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MEMORANDUM

To: Mayor & City Council

From: Kevin McOmber, PE

Date: June 22, 2015

Subject: Brook Run Park Theater

BACKGROUND
In April of this year, staff was asked to re-evaluate the existing Brook Run Park Theater and provide an opinion for the potential renovation of this facility. This new request is a follow-up to a previous effort when Clark Patterson Lee completed a Facility Report for this building on June 16, 2011. This report is referenced here and included as background for this topic.

On April 29, 2015, Brent Walker, Michael Smith and Kevin McOmber made a site visit to assess the condition of the building. New observations are documented below.

Clark Patterson Lee commissioned the firm, TSG Design Solutions, Inc., a firm that specializes in Theatre and Acoustic Consulting. Their June 12, 2015 Renovation Versus New Build Evaluation is referenced here and included as additional background for this topic.

OBSERVATIONS
The April 29th site visit uncovered numerous changes to the facility since it was last evaluated in 2011. Despite significant efforts to keep the building secure, the facility has been broken into numerous times and has been vandalized. New damage includes broken windows, graffiti, holes in walls and major impacts to the building systems. Copper thieves have removed much of the copper piping and wiring in the building, which has rendered the HVAC and electrical systems inoperable. As such, the indoor air quality has not been conditioned in quite some time. Mold can be seen throughout the facility. Due to the presence of mold and the lack of critical life safety systems, the building is not safe to occupy in the current condition.

SUMMARY
The structure of the theater is the only significant remaining component of the building that appears to be in good condition. As such, all interior systems and finishes would need to be removed and replaced. We estimate the construction cost of this renovation, as currently configured, to be between $150/sf to $200/sf, which is $5.1M to $6.8M. Furniture, Fixtures and Equipment (FF&E), Design Services and Operational Costs would be in addition to this estimate.

The TSG Design Solutions evaluation has identified the types of uses that could be accommodated in the building, as currently designed. We recommend that a study be completed to determine community needs and develop a detailed program for theatrical uses. This study should include interviews of the Mayor and City Council along with key community stakeholders. Once this study is completed, the evaluation can compare the renovation of the Brook Run Park Theater with a new facility tailored to the specific theatrical needs and desires in the community.

FACILITY REPORT

City of Dunwoody
Brook Run Park Theater

June 16, 2011

Clark Patterson Lee

Clark Patterson Lee
DESIGN PROFESSIONALS

Facility Study
City of Dunwoody: Brook Run Park Theater

ARCHITECTURAL NARRATIVE

General Overview

A general walk-thru of the exterior and interior spaces occurred June 3, 2011. The facility has been closed to the public and not used for an extended period of time.

The lack of conditioned air has resulted in humidity damage to most of the interior finishes including peeling and mold growth on painted surfaces, broken/sagging acoustical ceilings, rusted ceiling grids, deteriorated gypsum board wall surfaces, loose floor tile, mold growth in carpets, deteriorated millwork, warped and peeling wood door veneers, and mold growth on theatre seating, curtains, drops, and wall/ceiling grilles & registers.

Vandalism has resulted in damage to many of the interior finishes, notably paint spilled on floor surfaces, graffiti painted on both painted and brick wall surfaces, torn wallpaper, broken millwork door fronts, paint splattered on drinking fountains, and missing ceiling tile. Vandalism has also occurred on the exterior including broken windows and graffiti painted on glazing.

An interior renovation of the facility should include testing for asbestos, lead paint, mold, and other hazardous materials prior to any demolition, the complete demolition of all interior finishes and built-in furnishings & equipment, repairs to any damaged surfaces and materials, and the construction of new interior finishes and built-in furnishings & equipment.

No cracks or settlement were noticed in the interior and exterior masonry construction and the overall substructure of the facility appeared in solid condition.

Concerning the exterior skin of the facility and how it measures up to the current energy code, the age of the existing roof and the thickness/condition of the existing roof insulation will determine if it should be considered for replacement. The existing aluminum windows, storefront and curtainwall should be replaced with thermally broken systems including energy efficient low-e, tinted and insulated glazing.

Floor Finishes

VCT: Existing vinyl composition flooring is in poor condition showing wear from heavy use and damage from high humidity and vandalism. All existing VCT, resilient flooring accessories and flooring adhesives should be completely removed with floor slabs prepped to receive new flooring applied with no-VOC adhesives. All floor slabs should be tested for excessive moisture content due to the age and condition of the existing underslab vapor barriers and the humidity levels maintained in the closed facility, prior to new flooring installation.

Rubber Flooring: Existing rubber flooring is in poor condition showing wear from heavy use and lack of floor maintenance. Existing floor pattern is miniature basketball court. All existing rubber flooring, accessories and flooring adhesives should be completely removed with floor slabs prepped to receive a new floor finish applied with no-VOC adhesives. All floor slabs should be tested for excessive moisture content due to the age and condition of the existing underslab vapor barriers and the humidity levels maintained in the closed facility, prior to new flooring installation.

Carpeting: Existing carpeting is in poor condition showing wear from heavy use and lack of floor maintenance as well as mold from high humidity. All existing carpeting, accessories and adhesives should be completely removed with floor slabs prepped to receive a new floor finish applied with no-VOC adhesives. All floor slabs should be tested for excessive moisture content due to the age and condition of the existing underslab vapor barriers and the humidity levels maintained in the closed facility, prior to new flooring installation.

Ceramic Tile Flooring: Existing ceramic tile flooring is in poor condition showing wear from heavy use and lack of floor maintenance. Existing floor pattern is a random mosaic with "dated" colors. All existing ceramic tile flooring, accessories and setting mastics should be completely removed with floor slabs prepped to receive a new floor finish. New tile flooring installed on elevated slabs subject to bending stresses should be installed with a cleavage membrane on a thick-set setting bed if the existing structure and floor transitions allow.

Stage Flooring: Existing stage flooring is in fair condition showing wear from heavy use and lack of floor maintenance. The existing flooring could be stripped, sanded, and re-finished, a typical treatment for stage flooring.

Concrete Flooring: Existing concrete flooring is in good condition showing wear from heavy use and lack of floor maintenance but is free from cracking or damage. The existing flooring could be mechanically cleaned to be returned to new condition.

Ceiling Finishes

ACT: Existing acoustical tile ceilings are in poor condition showing damage from high humidity and vandalism. All existing ACT and suspension grid system and accessories should be completely removed and replaced with new ceiling finishes.

SPC: Existing suspended panel ceilings are in poor condition showing damage from heavy use and high humidity. All existing SPC and suspension grid system and accessories should be completely removed and replaced with new ceiling finishes.

Painted Gypsum: Existing painted gypsum board ceilings and soffits are in fair condition showing some paint damage from high humidity. All existing painted gypsum ceilings and soffits should have any damaged gypsum board repaired, all surfaces sanded and prepped for painting, and new paint finishes.

Wall Finishes

Masonry: Existing masonry walls are in good condition showing some paint damage from high humidity. All existing masonry walls should be thoroughly cleaned and prepped for new paint finishes. Any existing masonry walls with wallpaper should have the wallpaper and adhesives removed with surfaces thoroughly cleaned and prepped for new paint finishes. Some walls surfaces located in restrooms are in poor condition and will require additional effort to repair damaged areas and prep for new finishes.

Painted Gypsum: Existing painted gypsum board walls are in fair condition showing some damage from high humidity and mold/mildew. All existing painted gypsum board walls should have any damaged gypsum board repaired, all surfaces sanded and prepped for painting, and new paint finishes.

