionally.

- Currently, a moveable tack board is used on the face of each dressing room door and it is preferably that this is a built-in element to the side of the door.
- There needs to be a wall location (tack surface?) for cast and crew show related information that is in close proximity to the performer/ crew entrance.
- Some union contracts call for food services and there is currently no dedicated hospitality space that is in close proximity to the back stage. A coffee nook would be preferable with accommodations for warming plates.

Dressing Rooms

- A typical cast size is (20-25) for a small show and up to (50) for a large show, not including crew, staff etc.
- The 'showcase' dressing rooms need finish and furniture updates. The wardrobe, single stall restroom and shower are to remain. It is preferable that there are accommodations for food/ coffee inside the dressing room.
- The group/ chorus dressing rooms need additional makeup stations but would not need additional square footage to accommodate this. All dressing rooms need finish and furniture upgrades.
- There is currently no dedicated set-up space for hair and wardrobe; ideally the space would accommodate (2-4) hair & 92 wardrobe personnel.
- There are currently (2) community showers that are underutilized.

Green Room

- The green room is used for a variety of functions;
- Performers gather here before shows
- VIP 'Meet and Greet' location for smaller groups
- Traveling staff sets up office space
- The proximity to the lobby is ideal, however, ADA access has been problematic. There is currently no access from the corridor entrance and public access is only through the south building entrance. ADA patrons currently must be escorted out of the building from the lobby and to the south entrance. The custodians closet on the stage level could be relocated to accommodate an additional dressing room. It would be preferable for it to be located closer to the restrooms.
- This room should have a flat screen TV, flexible furniture to accommodate a lounge and/or a conference set up and a beverage/ food counter.

Additional Space Needs in Proximity to Dressing Rooms

- There is currently no dedicated space for the presenter or production crew to set up office space, other than the green room, a flexible office space for up to (8) would be ideal to support this function.
- An additional multi-use space like the green room is desired.
- The laundry room is highly utilized and functions well, except for the need for a floor drain and additional shelving.
- Show timing is critical and there is currently no network clock system that performers and crew can reference for time.

3rd Floor

- This space is currently utilized for overflow dressing room/ show prep, after show parties and performer support (physical therapy etc.)
- Catering is currently brought from the kitchen up the stairs. It is desirable that a satellite catering area be incorporated with plumbing and food warmers.
- It is preferable that the space be flexible and divisible with an operable wall or mezzanine.
- There are signatures on the walls from past performers and it is desirable that these are somehow preserved.

Music Room

- This room is primarily used for cast and crew dinners and as a rehearsal space.
- Due to the lack of ADA access this space cannot be rented to the public, however, it is anticipated that if access was upgraded it would be a highly rentable space. Jack said he would use the space to host club member pre-show parties.
- Accessible bathrooms, an updated catering kitchen and dedicated heating and cooling would need to be taken into consideration for upgrades.
- Additional desired amenities would include a built in bar, upgraded AV system and storage.

Lobby

- Concern was expressed regarding the implementation of security and how it has affected the lobby experience.
- The box office location in the convention center has been problematic for patrons.
- It is desirable to have digital displays for advertising shows but it should maintain a 'performing arts' persona, not a sporting events.

- There is concern that patrons lean against the upper level balcony and it is desirable that an additional ledge or bench be added to mitigate this.

Notes from Stage Hand Walkthrough:

Colin Anderson	Integrus (moderator)
Kevin Twohig	PFD CEO
Stephanie Curran	INB General Manager
Jaye Nordling	IATSE
Mike Tucker	Technical Specialist
Dave Brucick	IATSE

Auditorium

Lighting

- Proscenium lighting: Would like an LED solution. The current lamp is a good look, they removed the lower 6' due to breaking bulbs.

Audio

- Currently run down the stage, over the doors and up into the back of house mixer when
- Due to number of chords, would like (2) 12" pathways that start stage right and left, see photo, and terminate at the front of the back of house mixing station.
- Ideally, event sound booth would be centered next to the house booth
- Need a door from the sound booth into the control room. Currently, if one of the sound engineers needs to get up, bathroom, etc., they must squeeze past the patrons

Cameras

- Currently (3) 4" conduits that run to different locations in the center of the house.
- Stephanie mentioned during events like hosting Bernie Sanders, that event had a maximum camera distance requirement of 60'. The continental seating creates an issue with installing a platform in the center of the auditorium

Acoustics

- Auditorium is LIVE. Need to investigate sound deadening.
- Original thick panels have been replaced with thinner panels at lower level
- Wood slats have no acoustical treatment behind them – can we add?
- Parabolic shape bounces sound = when on stage, performer hears an echo

- Curtains were added at doors to deaden the sound. This is a hassle... must loosen the curtains every show. Is there a better way? Sound deadening on doors?
- Sparling - Michael Yantis has done a few studies in this space. Ask Kevin for the studies.

