

Theater Plan

A theater for Wisconsin Theater Arts

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SUMMARY

- Wisconsin Theater Arts (WTA) seeks to acquire a modest space for its theater education programs which include after-school programs, summer camps as well as main stage community theater productions. WTA currently uses space at schools and churches which is not stable from year to year. Acquiring a building would allow WTA to establish what is called a **black box** theater. A **black box** theater is a flexible performance space characterized by its simple, unadorned design, typically painted black to create a neutral environment. This type of theater allows for versatile staging arrangements and intimate audience interaction which fosters a closer connection between performers and viewers. The flexibility in seating and stage configuration supports various scenic design styles and periods, adapting to the specific needs of each production. The theater must meet ADA standards. Area around building must have sufficient parking for the number of seats. Wisconsin Theater Art's mission is to provide hands on education in the theater arts including acting, dancing, singing, set design, scenery, costuming, make-up, lighting, directing and stage management. WTA's vision is to make the world a better place using the theater arts to inspire curiosity, generosity and connection.

SITE AND LOCATION PREFERENCES

Since WTA's Inception it has been serving southeast Wisconsin, which roughly constitutes portions of Racine, Walworth and Waukesha counties. Per our Business plan "... the strongest strategic path is to establish WTA's facility in the southwest quadrant, ideally in Mukwonago, but Burlington, Waterford and others would be attractive candidates. These areas align with WTA's historical presence, offer proximity to underserved populations, and provide an opportunity to deepen community engagement without competing directly with larger, established providers."

The site itself would ideally be flat or with very moderate elevation changes and have sufficient space for parking. As a general rule of thumb, many municipalities and planning agencies suggest a parking ratio of about 1 space for every 3 to 5 seats in a theater. This could be reduced if the location is within reasonable walking distance to public parking or the availability of public transportation.

STAGE AND AUDITORIUM DESIGN

Optimal Dimensions for Black Box Theaters

- **Small Black Box Theaters:** Ideal for productions with 50-100 audience members. These spaces often measure around 30 feet wide by 30 feet deep, with a ceiling height of 12-

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16 feet. This size allows for intimate performances while providing enough room for staging and technical equipment.

- **Medium Black Box Theaters:** Suitable for audiences of 100-200 people. A medium-sized black box typically measures 40-50 feet in width and depth, with a ceiling height of 16-20 feet. This size offers more flexibility for larger sets and more elaborate technical setups.
- **Large Black Box Theaters:** Designed for audiences of 200-300 people. These theaters usually measure 60 feet wide by 60 feet deep, with a ceiling height of 20-25 feet. Larger black box theaters accommodate more complex productions, including those with significant set changes and extensive technical requirements.

The stage and “house” are one space in the black box theater. It may also include a space for the control booth (light and sound control) which may be accessed from an adjacent space.

SEATING LAYOUTS AND SIGHTLINES

Seating is flexible and uses risers for chair placement. **Stage Right** (see reference sections) is a leader in the manufacturing of risers for theatrical spaces. The rake of the risers allows for great sightlines and allows for various staging configurations (e.g. end stage, thrust, alley, or in-the-round). The risers store compactly, down to only 10-15% of the setup configuration.

PUBLIC SPACE FUNCTIONS

Front of house - used for public entry to the building from the outside. Ticket counters, coat check, concessions and restrooms are all usually located in, or just off the lobby

- **Lobby** - 20 square feet per patron will allow relatively free movement; 10 square feet, movement on an “excuse me” basis; and 5 square feet, standing without touching others—but with little ability to move freely. How many square feet does a person need? Between six to 10 feet is a safe bet. Generally, a loose crowd — one in which each person is about an arm’s length away from their nearest neighbor — requires **10 square feet per person**. A more tightly-packed crowd fills closer to five square feet per person. You’ll want to consider your desired crowd density in addition to room capacity when deciding on a venue — remember that more space may also mean a less full-appearing room. The lobbies of most recently built theaters fall between five square feet per seat (a reasonable minimum for comfort and safety) and 15 square feet per seat (a generous size, but not so large that it does not feel animated and exciting). The

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majority of any windows would be in this space as the black box itself would not have windows.

- **Restrooms** – A very high level of accommodation is one fixture for every 20 seats and a reasonable level is one fixture for every 40 seats. Building code requires gender specific restrooms or single-occupancy restrooms. Single occupancy restrooms could also be designed as family assist restrooms which may be required by some building codes. Recommended split between women and men is 2:1. Ideally a family assist restroom should be provided near every pair of gender-specific restrooms. It would also be a benefit to have an actor's only bathroom that does not comingle with the patron's bathrooms.
- **Ticketing**- Ticket office designs range from highly secure to open counters similar to a hotel registration counter. The trend is toward open counters, as the exchange of cash at ticket windows has declined in recent years. Open counters has proven to be a better customer experience. Location usually near public entry. Location must allow space for patrons to queue at the sales stations without disrupting the flow of other patrons in and out of the building.
- **Concessions** – A starting point for sizing lobby concession areas is one sales station for every 120 seats. Sales points should be located so that queues do not interrupt circulation. They can be permanent or portable.
- **Offices** (can also be backstage).

BACKSTAGE SUPPORT FUNCTIONS

Back-of-House - includes dressing rooms, green rooms, offstage areas (i.e. wings), cross-overs, shops and storage areas. Connections between the front-of-house and back-of-house circulation are critical.