Ceramic Tile: Existing ceramic tile walls are in fair condition showing wear from use and lack of maintenance; grout is discolored. Existing ceramic wall tile may be thoroughly cleaned and disinfected. If the grout can be cleaned, the existing tile could remain; if the grout cannot be cleaned, the existing wall tile should be replaced with new finishes.

Wood Wainscot & Trim: Existing painted wood wainscot panels and trim are in good condition showing typical wear from its age. Existing painted wood wainscot panels and trim may be thoroughly cleaned and prepped for new paint finishes.

Millwork

Existing built-in millwork including base cabinets, upper cabinets, shelving, and countertops are in very poor condition with broken and missing components, and damage from humidity and vandalism. All existing millwork should be removed and replaced with AWA "Premium or Custom" grade materials that meet ADA requirements.

Wood Doors & Hardware

Wood Doors: Existing wood door leaves are in fair condition showing wear from age and typical use; all door leaves should be replaced to allow for proper hardware templating, prep, fit, and installation of new door hardware required to meet Codes. Existing door veneer surfaces are aged and in need of refinishing, also prompting the replacement of all wood doors.

Door Hardware: Existing door hardware is in poor condition showing wear from age and typical use and does not meet current Code/ADA requirements. All existing door hardware should be replaced including all exit devices in both interior and exterior door leaves. New door hardware should be heavy duty commercial grade, be provided with ADA levers, and may want to have cores keyed to City of Dunwoody master key system. Electronic security door hardware may be desired at specific exterior doors to facilitate access and entry and monitoring of door latching.

Theater Furnishings & Equipment

Seating: Existing theater seating is in fair condition showing wear from age and mold growth from being exposed to long durations of high humidity levels. Existing seating has cushioned golden/yellow vinyl upholstery seats, backs, and armrests which has a "dated" appearance. Existing seating has excessive spacing between the rows of seating reducing the amount of seating that could otherwise fit in the theater. Seating has not been installed in a large area closest to the stage due to prior occupancy needs. For maximum seating occupancy and aesthetics within the main theatre space, the replacement of the existing theater seating should be considered. Placing rows of seats close to the stage will require the demolition of the existing built-up platforms and curved brick low height wall. New theater seating with current textile fabric and chair finishes could be installed within a new seating layout incorporating rows of seating close to the stage, typical row spacing to increase the number of seats, and ADA seating locations. Replacing the theater seating will facilitate the replacement of the theater flooring.

Stage Curtains & Draperies: Existing theater stage curtain and draperies are in fair condition showing wear from age and mildew odor from being exposed to long durations of high humidity levels. Existing theater stage curtain and draperies are brown fabric which has a "dated" appearance and are located on the theater seating side of the proscenium opening. New theater stage curtain and draperies with current textile fabric and track assemblies should be considered in lieu of reconditioning the existing materials.

Theatrical Rigging System: Existing theatrical rigging system is in fair condition showing typical wear from age. Existing theatrical rigging system is a conventional manual counterweight system. Due to the high cost of new theatrical rigging systems, reconditioning the existing system, including all battens, lines, blocks, counterweights, arbors and hoists, should be considered.

Clark Patterson Lee
DESIGN PROFESSIONALS

Facility Study

City of Dunwoody: Brook Run Park Theater

BUILDING CODE AND LIFE SAFETY NARRATIVE

Codes and Standards

Building Code and Life Safety upgrades are per:

- International Building Code – 2006, with Georgia amendments.
- NFPA 101 Life Safety Code – 2000 edition.
- Georgia Accessibility Code for Buildings & Facilities – 120-3-20 Handicap Accessibility Law

Existing Facility

The Existing Facility is the Brook Run Park Theater which consists of a Theater, Lecture Hall, Chapel, three classrooms and supporting administrative offices. This building is a Mixed Occupancy with the primary occupancy being A-1 – Assembly with secondary occupancies of A-3 Assembly and E- Educational

Proposed Changes

Primary Occupancy Type:	A1 – Theater
Secondary Occupancy:	A3 – Lecture Hall
	A3- Chapel
	E - Classrooms
Construction Type:	IIB
Area:	Approx. 22,416sf
Occupant Load:	981
Allowable Area per Table 503:	8,500sf
Sprinkler Area Increase:	25,500sf
Total Allowable Area:	34,000sf

Based on the occupant load of the Auditorium (greater than 300) this building will need to be sprinklered.

The existing theater already has space to accommodate 34 wheel chair spaces. Based on the Theater's occupant load of 388 the current building code only requires six wheelchair spaces.

The seating area in the auditorium will need eight assistive listening devices with two of these devices required to be hearing aid compatible.

An accessible ramp or a platform lift will need to be added to the front of the stage to provide an accessible route between the seating area and the performance area. The current ramp does not have the required 1:12 slope to make it accessible. Based on the floor height difference of 3'-4" between the stage and the theater floor, 40 linear feet of ramp excluding landings would be needed. A platform lift may be more feasible given the space requirements for an accessible ramp.

Based on 981 occupants we would need the following number of plumbing fixtures:

Male WC's:	7
Male Lavatories:	6
Female WC's:	11
Female Lavatories:	6
Drinking Fountains:	2
Service Sinks:	1
Unisex Restroom:	1

Currently there are 6 male WC's and 6 Female WC's to serve the building. Existing restrooms at the Theater would need to be enlarged to accommodate the required number of fixtures. Also, restrooms would need to be added in close proximity to both the Lecture Hall and the Chapel. All existing restrooms will need to be enlarged to provide for accessibility requirements.

All existing exit doors would be required to have the exit hardware upgraded.

An accessible exit to grade would be required at both the Lecture Hall and the Chapel. Also, based on the occupant load in these spaces a second means of egress to the exterior would be required.

Currently the double doors that exit from the corridor between the classrooms and the theater are 2'-6" wide. These would need to be changed to a pair of 3'-0" doors.

Clark Patterson Lee
DESIGN PROFESSIONALS

Facilities Study
City of Dunwoody: Brook Run Park Theater

MECHANICAL SYSTEMS NARRATIVE

Central Plant
Heating potential is generated by two Weil McLain gas-fired hydronic boilers. Each boiler has an input of 1,950,000 Btu and an output of 1,579,500 Btu. Under perfect conditions these boilers are 81 percent efficient. Currently only one of the boilers is operational and has been run throughout the winter to temper the building. These boilers were manufactured in 1987 and installed in 1990. Distribution is accomplished by one base-mounted pump sized for 138 gallons-per-minute (gpm).

Cooling is generated by a 100-ton Trane chiller. The manufacturer does not have the serial number on record, but it is estimated that the chiller was manufactured and installed in 2000. Distribution is accomplished with two (one redundant) base-mounted five-horsepower pumps sized for 198 gpm and 51-feet head. One of the pumps was observed to be running during the site visit, and there is evidence that it has been rebuilt at some point in the past.

Hot water and chilled water piping are routed below grade from the boiler house into the basement mechanical room of the theater. The chilled water piping runs to each air handling unit. Hot water piping is routed to each air handler, a domestic water heat exchanger/storage tank unit, and is also distributed through the crawl space to a series of re-heat coils.

HVAC System
The Theater is served by two constant-volume air-handling units. The unit manufacturer is Air Therm. The model and serial number could not be obtained during our visit, but the units appeared to be original to the building. AHU-L1 serves the theater and front lobby. Ductwork for the theater is routed from the basement mechanical room up to above the ceiling in the theater and runs out to the front lobby above the ceiling. AHU-L2 serves the classroom/office portion of the building. AHU-L2 is a constant-volume re-heat system, meaning each classroom or zone has a duct-mounted hot water re-heat coil to regulate temperature. The ductwork and piping is routed in the crawl space of the building to registers mounted in the floor of each space.