Accessibility

- SEE PREVIOUS MEETING NOTES
- Confirm, only access to front of stage is to go outside and enter through side door

Stage

- Currently, hair, wigs and other groups that require water plant themselves at stage right. This is because water is available. This could/ should happen elsewhere.
- Floor stage wood is in decent condition. Could be replaced, no need for suspended stage. Events bring their own if needed
- Should confirm load from grid. Based on Lion King, we are well under capacity.
- Ramp at stage right. This is an awkward way to get disabled people onto the stage. They must go out of the auditorium and use this back of house ramp. Currently door is too narrow for moving large boxes. An extra 6 inches would be huge.

Backstage

Accessibility

- Primarily food, prop, wardrobe issues. Currently a chain hoist system is rigged at stage left near the loading docks. This system was rigged to provide steel folding plates for wheeling carts, wardrobe crates into the back of house areas.
 - What about locating elevator as shown below: This would require building out new space above the loading dock

Lack of Space

- Need more dressing room space. Currently, the balcony level gets built out with wardrobe, Physical Therapy, etc.

Laundry room

- Need a floor drain for overflow.

Backstage exterior access (Mark Williams side bar meeting after)

- Magnetometer is being tripped by the door, access through the security is awkward
 - Mark Williams mentioned that he doesn't need an enclosed office.

- Possible solution is to turn the magnetometer 90 degrees, move minimum 6' from the door and enclose the existing door opening. The current office can be removed and become a desk in the corner, utilizing the current office door as the exit from the security line.
- Stage hands are hopping the railing. Might be better to have some sort of stair at the west side opposed to just the ramp. This might interfere with the loading dock access, so might need to be a metal stair that can fold up out of the way.

Session 3 Meeting Minutes

DATE: 4/6/17
 PROJECT: INB Opera House Upgrades
 PROJECT #: 2017103-01
 MW REP: Joel Enevold, PE

Attending:

SPFD: Kevin Twohig, Dave Gebhardt, Ron Rhodes, Mike Gaffanay, Bill Poffenroth, Rick Frieme, Russ Yocom, Mike Tucker

Kjersten Kuhta	MW Mechanical
Joel Enevold	MW Electrical
Jeremy Van Lith	MW/Escent Lighting

Electrical Distribution

- The building electrical service equipment has reached the end of its useful service life and is in need of replacement. The District is performing an audit of the building electrical service demand in partnership with Avista Utilities. This audit will help determine the building electrical service needs moving forward.
- The majority of the building distribution equipment including Transformers, Motor Control Centers and Panelboards have reached the end of useful service life and are in need of replacement. In addition, power at specific areas of the building is lacking and therefore additional panelboards may be needed where not currently present. Panelboards installed within the last 10 years could be maintained and refed from new distribution feeders.

- The condition of existing feeder and branch circuit wiring is unknown. A complete replacement of all feeder and branch circuit wiring is recommended, excluding wiring that is known to be less than 10 years old.
- The existing panelboards do not contain transient voltage surge suppression. New equipment should include integral TVSS units for protection of sensitive loads.
- A single 83kW 208V generator serves emergency loads in the building. It is recommended the generator be replaced and increased in size to meet current building needs. The District indicated there is a desire to have the entire building on a generator system. The emergency and standby loads would be separated to facilitate this need. The audit noted in item #1 above will help determine if a single generator could support the entire building and what size of generator would be required. A natural gas fueled generator is preferred. The location of the existing generator is difficult to access and a new location should be considered to improve accessibility.
- Existing elevator power connections utilize a manual transfer switch system for use during power outages. New elevators should be connected to generator standby power with automatic transfer.
- If smoke evacuation is required for the lobby, an NEC 701 legally required standby power system will need to be installed. This system can connect to a common generator with emergency and optional standby loads. A dedicated automatic transfer switch would be provided for the NEC 701 system.