Temperature Controls
Currently all controls are pneumatic. Compressed air is generated by a compressor in the boiler house. The compressor appears to be original to the boiler plant or approximately 1990; however, this could not be confirmed.

Recommendations
Clark Patterson Lee (CPL) recommends that the existing boilers and associated pump be replaced should the facility be renovated. The boilers are past their average useful life span and

by today's standards are inefficient. CPL recommends new modular condensing boilers be utilized. These boilers can have efficiencies from 92-96 percent.

The average useful life of an air-cooled chiller is approximately 20 years. The existing chiller is 11-years-old and appears to be in good condition. As the chiller has not been run recently, CPL recommends that a factory-trained technician be contacted to inspect the chiller, start-up the unit, and provide a condition report on the chiller. This chiller could potentially be utilized for another 10 years.

CPL performed schematic-level cooling load calculations on the facility using the current number of seats in the theater and today's ventilation standards, and based on these calculations, the existing chiller appears to have sufficient capacity should the facility be renovated.

Both existing air-handling units will need to be replaced should the facility be renovated. The existing ductwork for the theater and front lobby does not appear to be lined, and if this is the case, the ductwork could potentially be cleaned and reused. Schematic level load calculations confirm that, should the seating capacity not change greatly, the existing ductwork is of sufficient size for the air volumes required for the theater. Currently the stage area has no air outlets.

The ductwork for the classroom/office area is located in the crawl space. Supply air is delivered to each space through floor registers and is transferred through louvers above the doors into the corridor. There is a common return grille in the corridor wall on each side of the theater; this is against current codes as a corridor cannot be used as a return air plenum for life safety reasons. CPL would recommend removing all of the supply and return ductwork and providing new overhead distribution to these areas.

The existing mechanical room appears to be of sufficient size to accommodate new equipment should the facility be renovated.

If the building is renovated, the existing air compressor and all associated piping should be removed, and new Direct Digital Control (DDC) controls should be installed for the HVAC system.

PLUMBING SYSTEMS NARRATIVE

All of the existing toilet rooms should receive new fixtures should the facility be renovated. A number of the toilet rooms will be required to be brought up to current accessibility codes. The building plumbing fixture count is addressed in the architectural portion of this narrative.

The existing domestic water heat exchanger should be removed and replaced with a tank-type water heater that will not require the boilers to be running in order to provide hot water for domestic purposes.

Clark Patterson Lee
DESIGN PROFESSIONALS

Facilities Study

City of Dunwoody: Brook Run Park Theater

ELECTRICAL SYSTEMS NARRATIVE

Service and Power Distribution system

The existing Main incoming 600A, 208V, 3-phase, 4-wire electrical service consist of a pad mounted Georgia Power utility company transformer with a pedestal mounted meter next to the transformer. Service laterals are delivered underground to the main Distribution Panel "PP-L" located in a basement mechanical room.
The main Distribution Panel "PP-L" feeds a total of five branch circuit panels.
The original electrical service equipment appears to have been installed sometime in the late 1960's. The electrical equipment shows signs of water damage and is outdated and it would be difficult to find the required new parts, such as internal panel parts, breakers, and fuses, etc for restoration of the existing Theater building.
Installation of a new main Distribution Panel and branch circuit panels is recommended. The existing 600 amp service should be more than adequate for the renovation of the existing Theater building and some of the main feeders may be able to be re-used in the renovation depending on exact conductor type, size, condition, and location.

A second incoming 600A, 208V, 3-phase, 4-wire electrical service fed from the same Georgia Power transformer was installed to serve the new chiller plant in approximately 1990. This service is delivered underground to an exterior mounted 600A fused disconnect switch located inside the chiller fence area on the exterior wall of the apparatus building and powers the chiller and chiller support equipment located in the apparatus building.
This second electrical service and associated electrical equipment appears to be in good condition and could most likely be re-used in a future Theater building renovation.

There is also a utility transformer located at the front side of the building that feeds a series of disconnects located on the exterior wall of the Theater building that appear to serve the site lighting. This service appears to a 240/120V single phase service and independent of the other electrical services serving the Theater building. The site lighting fixtures are in a dilapidated condition and would need to be replaced during a building renovation.

General Lighting

Most of the lighting in the general space areas is either outdated or damaged and should not be re-used. New energy saving technology light fixtures should be designed into any future renovation. All new lighting fixtures should be energy efficient fluorescent, LED, or similar. Local switching, occupancy sensors and watts per square foot lighting allowance should be in accordance ASHRAE 90.1 with Georgia amendments.

Emergency Egress Lighting

Currently, emergency egress lighting is achieved with low voltage fixtures connected to a central battery system. This system should be demolished and emergency egress lighting should be addressed with new battery ballast fixtures. This would include interior egress as well as exterior egress per current code.

Exterior Lighting

The Exterior lighting fixtures are outdated, damaged, and it was not clear at the time of site visit if these fixtures were functional. Newer, energy saving and decorative fixtures are recommended at any future building renovation to illuminate all pathways and sidewalks. Control of all outdoor lighting would be via a new exterior lighting control system.

Telephone and Data

The existing telephone and data equipment is outdated and would require new technology panels to be installed for optimum service. Installation of fiber optic cabling would be recommended.

Theater

General lighting for the Theater seating area appears to be in good shape and could possibly be re-used. However; it is recommended that the existing light fixtures be replaced with newer energy efficient type fixtures utilizing existing ceiling cutouts and locations. Some of the stage lighting was intact, and some stage light supports were observed to be dismantled and laying on the stage floor. Exact condition and working order of the stage lights is not known at this time. The dimming panels/lighting controls for the stage lighting were found to be outdated and a new digital lighting control system along with new stage lighting system is recommended to be designed and installed should the building be renovated.

Fire Alarm System

The building is equipped with an addressable Fire Alarm “voice evacuation” type system that appears to be in working condition however, the system should be serviced and inspected by the manufacturer’s representing service agent to determine exact working condition and feasibility for continued use. At the least, it is proposed that all system devices be replaced.
Fire Lite model MS-9200.