Power

- A majority of the wiring devices throughout the building are original construction. Replacement of all wiring devices is recommended, excluding those known to be less than 10 years old.
- Power near the stage was noted as meeting the current event needs.
- Lobby areas do not have sufficient power outlet locations. Additional power outlets are needed along the walls of the lobby as well as the lobby balconies.
- See respective mechanical meeting notes for possible power revisions to support mechanical equipment revisions.

Lighting

- Portions of the building lighting has been upgraded with new lamp sources (LED). Areas which have not been upgraded should be replaced with LED sources.

- Lighting Designer will review existing building to determine extent of fixture upgrades which are still needed for the building interior and exterior.
- Theatrical lighting has been upgraded and is preparing for an additional upgrade at this time.
- An LED solution for the Proscenium lighting was requested by the District.
- Lighting controls have been upgraded to ETC throughout the building. Additional control upgrades will be required to meet current energy codes (daylighting, occupancy control, etc).
- Large lighting dimmer cabinets are present at the stage, but no longer house the dimming equipment. The large enclosure is used for routing of wires to the lighting. A solution to reroute the wiring and remove the large dimmer cabinet at the stage is necessary.
- Large lighting dimmer cabinets are present at the basement level, but no longer house the dimming equipment. The large enclosure is used for routing of wires to the lighting. A solution to reroute the wiring and remove the large dimmer cabinet at the basement level is necessary.
- Large lighting dimmer cabinets are present at the balcony level, but no longer house the dimming equipment. The large enclosure is used for routing of wires to the lighting. A solution to reroute the wiring and remove the large dimmer cabinet at the balcony level is necessary. Relocation of the existing ETC dimmer racks at the balcony level is required to facilitate this change.
- Lighting within tunnel areas is on batteries and has experienced battery failure. Generator backed circuits are needed to serve tunnel lighting in lieu of batteries.

Fire Alarm

- Fire alarm systems in the building were last modified in 2012 to accommodate building remodel work. A complete fire alarm system replacement should be considered for the building. The extent of the fire alarm system would be contingent on the findings of the code analysis.
- The building is not fully sprinkled. A code analysis from the Architect and a walk through by a Fire Protection Engineer is recommended. Based upon this analysis, additional fire alarm detection and supervisory may be required.

Low Voltage

- Data cabling in portions of the building has been upgraded to keep up with changing technology. Additional areas of the building are in need of upgrade to CAT6 at this time. Data cabling and pathways should also be provided where Architectural program changes deem it necessary.
- Electrical Engineer will work with District IT personnel to identify portions of the building in need of CAT6 cabling upgrade and additional pathways.
- Useable pathways connecting from Stage Left & Stage Right to the center sound booth are not present. A pathway system equal to 12" diameter conduit was requested by the District for temporary cabling during events. A dedicated pathway from each side of Stage to the center sound booth was requested.
- Sound equipment racks located at the balcony level closet were noted to be original to the building. Recommended that new 4-post racks with power strips be provided.
- An existing AC split system was noted within the balcony level low voltage equipment closet. Recommend that the condensing unit be relocated from this room to an exterior location.

Paging

- The paging speakers in the lobby area are on located above the balconies and do not effectively distribute audio throughout the lobby. Replacement of the speakers and addition of speakers above the main lobby area are needed for uniform coverage.

Architectural Improvements

- Electrical, Lighting & Systems will be upgraded to support changes of use in the facility as spaces are modified to improve the building's use and performance. Narratives on associated impacts will follow as these ideas are developed by the Architectural team.



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MEETING NOTES

DATE: 4/4/2017
PROJECT: INB Opera House Upgrades
PROJECT #: 2017103-01
MW REP: Kjersten Kuhta, PE

TO: Colin Anderson, Preston Potratz
CC: Joel Enevold
MEETING DATE: 3/30/2017

NOTE: The following are notes from a mechanical meeting with the SPFD operators and users and a brief walk-through of the main mechanical rooms after the meeting. These notes are intended to focus on "big" facility needs that may require a prolonged facility shutdown and not day-to-day preventative maintenance items that can be fixed or replaced between events.