Clark Patterson Lee
DESIGN PROFESSIONALS

Facility Study

City of Dunwoody: Brook Run Park Theater

PHOTOGRAPHS OF EXISTING FACILITY

Main Entry of Theater

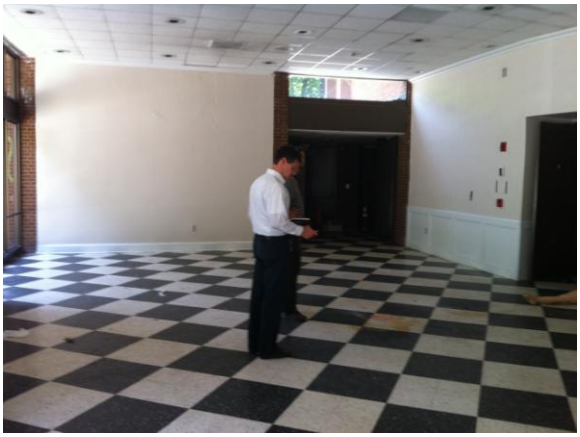
Original Glazing in Aluminum Storefront

Side Exits of Theater

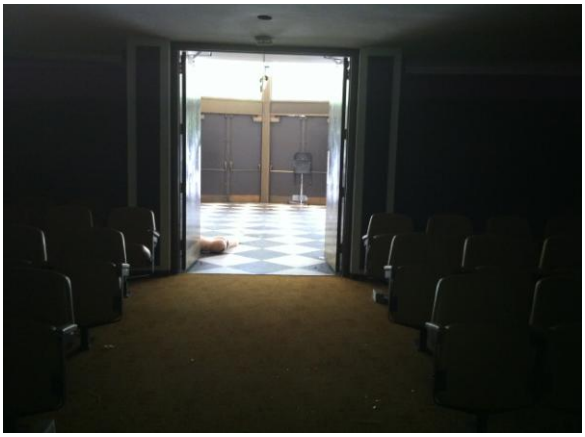
Chiller at Rear of Facility

Loading Dock at Rear of Facility

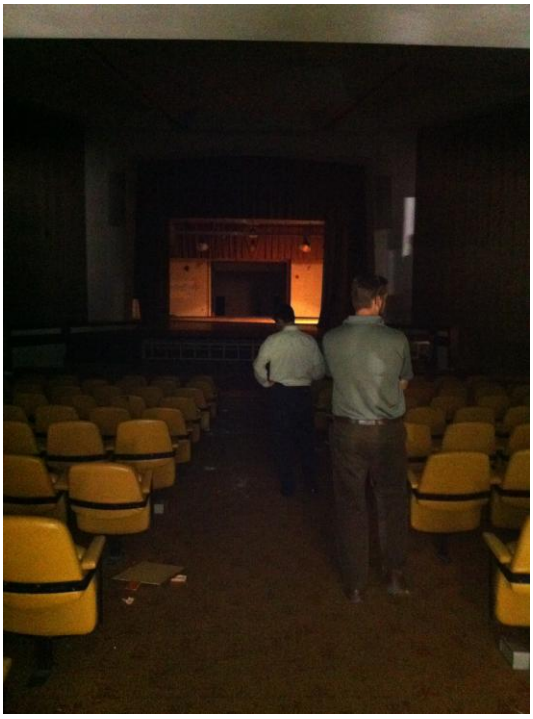
Rear of Facility and Fly Loft



Main Lobby

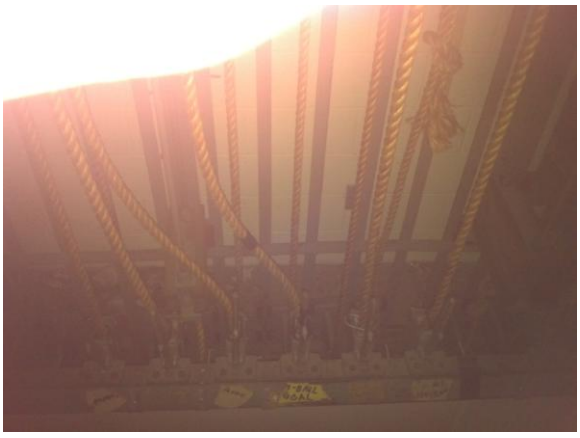


View from Theater to Main Lobby



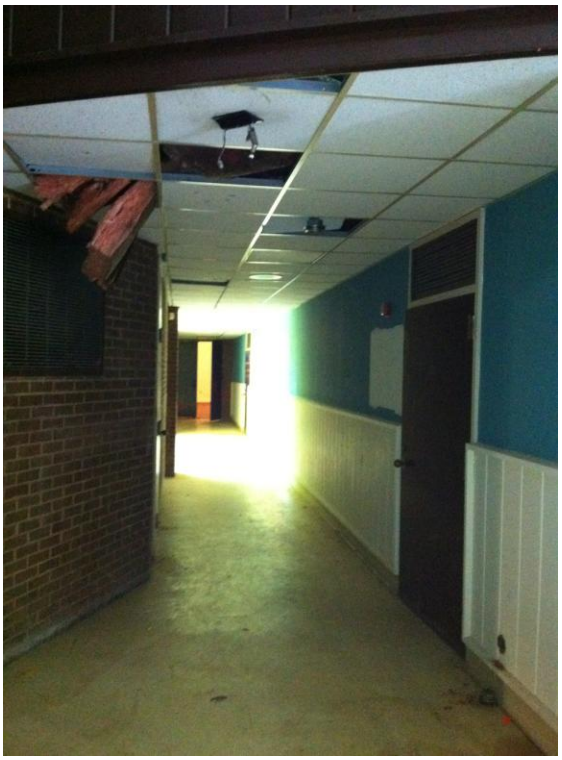
Interior of Theater

Raised Platform at Front of Theater



Theater Rigging System

Back Stage Area



Typical Condition at Corridors

Restroom

Damaged Wall at Restroom/Shower

Damaged Flooring at Restroom

Vandalism at Classroom

Damaged Flooring & Millwork

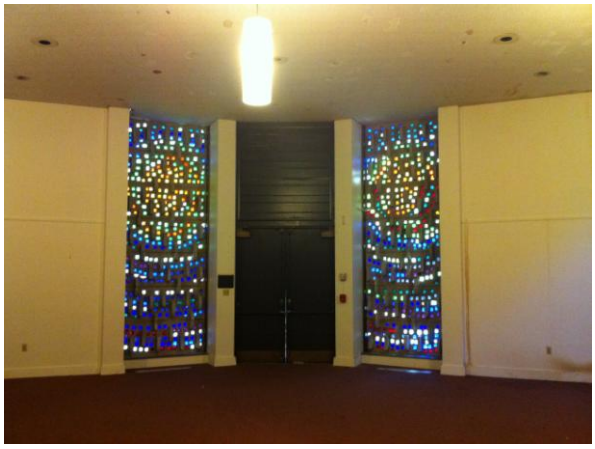
Damaged Flooring & Millwork

Water Damage & Mold at Wall

Vandalism at Corridor

Damaged Walls at Recreation Room

Vandalism at Chapel Windows



Stained Glass Panels at Chapel

Stained Glass Panels at Chapel

Close Up of Stained Glass Panel

Overgrown Weeds at Interior Courtyard

Damaged Wall at Basement

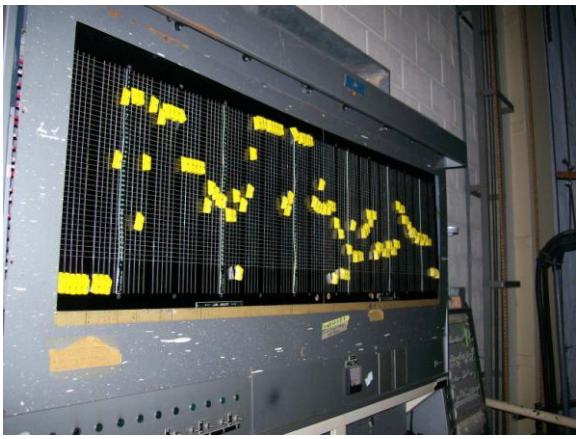
Deteriorated Basement Door & Hardware

Basement Corridor and Stair

Ductwork in Basement

Domestic Water Heat Exchanger

Theater Dimmer Module Control Center



Theater Lighting Dimming Controls

Gas-Fired Hydronic Boiler

Pumps

Boiler Burner Controls

Air Handling Unit

Water Damage at Main Distribution Panel “PP-L”

Water Damage at Main Distribution Panel “PP-L”

Main Distribution Panel “PP-L”

TSG DESIGN SOLUTIONS, INC

Theatre Design Consulting
Theatre Systems Design
Acoustic Consulting

BROOK RUN THEATRE
City of Dunwoody, Georgia

RENOVATION VERSUS NEW BUILD EVALUATION

JUNE 12, 2015

Prepared for:

Kevin J. McOmber, P.E.
Senior Vice President
Clark Patterson Lee
Design Professions

CONTENTS

INTRODUCTION

TSG Design Solutions, Inc. has been commissioned by Clark Patterson Lee Design Professionals to assist with the evaluation of the Brook Run Theatre in the City of Dunwoody, Georgia for a potential renovation. We have been asked to review the existing drawings of the facility and provide our professional opinion on the feasibility of restoring the existing building as compared with the alternative option of building a new theatre. In order to do that in an equitable manner it is helpful for us to understand the equivalent programming intention of the two spaces.