Attending

1. SPFD: Kevin Twohig, Dave Gebhardt, Ron Rhodes, Mike Gaffanay, Bill Poffenroth, Rick Frieme, Russ Yocom, Mike Tucker
2. Kjersten Kuhta, MW Mechanical
3. Joel Enevold, MW Electrical
4. Jeremy Van Lith, MW/Escent Lighting

Air Distribution

1. The building air systems are not equipped with an economizer functionality for cooling with outside air in the winter months. This creates operational problems in the winter when chilled water is not available, causing the venue to get too warm. Air economizer would be required if constructed to current energy codes and would save on mechanical cooling during the fall and spring months. An air side economizer is recommended for the air handling systems.
2. The building has pressure problems with too much pressure in the winter months since there is no path to relieve the ventilation air. A building relief is needed to regulate building pressure and should be sized for a full air side economizer.
3. In the winter months the lobby has stratification with cool air settling at the lower levels and warm air staying at the upper level balcony. In heating mode, the supply air temperature in the upper lobby is limited to 85 degrees but the hot air still tends to stratify up high. This space would benefit from heat at the floor or along the glazing. The heating problem in the lobby in the winter is expected to worsen with security screening and metal detectors as long lines keep these doors propped open for extended periods of time. Any security improvements should consider ways of reducing air infiltration at the doors.
4. The low returns in the lobby often get blocked during events by merchandizers.



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5. Return air plenums. The tunnels are utilized for return air from the lobby. These plenums are currently utilized for storage (prohibited) and look to have some non-plenum rated materials.
 - a. The **Architects** should advise if these spaces are considered in the code to be "inhabited spaces" as only "uninhabited spaces" may be utilized for return air plenums.
 - b. The **Architects** should review materials in plenum construction (doors/ramps etc.) are fire rated where required. Plenums cannot be connected to more than one fire area without fire barriers.
 - c. There is no fire separation between the lobby and the tunnel plenums at the floor return grilles. The **Architects** should advise if this is required.
 - d. The **Electrical Engineers** should advise if conduit and cabling is UL listed for plenum use
0. Lobby: Presently the lobby is not equipped with a smoke control system. The **Architects** should advise if the building occupancy/use (based on current code) would require a smoke control system either due to exiting/evacuation time or if the space is considered an atrium.
1. Stage Smoke Control: **Architects** should confirm if roof vent openings are provided for stage ventilation in accordance with IBC 410.3.7.1. If this does not exist or cannot be provided, then mechanical smoke control will need to be added to the space. Presently the stage does not have smoke control.
2. Some curtain style fire dampers were observed to be very dirty. These are 45 years old and at a minimum should be cleaned, tested and the fusible links reset or replaced.
3. Air handling unit return ducts in floor should have grates to prevent personnel from falling through (or rails around the floor openings).
4. Many of the air handling systems were equipped with VFDs and motors replaced about 20 years ago. Some of those drives have been replaced but some of the existing drives are still in use.
5. Exhaust fan (EF-4) was observed to be located in the supply plenum of the large built up air handling units. Exhaust ductwork under positive pressure is prohibited from being located in an air plenum because if it leaks, it can contaminate the rest of the building.
6. A couple areas of the facility have two deck multi-zone air handling units including the back of stage and the music room. The hot and cold dampers are worn and require maintenance. Due to the constant air volume nature of the system, the simultaneous heating and cooling would not be allowed under current energy code requirements. These air systems should be replaced with a code compliant system.
7. The backstage multi-zone unit does not have its own outside air duct and receives mixed air serving another system. This system should have its own outside air decoupled from the return air path of the other systems.
8. The dryer exhaust terminates into the general exhaust system. These should be separated into two dedicated exhaust systems per current code requirements. Given the location in the building, this may require booster fans.
9. If asbestos popcorn ceilings are replaced, air inlets and outlets should be considered for replacement.
10. Some of the smaller single zone air handling units receive "ventilation air" in the form of return air from adjacent occupancies. While this maintains sufficient ventilation in accordance with ASHRAE standard 62, this does not meet the requirements for economizer cooling and the spaces may have insufficient ventilation if the small single zone units are operating when the main air systems are off.