As is common with buildings of this type, the design is driven by the anticipated programming requirements of the building. Simply put, these programming requirements are the “types of presentations” that are planned for the venue. It is evident by the architectural design that the Brook Run Theatre had unique and specific programming requirements for the Georgia Department of Public Health. It is also evident that those specific programming requirements were reflective of the time (1966) during which the building was designed. However, as we were not privy to the original programming and design discussions, the original programming intention of the Georgia Department of Public Health and the designer team will need to be inferred by our review.

Understanding that much has changed technologically since the 1960’s, every attempt has been made to respect the design choices of the original architectural design team while commenting on the programing capabilities of the Brook Run Theatre. Comments that appear to be critical are done with the benefit of hindsight and from the perspective of modern day programming choices. Comments will only be offered on architectural, acoustical, and theatre systems design choices affecting the programming of the building. As we are not qualified to address codes and design criteria, we shall address ADA requirements, building code requirements, NFPA requirements, NEC requirements, and structural design capabilities only when they might affect the general programming capabilities.

METHOD

We shall first define general types of programming possibilities for buildings of this type. This shall include the quantity of performers and general format the presentations require. We will then discuss the general architectural, acoustical, and theatre system requirements of those general types of programming possibilities. This will then serve as a common programming vocabulary for the remainder of the document.

Next we will review the existing architectural drawings dated February 1966, along with the Facility Report done by Clark Patterson Lee on June 16, 2011. For this portion of the work our review comments will focus on the general architectural, acoustical, and theatre system designs of the existing theatre. Then, using the general programming requirements, and the information obtained by the drawing review we will be able to infer the original specific programming intent of the Brook Run Theatre as it was designed in 1966.

Then we will comment on the suitability of the existing theatre architectural, acoustical, and theatre system design requirements to support (or not) the different types of modern day programming possibilities. Based upon those discoveries, and in conclusion, we shall discuss the pros and cons of restoration versus building new. That discussion assumes that the existing building envelope and structure shall be maintained.

GENERAL TYPES OF PROGRAMMING

The primary consideration in the architectural design of a performing arts building is the type of programming, or in this case, the types of programming that may be accommodated. This consideration is primary because the size, format and theatre system capabilities of the facility support specific types of programming that are possible in the venue. What follows is a summary of general types of programming and some basic architectural acoustic and theatre system requirements. We shall use the following summary as a tool to discuss the drawing review of the Brook Run Theatre.

Classical Music

There are various types and scales of classical music. They are generally defined by the size of the orchestra (players) and/or choir (singers). The presentation or format of classical music is generally static with the players, singers, and conductor staying in the same place throughout the performance. The types of classical music programming are as follows:

Symphony	90 – 120 players
Chamber Orchestra	40 – 50 players
Small Ensemble	5 – 25 players
Recitals	1 player
Organ Music	1 player
Large Choir	65 – 100 singers
Medium Choir	25 – 65 singers
Small Choir	Under 25 singers

Dance

Dance productions can vary in cast size (soloists and corps de ballet dancers), orchestra size (players), and scenic complexity. The presentation or format of dance productions are usually without words and with expressive movements to music, which can be live (players), recorded, or electronic. Although this section deals primarily with ballet, the requirements of all types of modern dance apply. The types of dance programming are as follows:

Story Ballet	100 or more soloists and corps de ballet, 50 players
Petit Ballet	25 or more soloists and corps de ballet, 25 players or pre-recorded music
Short Program Ballet	Multiple short ballets put together in a single performance. 2- 8 corps de ballet, usually pre-recorded music

Recitals	School produced events that can be either a Petit Ballet or a Short Program Ballet

Musicals

There are various scales of musical productions, which are defined by the size of the cast (principals and chorus), size of orchestra (players), visual and technical complexity. Musicals combine music and drama with sung and spoken dialogue either in verse or prose. Although this section deals primarily with musical theatre, the requirements of opera programming also apply. The types of musical programming are as follows:

Large Scale Musical	50 or more principals and chorus, 35 players
Standard Musical	Up to 35 principals and chorus, up to 25 players
Small Musical	Up to 10 principals, 10 players
Variety Acts	Up to 4 principals, 10 chorus, 10 players

Drama

There are various scales of drama productions, which are defined by the size of the cast (actors), visual and technological complexity. Drama productions (also referred to as plays) are essentially concerned with the spoken word, but also to a great extent with facial expression and body language. The types of drama programming are as follows:

Large Scale Drama	Up to 20 actors with many extras (actors with limited roles)
Medium Scale Drama	Up to 20 actors
Small Scale Drama	Up to 10 actors, and moderate scenic complexity
Scene Work	Up to 5 actors, little or no scenic elements
Comedy	Between 1 – 5 comedians

Jazz/Pop/Rock/Folk Music

Over time jazz, pop, rock and folk music has risen to the formal location of the concert hall from the informal clubs, and arenas. The number of players varies from solo, trio, groups up to ten, and orchestras up to thirty with soloists as instrumentalists and singers.

Pop and rock music is mostly focused on the principal singer with the musicians, backup singers, and dancers usually on the stage behind the principal.

Acoustic folk music is usually two types, traditional world folk music and popular folk music.

Cinema

The two most common forms of cinema programming are 35mm film projection and high definition video projection.

Educational

The most common forms of educational programming are general assemblies, testing, guest lectures, and convocations.

REQUIREMENTS FOR GENERAL PROGRAMMING TYPES

Architectural Requirements

Traditionally classical music programming generally requires a rectangular room shape that places the audience, the players and/or singers in the same room. Usually the players are on an elevated platform at one end of the rectangle with the audience seated on all sides and at various levels. However, with good design choices, it is also possible for classical music to perform well in a modern multi-purpose space with a proscenium stage.

Dance performances are usually held on a proscenium stage with orchestra in a pit between the audience and the dancers. For dance programming, a relatively wide proscenium opening is required to afford good sight lines to the stage. Large off stage wing space is needed for the momentum of the dancers to exit the stage space. Performances can be held on a proscenium stage with the orchestra in a pit between the audience and the stage, or using prerecorded music.

Musicals also require large off stage wing space for scenic elements to be moved on and off stage rapidly. Musicals are generally performed on a wide proscenium stage with the orchestra in a pit between the audience and the performers. For standard and small musicals, the orchestra may be onstage or pre-recorded, electronically amplified music may be utilized. Good sightlines are also important for musicals.

Drama requires the audience to be able to observe the actor's facial expression and body language. This begins to be adversely affected from a distance of seventy – five feet or more. Good sight lines to the stage are important.

Jazz/pop/rock/folk performance is primarily concerned with intimacy of the experience for the audience and the performer. Good sightlines to the stage are important with the last row of seating also not more than 75 feet away. The format for this type of programming remains simple with a raised stage and the audience facing the stage.

Educational programming requires a simple format, with a raised stage and the audience facing the stage. Good sightlines are important for educational uses of the space.

Acoustic Requirements

It is paramount in classical and acoustical music programming that the sound received by both the audience and other players/singers arrives cleanly, crisply and unobstructed. The listener should not feel separated from the source but rather bathed in sound from all sides; yet at all times the sound must identifiably originate from the source so that the sense of hearing agrees with that of vision. Even though there must be repeated reflections of sound off the walls, none of those echoes should be perceived as separate; rather, all reflections must blend together smoothly. There needs to be a uniformity of sound in different parts of the room and

reverberation must have the appropriate loudness relative to the original sound. There also needs to be a pleasing rate of dissipation throughout the room. Soft passages in the music should not be disturbed by external noise or internally generated noise caused by ventilation and electrical systems.

For dance programming with a live orchestra the orchestra pit must be acoustically treated to control the volume of sound within the room. The room should behave similarly to that of classical music. For electronically amplified sound it is important that the sound pressure levels of the amplification system be taken into account when designing the acoustic wall treatment. Additional absorption materials may be required for amplified sound.

For musicals, jazz, pop and rock, the quality of the music and ability to understand spoken dialogue are equally important for the audience. The acoustic design of the room needs to accommodate those attributes of clarity, envelopment, uniformity, with freedom from echo appropriate reverberation time and control of internal/external noise. Because a sound reinforcement system is generally used additional absorption is required to control the relatively high sound pressure levels created by the reinforcement system.

For drama and educational programming, it is generally accepted that the performers will project their voices to all audience members without the aid of electronic vocal reinforcement. However, some general reinforcement of the stage area is acceptable. Clarity is especially important because the intelligibility of words depends directly on the clarity of articulation. The room must be free of distracting echoes and simultaneously provide enough direct and reflected sound to allow for affective and adequate communication between the performers and audience members. Reverberation time in this type of room is much shorter than a room designed for classical music. Control of external and internal noise is important.

For cinema programming, which relies primarily on amplified sound, the room acoustics require a short reverberation time with freedom from destructive reflections off the walls.

Theatre Systems Requirements

Classical music requires that the players be in the same acoustic environment as the audience. In a proscenium theatre this is accomplished with the addition of a portable acoustic shell on stage. The portable acoustic shell consists of a quantity of ceiling pieces and rolling stage towers that when deployed form a performance environment suitable for classical music. Accommodations to store the portable acoustic shell need to be considered. The stage rigging system needs to be designed to support the portable acoustic ceiling pieces and the stage lighting over the musicians, and the main drape. Stage lighting system requires a simple but specialized stage lighting system. It needs to provide light to the musicians to read their music, provides lighting to allow the audience to see the musicians and if desired some special effects lighting to create mood and atmosphere. The primary purpose of the audio reinforcement system is a simple public address type system concerned primarily with general announcements and play back of prerecorded music before the performance and during intermission.

Dance requires a stage rigging system that has the ability to support the high scenic and stage lighting complexity of a story ballet, the moderate scenic and lighting complexity of a petit ballet and a simple scenic and stage lighting complexity of a short program ballet. A stage lighting system for dance needs to evoke the complex visual atmosphere that dance depends on. This is done with a stage lighting system that has the ability to light forms from many angles in many colors. Dance requires a good quality performance audio system capable of high fidelity playback of pre-recorded sources. Modern dance in all forms can also use video projection to enhance the visual atmosphere.

Musicals require visual composition and scenic settings that are integral to evoking an atmosphere to support the material being performed. This is accomplished by changing large scenery pieces rapidly and can be aided by complex stage machinery. All musicals require a sophisticated stage rigging system capable of flying multiple backdrops and other scenic elements and a high quality complex stage lighting system. Musicals also require a high quality performance audio system with audio playback, high fidelity audio reinforcement via wireless microphones to the audience area, and foldback capabilities to the performers on stage and in the orchestra pit.

For drama programming, visual composition, stage lighting, and scenic settings are integral to evoking a supporting atmosphere or mood that fits the dramaturgy. Large and medium scaled productions have high scenic complexity. Small-scale drama uses moderate scenic complexity while scene work uses little to no scenic elements. The stage rigging system is primarily concerned with a main drape to begin and end acts, black masking drapes and scenic elements. The stage rigging system also needs to accommodate a flexible stage lighting system. The stage lighting system can be moderate but requires a high degree of control and multiple stage lighting fixture locations. A quality performance audio system with audio playback and stage reinforcement is important.

Jazz, pop, rock, folk, cinema and educational programming requires a simple stage rigging system to support stage masking, stage lighting and simple background, a stage lighting system that is similar to drama and amplification of the music is normal and video screens aid the visual and aural presentation. For jazz, pop, and rock music a quality sound reinforcement system with foldback capabilities is required.

DRAWING REVIEW OF THE BROOKS RUN THEATRE

Architectural Design

In order to infer how the original architectural design was meant to support the specific programming the following drawing review was performed.

Projection Room: This room at the rear of the auditorium is raised above the audience seating area. It is accessed by two spiral staircases. There are five small projection room ports with automatic fire closures (shutters). Fusible links are located over projector locations. The room is configured for two 35mm film projectors. Drawing references: A-131, A-136, A-138, E-36 A.

Auditorium: The ceiling in the auditorium is shaped to maximize interior volume and has one stage lighting slot located over the orchestra pit. There are two sound chambers for an organ left and right of the proscenium with rolling doors on fusible links. Drawing references: A-127, A-134, E-35.

Orchestra Pit: The Orchestra pit is approximately 220 square feet. It is possible to fit about 15 musicians and their instruments comfortably inside the pit. There is also an elevated platform in the pit for an organ. The orchestra pit is accessed from a stair in the stage left wings that goes down into a basement area to doors into the pit. Drawing references: A-122, A-127, A-136.

Proscenium: The proscenium arch is approximately 28’ wide by 20’ tall at its highest point. It is equipped with an asbestos fire safety curtain. Drawing references: A-122, A-127.

Stage: The existing stage floor is constructed of clear pine on top of a sub floor of plywood on top of wooden sleepers. There are trap doors in the stage left and right wings that open into the basement area. There is a staircase in the stage left wings that leads up to an elevated concrete slab where the stage lighting dimmers are located, and an additional ladder that leads up to a steel platform where the stage lighting control console is located. There are two doors and sets of steps left and right through sound and light locks on the rear wall of the stage. These give access to the stage from the backstage corridor which is at a lower level then the stage. There is also a large loading door centered on the rear wall of the stage for scenery and equipment access from the loading dock to the stage area. Drawing references: A-122, A-127, A-137.

Gridiron: There is a steel gridiron over the entire stage area to support a stage rigging system. There is also a loading platform for the loading of stage counterweights to balance the stage rigging system. Drawing references: A-127, S-52.

Backstage Support Areas: There are circulation corridors that encircle the stage and lead to a lecture hall, two classrooms, an administration wing, a therapy wing, two courts, and a chapel. There is a loading dock with a tall roll up door for unloading and loading equipment and scenery into the theatre. All these areas are at a lower elevation than the stage. Drawing reference: A-122.

Acoustical Design

In order to infer how the original acoustic design was meant to support a specific programming type, it must be understood that in the 1960’s room acoustic design did not take into account the high sound pressure levels associated with the performance sound systems we have become accustomed to today. They simply did not exist yet. Also, popular music presentations in general were not as heavily amplified as they are in these modern times.

That being said, based upon the interior volume, side wall construction materials, and building envelope shape, it appears that the acoustic design for the Brook Run Theatre seemed well suited for a typical multipurpose theatre of the early 1960’s. The dimensions lend themselves to specific programming types that are more acoustic in nature and less electronically amplified. This type of acoustic environment requires a reverberation time that is relatively long and results in a space which is not well suited to high sound pressure levels.