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Plumbing and Hydronics

1. The Victaulic coupling gaskets in the heating and chilled water systems are becoming brittle and subject to leaks. These are original 1972 and should be replaced/repared.
2. There is a desire to have the air handling units coils cleaned and the system rebalanced. One of the units was observed to have fairly clean coils but not all coils were investigated in the walk through.
3. The roof does not have an overflow drain system which would be required under current codes.
4. The chillers feeding the building are located in a central plant in the convention center. These are approximately 11 years old and assumed to be in good condition.
5. The heating system feeding the building is located in the convention center and was installed in the 80's (cast iron sectionals?). The boilers are nearing the end of their useful life and more efficient systems should be considered with higher efficiency condensing boilers. In order to capture the greatest energy savings, as many three way valves should be converted to 2-way valves and the water temperature should be reset to condensing temperatures in the summer, fall and spring months.
6. The plumbing fixtures in the main bathrooms have been upgraded and replaced and are in good condition.
7. The stage temperature control is periodically a problem. The fin tube piping at the back stage is not effective due to capacity or wood backing installed above the heaters. The back wall has very little insulation and the space often needs to be a warmer temperature than the seating for some events such as ballet. Presently the stage does not have air distribution and could benefit from some level of control that allows the space to be preheated or precooled to the event needs then shut off during the event when acoustics are a concern.
8. Some of the pipe in the building has had insulation removed to test for asbestos. These should be reinsulated.

Fire Protection

1. The Victaulic coupling gaskets in the fire protection systems are becoming brittle and subject to leaks. These are original 1972 and should be replaced/repared.
2. The building is not fully sprinklered. A code analysis from the Architect and a walk through by a Fire Protection Engineer is recommended. The stage area has fire sprinklers and none over the seating areas from the upper deck above the catwalk system. The mechanical rooms did not appear to be sprinklered.

Architectural Improvements

1. Plumbing and HVAC will be upgraded to support changes of use in the facility as spaces are modified to improve the building's use and performance. Narratives on associated impacts will follow as these ideas are developed by the Architectural team.



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Notes:

1. Generally the air handling distribution systems are quiet and do not have objectionable noise unless there is a mechanical/maintenance problem with the fan belts.
2. The building has had all (or nearly all) of the controls replaced with DDC systems within the last 11 years. Actuators are all original pneumatic but more reliable than newer electronic actuators. Sensors have all (or nearly all) been replaced with electronic sensors.
3. Piping systems and coils are generally reported to be in good condition given their 45 year age. Significant damage from prior leaks was not observed in the facility.
4. The majority of the air distribution equipment is functional and services the building well with the exceptions noted above. Motors with VFD's were replaced about 20 years ago.
5. Some of this fan equipment should be considered for replacement due to its age if other significant building shut-downs are scheduled to occur. The anticipated median useful service life for mechanical equipment follows (ASHRAE Application Handbook). It should be noted that with good preventative maintenance, systems can and should be expected to exceed their median anticipated service life and that this facility has less operating hours than many other building types such as office buildings, hospitals or educational facilities.
 - a. Centrifugal Fans: 25 years
 - b. Water Coils-20 years
 - c. Cast Iron Boilers: 30-35 years
 - d. Dampers: 20 years
 - e. Hot water radiant heat: 25 years
 - f. Motors: 18 years
6. The building originally had humidification. This has been abandoned and is no longer required.
7. The building originally had steam heat supplied from a district steam system. District steam was removed and boilers provided in the 1980's. The central heating plant services the Opera House and Original Expo Convention Center and is located near the loading dock between the hotel and the Integra Telecom Ballrooms.
8. Water heaters are electric and look to be newer.
9. The tunnels are dry and do not have infiltration problems from ground water.

INB SCOPING STUDY OPTIONS

4/13/2017



- ☒ WORK WILL REQUIRE LITTLE OR NO DISRUPTION TO EVENTS
- ☒☒ WORK WILL REQUIRE MODERATE TIME AND WILL NEED TO BE COORDINATED AROUND EVENTS
- ☒☒☒ WORK WILL REQUIRE SIGNIFICANT DOWNTIME AND WOULD REQUIRE FACILITY CLOSURE
- \$ COST IS MINIMAL
- \$\$ COST IS MODERATE
- \$\$\$ COST IS SIGNIFICANT

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ARCH	INTENTIONAL DRINK RAIL AT BALCONIES	NEW GLASS LIGHTS IN ALL DOORS	CURTAINS AT AUDITORIUM DOORS	ORIENTEERING - SEAT # SIGNS ROW INDICATOR LETTERS	BACKSTAGE NETWORK CLOCK FOR PERFORMERS	LOBBY DISPLAY (MARKETING AND LIVE FEED)	RELOCATE CUSTODIAL	NORTH EXTERIOR BALCONY	SECURITY PROVISIONS EXTERIOR? OUTLETS IN WALK		NEW ROOF					
ELEC	LED PROSCENIUM LIGHTING	UPGRADE AC SPLIT SYSTEM AT BALCONY LEVEL SOUND ROOM	REPLACE WIRING DEVICES	TUNNEL EGRESS LIGHTING												
MECH	CLEAN, TEST AND RESET FIRE DAMPER LINKS	SAFETY RAILS AROUND AHU OPENINGS AT FLOOR	REPLACE FIN TUBE RADIANT HEAT BACKSTAGE	INSULATE PIPE FROM ASBESTOS TESTING	REPLACE VICTAULIC GASKETED FITTINGS	INDEPENDENT DRYER EXHAUST VENT	LAUNDRY FLOOR DRAIN AND NEW SHELVEING									
ARCH	CABLING FROM STAGE TO SOUNDBOOTH	PERFORMANCE CUES (DIM LIGHTS, DISPLAYS)	HAIR/WARDROBE SETUP SPACE	SECURITY ACCESS SOUTHWEST	PRODUCTION CREW OFFICE	TICKETING MOVED TO WEST BUILDING	NEW CARPET THROUGHOUT	SOUNDBOOTH AND CONTROL ROOM ACCESS	ACOUSTICAL FIXES IN AUDITORIUM (TOO LIVE)	FOOD SERVICE BACKSTAGE	ELEVATOR/LIFT FOR FOOD, PROPS AND WARDROBE	PIT HYDROLOGICS DAMAGED				
ELEC	REPLACE SOUND EQUIPMENT RACKS AT BALCONY	BETTER AISLE LIGHTING				LOBBY PAGING UPGRADES	POWER MODS FOR MECH CHANGES	ADD POWER LOCATIONS AT LOBBY	LED LIGHTING RETROFITS	REMOVE LEGACY DIMMER CABINETS						
MECH	REMOVE EXHAUST FAN FROM MAIN AHU AIR PLENUM	REPLACE VICTAULIC GASKETED FITTINGS ON WATER/FIRE				REPLACE BOILERS IN HEAT PLANT	ADD OVERFLOW DRAINS AND PIPING									
ARCH	CENTER OF AUDITORIUM CAMERA STAND	GREEN ROOM UPDATES				BOX SEATS	AESBESTOS MITIGATION FOR CEILINGS	DRESSING ROOM UPDATES, FINISHES	ADA ACCESS TO STAGE - EXISTING RAMP TOO NARROW ALSO	ADA RAMP FROM LOBBY TO STAGE FRONT/ GREENROOM	LOBBY UPDATES- SECURITY, FLOW, ARTWORK, BLING	MUSIC ROOM - ADA AND EXTERIOR ACCESS	NEW WINDOWS	ADA SEATING	3RD FLOOR BUILDOUT	
ELEC						REPLACE ELEVATOR SERVICES. OTHER UPGRADES?	REPLACE ELECTRICAL FEEDERS & BRANCH WIRING				REPLACE ELECTRICAL DISTRIBUTION EQUIPMENT	REPLACE GENERATOR SYSTEM	REPLACE ELECTRICAL SERVICE			
MECH						ADD AIR ECONOMIZER TO SMALL AHU/OR BUILDING WATER ECONOMIZER	BACKSTAGE AHU TO PREHEAT/ PRECOOL STAGE				ADD AIR ECONOMIZER TO LARGE AHU & MZU UPGRADE BUILDING RELIEF	REPLACE LARGE AHU FANS/MOTORS (25 YEAR LIFE)	IMPROVE HEATING IN LOBBY AND IMPROVE STRATIFICATION	IMPROVE LOW RETURNS IN LOBBY	REPLACE MZU	

STUDIES BRINGING BUILDING UP TO CODE (FIRE ALARM UPGRADES, LOBBY SMOKE CONTROL, FIRE PROTECTION) | STORAGE IN AIR PLENUM UNSAFE | CONFIRM CAPACITY OF RIGGING | FURTHER ACOUSTICAL STUDY BEYOND 2009 SPARLING STUDY???

NEW SEATS