In addition, accommodation has been made for the necessary sound chambers and orchestra pit platforming for a pipe organ or an electronic organ typical of the times. Drawing references: A-122, A-127, A-136.

Theatre Systems Designs

In order to infer how the original theatre systems design was meant to support the specific programming the following drawing review was performed.

STAGE RIGGING SYSTEM

The existing theatre had an upright, single purchase, manually counterweighted stage rigging system with five lift lines and stage battens that extended approximately 6’-0” beyond the proscenium. There were thirty-eight general purpose line sets included in the system. Five line sets were designated for stage lighting. There was a compliment of stage curtains, a main curtain, a cyclorama, and a projection screen. There was also an asbestos fire safety curtain with a full height smoke pocket located just upstage of the proscenium. Drawing references: A-122, A-127, E-35, Facility Report.

STAGE LIGHTING SYSTEM

The existing stage lighting was typical for the time. The basic layout of the system consists of a manual 5 scene pre-set stage lighting console controlling thirty 2.4kW dimmer modules that serve 120 stage lighting circuits through a slider patch panel. The system is fed from a 225amp 120/208 volts, 3 phase, 4 wire panel. The stage lighting circuits are distributed to the auditorium ceiling cove, the orchestra pit, the stage floor, and five movable stage lighting battens over the stage, with five circuits designated for auditorium light dimming, and four circuits designated for non-dimmed auditorium lighting.

The original stage lighting fixtures consisted of eighteen short throw ellipsoidal spot lights, 20 medium throw ellipsoidal spot lights, 28 Fresnel’s, 9 scoops, 10 border lights, and 4 border lights on casters. There was a far throw stage lighting position in the ceiling with 12 medium throw ellipsoidal spot lights, a near throw stage lighting position in the ceiling with 8 medium throw ellipsoidal spot lights to light performers from the front. There were 18 Fresnel’s on the first over stage pipe for a soft stage wash, 18 short throw ellipsoidal spot lights on the next stage pipe to light performers farther upstage, 10 Fresnel’s on the next over stage pipe for back and down lighting, 10 borders on the next pipe to light backdrops, and 9 scoops to light a cyclorama curtain. Drawing references: E-35, E-36 A, Facility Report.

AUDIO SYSTEM

There is no record of an audio system in the documentation provided however it is clear that there was an organ that required sound chambers. Drawing reference: E-35.

CINEMA SYSTEM

There were two film projectors located in the projection room. Drawing reference: E-36 A.

INFERRED PROGRAMMING TYPES

Based upon the above drawing review of the existing architectural, the existing acoustic conditions, and original theatre systems, and given that the building was designed for 1960's programming types, it is our opinion that the Brook Run Theatre was built to present small classical music ensembles and recitals, organ music, small choirs, variety acts, small scale drama, scene work, comedy, acoustic jazz, folk music, pop music of the day, and 35mm film cinema.

MODERN DAY PROGRAMMING POSSIBILITIES

Architectural Design

In order understand how the existing architectural design will need to change to support modern programming the following drawing review was performed.

Projection Room: The spiral staircases leading to the projection room create difficulty moving equipment in and out of the room. Access to the room needs to be reconfigured to allow for easy movement of equipment in and out. Modern day lighting, sound and video systems control are operated from this location with an additional location for audio control in the seating area. The existing projection room ports need to be reconfigured into large operable windows in order to accommodate modern lighting, sound, and video control visibility.

Audience Seating Area: Currently the theatre seating has two distinct areas, a sloped section that runs into a flat section towards the stage. The sloped section is approximately 34'-0" long and has an approximate rise of 1:17; this makes for difficult viewing of the stage. The current accepted standard for sloped seating rise is 1:12. The flat section is approximately 22'-0" long with no vertical sightline rise. This may have been to accommodate wheelchairs and hospital beds but creates sightline obstructions for typical theatre seating.

Catwalks over the seating area are required for modern stage lighting systems to maintain, change, and aim the stage lighting fixtures. The height of the roof steel over the seating area makes this prohibitive.

Orchestra Pit: The Orchestra pit is approximately 220 square feet. It is possible to fit about 15 musicians and their instruments inside the existing pit comfortably. There is an elevated platform in the pit that appears to be for an organ. If an organ is not required then the platform can be removed for a larger orchestral footprint. The existing structure is a good depth for the orchestra pit. If more than 15-18 musicians in the pit is a programming requirement then the orchestra pit will need to be enlarged.

Proscenium: The proscenium arch is approximately 28' wide by 20' tall at its highest point. Although the existing architecture has reasonably good horizontal sightlines from the seating area, the proscenium width forces the seating area to become very narrow as it gets closer to the stage. This creates a condition on stage that limits horizontal sightlines and usable stage

space. The narrow proscenium width also creates a condition that shortens the lengths of battens/line sets for a stage rigging system. All of this limits the size of modern productions that can be accommodated on stage.

Stage Floor: The existing floor of clear pine on top of a sub floor of plywood on top of sleepers lacks resilient pads. For the new floor we recommend adding resilience pads underneath the sleepers to accommodate modern programming that requires performers to dance.

Gridiron: The gridiron in a typical modern day fly tower is rectangular. The existing gridiron is a rectilinear octagonal. This creates a condition where there is 28'-0" of usable stage depth and only 23'-0" of available rigging wall. This 5' gap in rigging wall depth creates difficulty with the design of the main curtain, first stage lighting electric, and first set of legs and borders. The design of the gridiron well channels also contributes to the relative short length of the battens/line sets. If these battens need to be extended for modern programming requirements the stage rigging system will require truss batons to support the unsupported extensions at the pipe ends.

Except for the unusual shape (plan view) of the gridiron, the structural design appears to be able to accept a modern stage rigging system. However, the gridiron design requires a detailed structural study to determine if the loads of the desired stage rigging system can be accommodated by the existing structural steel.

Stage Left: The vertical ladder leading to the concrete slab and up the ships ladder to the stage lighting console connect station can all be reconfigured and updated. Modern stage lighting systems place the control console in the control room at the rear of the auditorium and the stage dimmers in an electrical room near the stage.

Backstage Access: There is a need to elevate the surrounding backstage areas to stage level. The stairs leading to the stage from the corridor makes it difficult for actors to get on and off the stage. There is also no handicap access from backstage to onstage. Having a backstage that is at the same level as the stage creates ease of load-in/load out, actor movement on and off stage, equipment movement on and off stage and handicap movement on and off stage. This must be considered if a renovation is planned.

Backstage Access: There are a lot of support spaces missing back stage. Although not a comprehensive list, modern theatres typical backstage areas generally include men's and women's large and small dressing rooms, scenery and prop storage areas, costume shop and storage, green room, production offices, back stage restrooms, janitor closet, piano storage, and other areas required to support the specific programming. Accommodating these areas will need to be considered if a renovation is planned.

Loading Zone: The existing loading dock is acceptable for unloading and loading however; there is no direct level access from the loading dock to the stage.

Acoustical Design

Based upon the existing interior volumes and building envelope shape, the Brook Run Theatre does not seem to be well suited for multipurpose modern programming. Modern multipurpose

programming tends to be either acoustic in nature (low sound pressure levels) or electronically amplified with full range high sound pressure levels. This creates an acoustic condition where depending on the surface treatments chosen (reflective, absorptive, or diffusive) the shape of the theatre can either support relatively short reverberations times for those programming types that require intelligibility or relatively long reverberations time for those programming types that require envelopment.

So, to support both types of modern programming within the existing building envelope some approach to variable acoustic interior design must be taken. Without undertaking a variable acoustic interior design the existing interior volumes and building envelope can either be arranged to support non amplified acoustic music programming and some choir programming or all drama presentations, as well as jazz/pop/folk music but not both.

Even more concerning is due to the narrowness of the seating area as it gets closer to the stage and how that acoustically affects the sense of spaciousness for mid-range reverberations and high sound pressure levels, all types of musical theater and rock music will be compromised.

Theatre Systems Design

It is assumed that all new theatre systems and associated electrical infrastructure will be new for either a renovation or a new building project. Some of the limitations of the existing building to accommodate modern theatre systems have been discussed above. What follows is a general description of modern theatres systems.

STAGE RIGGING SYSTEM

Modern day stage rigging systems are comprised of several component groups: a motorized fire safety curtain, stage rigging line sets or battens, stage curtains, and stage curtain tracks. The fire curtain is a heat resistant fabric panel located at the proscenium opening, which will automatically close and separate the stage from the auditorium in the event of a fire. The line sets or battens are used to hang scenery and painted backdrops, stage curtains and tracks, portable acoustic ceilings, and stage lighting. They can be made to move up and down within the fly space with the use of a manual or motorized hoist system.

The stage curtains are hung on the line sets and usually include a front curtain, and black masking curtains one the sides and top to prevent the audience from seeing into the wings beyond the performance area or up into the fly space. Scenic curtains such as a rear stage cyclorama, and black traveling curtains to close off whole areas of the stage are also hung from these line sets. All stage masking curtains shall be fabricated from inherently flame retardant polyester velour fabric.

Additional stage rigging equipment is used to suspend the audio speaker system, and adjustable acoustic material in the auditorium area.

STAGE LIGHTING SYSTEM

The basic components of modern day stage lighting system for the theatre are dimming (for stage and auditorium lighting), control (for stage and auditorium lighting), stage lighting fixtures, and accessories. The types and quantities of stage lighting fixtures to be used determine the complexity and level of sophistication of the overall stage lighting system.

The modern stage lighting system for the theatre makes use of both conventional (tungsten halogen), LED, and programmable moving stage lighting fixtures with the necessary control infrastructure. Conventional fixtures utilize incandescent lamps and must be connected to a stage lighting dimmer in order to control the intensity. Multi-parameter fixtures, such as LEDs and moving light fixtures utilize a low voltage signal to control several channels such as position, intensity, red, blue, green, amber, and white. This type of system requires a networked control infrastructure along with a stage lighting console that allows the operator to easily program multi-parameter fixtures.

A dedicated stage lighting transformer and panel board is required to power the stage lighting system. Power receptacles for the stage lighting system are distributed to all the stage lighting fixture locations.

Main control of the stage lighting system is located in the control room at the rear of the auditorium. Auditorium light control is through on/off entry stations located at the entrances to the theatre, in the control room, on stage, and other control locations.

AUDIO SYSTEM

A modern day theatre audio system is also broken down into several sub-systems. The sound reinforcement system provides playback and amplification of sound to the auditorium via a speaker system in front of the proscenium and to performers via stage monitor speakers located onstage. These are also used for special effect sounds. The show monitor system provides a performance audio feed to speakers located in the foyer and public areas and the backstage support areas. A production intercom allows for technical communication between theatre technicians during a performance and an assisted listening system sends program to receivers with earphones for the hearing impaired.

Included is a wireless microphone system to reinforce performers speaking and singing. A digital mixing console to control the entire audio system is located in a control area built into auditorium seating area. The digital mixer has the capability of being remote controlled through a wireless iOS device. Two compact disc players and an iOS dock (for MP3 players) for playback of pre-recorded source material is usual.

In some cases a small events audio system with a task light located on the stage left wall is also furnished. This is capable of turning on the entire system, and activating two microphone inputs with a local volume control. A stereo input for audio with a local volume control is also included.

MULITMEDIA & VIDEO SYSTEM

With the advent of modern high definition video and high lumen output projectors, theatres can now be equipped with a multimedia & video system instead of a 35mm cinema system. These

systems consist of four main groups of equipment: the screens and projectors that display the magnified images for the audience to see; the control, playback, and system inputs that allow for a signal to be introduced to the system and directed to the appropriate device in the proper format; the cameras that allow for live shots of a performance; and the TV connections that allow for viewing content on a standard flat screen television.

The system can utilize one large center projection screen located on stage and/or two smaller screens located on the sides of the proscenium. Control of the motorized screens is located within the video system racks. These systems utilize control infrastructure to control the output to the various devices. A Blu-ray player, a DVD/VHS combo player and a computer video interface panel with audio inputs for the connection of computers to the video system are usually provided for the playback of prerecorded sources.

The camera system can consist of cameras with remote control pan, tilt, and zoom functions. The cameras are located in the auditorium. Additional camera inputs can be located around the theatre for other specific uses.

The TV connections allow for the use of traditional TVs to be utilized within the system. TV connections are usually located backstage, on stage, in the orchestra pit and in the lobby.

CONCLUSION- RESTORATION VERSUS NEW BUILD

Architectural Design

Obviously, the overall design of the auditorium and stage supports those presentations as discussed in the inferred programming types section of this report. If it is the intention to renovate the Brook Run Theatre to present small to moderate classical music ensembles and recitals, organ/piano music, small choirs, variety acts, small scale drama, scene work, comedy, acoustic jazz, folk music, moderately amplified pop music (a soloist and small combo), and video presentations then renovation may be a good thing to explore. If the intention is to have a venue that can accommodate larger types of presentations (many performers and large scenery), presentations that utilize high fidelity amplified sound (Broadway type musicals), dance of any kind, rock music and large choral music, then building new may be a good thing to explore.

If renovation is chosen then the inability to accommodate stage lighting catwalks over the seating area is a constraint as is the current seating slope. The orchestra pit will work well for 15-18 musicians with little architectural renovation. The proscenium width is narrow when compared to a typical proscenium of 40’ wide by 25’ tall that are the minimum acceptable dimensions for most modern productions. The narrowness of the proscenium also limits the usable performance space. This is a constraint for presentations with 25 or more performers that will not be feasible to remedy.

The projection room and backstage areas will require a complete renovation. The entire backstage area will need to be elevated to the stage level. The existing spaces will need to be reconfigured to create men’s and women’s large and small dressing rooms, scenery and prop storage areas, costume shop and storage, green room, production offices, back stage

restrooms, janitor closet, piano storage, and other areas required to support the specific programming.

As with any renovation plan, any proposed changes may prompt the need to bring certain building elements into compliance with present day building and safety codes. The owner is advised to consult with the necessary code experts before proceeding with any renovation plans.

Acoustical Design

One again, the overall acoustic design of the auditorium and stage supports those presentations as discussed in the inferred programming types section of this report. The natural dimensions lend themselves to specific programming types that are more acoustic in nature and less electronically amplified. This aligns with the programming discussed in the architectural design section above. If renovation is chosen, then a suitable acoustic design to support the acoustic nature of the room will be possible. If the intention is to renovate and have a venue that can accommodate modern multi-purpose programming then a relatively complicated variable acoustic interior design must be taken. And like the architectural constraints, If the intention is to present all types of musical theater and rock music then building new should be considered.

Theatre Systems Design

The current condition of the building and the tremendous changes in technology that have taken place since this building was designed means that all new theatre systems and associated electrical infrastructure will be designed new for either a renovation or a new building project. , we will defer to programming choices. Some of the limitations of the existing building to accommodate modern theatre systems have been discussed above. However, it is our opinion, that if the proper programming choices are made, and the decision to renovate or build new is made based upon those choices, then either choice will support the appropriate theatre system designs.