- Dressing rooms - where cast members apply wigs, make-up and change into costumes. Group dressing rooms serve between 12 and 24 performers and should provide about 40 square feet per person. A minimum of 480 square feet for 12 and ideally about a thousand square feet for 24 performers. No windows necessary. Walls space used for mirrors and lighting.
- Backstage restrooms – often kept separate from dressing rooms allowing flexibility in assigning dressing rooms by gender. Ideally one fixture of each type for every 8 performers. The exception is hand basins which may be provided in greater number within the dressing room itself.
- Greenroom (performer lounge) - This is the room where actors and other performers wait in when they are not needed onstage or in their dressing rooms. Should be located

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in proximity to both the dressing rooms and the stage. They can accumulate other uses and may have a kitchenette and tables for eating.

- Scene shop - area to fabricate and assemble the flats, platforms, scenery wagons, and other scenic pieces required for a performance. In black-box the performance area may double as scene shop. Storage for saws and other equipment would still be necessary. This area would be approximately 500 to 1000 square feet. No windows necessary but a garage door from the outside and one leading into the theater space are needed.
- Costume / prop rooms – storage areas. In addition to a main area it may also contain a laundry room with washer and dryer and a utility sink. This area would be approximately 600 to 1,200 square feet. Windows are not necessary.
- Offices (can also be front of house) for just a few staff members or volunteers (e.g., an artistic director, a managing director, and a marketing person), an office space of around 200 to 400 square feet could be sufficient. Windows would be welcome in this space.

STAGE AND HOUSE LIGHTING CONTROL SYSTEM

LED lighting would be the choice as the cost of running is significantly lower than halogen based lighting. In addition LED is significantly safer as they remain cool to the touch. Ideally we would use ETC (Electronic Theater Controls) lights and control system (Eos). Mid tier LED lights controlled by a PC hosting a software lighting control system would be a lower cost solution.

STAGE FLOOR

Depending on the existing floor structure a floating floor would be strongly advised. Particularly if the existing floor in the theater space is concrete. This floating floor would provide impact absorptions, insulation, and a surface that can be painted, screwed into, or easily cleaned. The most durable, professional solutions involve layering materials to protect the concrete while creating a versatile, matte black surface.

RECOMMENDED FLOORING OPTIONS FOR CONCRETE SUBSTRATE

Best Durable System: Two layers of 3/4" plywood with joints offset (staggered), covered by a top layer of 6mm MDF or oil-tempered hardboard (Masonite). The top layer should be screwed with flat-head screws to allow for easy replacement when damaged.

Professional Standard (Plyron): A hardboard/plywood/hardboard "sandwich" or "Oreo" panel, which is durable, paintable, and black throughout, making scratches less visible.

Best Dance/Multi-purpose Surface (Marley): Specialized vinyl dance floor sheeting (like Rosco or Greatmats Dance and Stage Pro) laid over a shock-absorbing underlayment (e.g., 1/4" rubber or foam) to prevent knee injuries.

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Fastest/Modular: Interlocking jigsaw-style puzzle tiles, which are portable, resilient, and allow for quick installation and repair.

KEY COMPONENTS TO ADD

- **Moisture/Vapor Barrier:** Essential before placing wood on concrete to prevent warping.
- **Sleepers:** 2x4s or 2x6s (optionally with rubber pads underneath) laid down to create a cushioned, flexible subfloor system.
- **Matte Black Paint:** Use high-quality black floor paint (like Rosco Tough Prime) over Masonite for a non-reflective, durable surface.
- **Theater Stage Transition Ramp (~2-Inch Rise)**
 - To safely bridge the 2-inch gap between the concrete floor and the elevated stage, a transition ramp must be installed. Per ADA accessibility guidelines, a 1:12 slope ratio is required, meaning the ramp must be 24 inches long to accommodate the 2-inch vertical rise.
 - **Implementation Options**
 - **Custom Wooden Ramp:** Extend the 2x4 stage sleepers out by 24 inches and cut them at an angle to taper from 2 inches down to zero. Cover the framework with 3/4" plywood to match the stage surface, and finish the bottom edge with an aluminum threshold strip to eliminate any final lip. This method integrates seamlessly with the stage and is fully paintable.
 - **Prefabricated Rubber Ramp:** Position heavy-duty, 2-inch commercial rubber threshold ramps directly against the stage edge. This option provides the fastest installation and is naturally matte black, highly durable, slip-resistant, and sound-dampening when walked on.
 - **Hardwood Bevel Edge (Non-ADA):** For tight backstage areas where a 24-inch ramp takes up too much space and wheelchair access is not required, rip a piece of heavy hardwood (like oak) down to a steep 6-inch bevel. This serves as a minimal-footprint safety bumper to prevent tripping.
 - **Safety and Visibility Requirements**
 - **Traction:** Mix a texturing agent or silica sand into the black floor paint on all wooden ramp surfaces to prevent actors from slipping.
 - **Visibility:** Mark the edges of the ramp with high-visibility hazard tape or a painted white line to ensure it can be seen safely during dark cues and backstage transitions.

THINGS TO AVOID

- **Painting Concrete Directly:** The floor will soak up paint, be permanently stained, and often look inconsistent.
- **Permanent Adhesive:** Avoid gluing down flooring, as it makes repairs or removing the theater difficult.

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- **Unbacked Vinyl:** Placing vinyl directly on concrete offers no cushion for performers.

STAGE AUDIO

A Dante (or similar digital protocol) network may be considered for sound distribution. This would require a digital audio enabled mixer. Although in a smaller space with shorter cable runs analog wiring and mixer may also be used.

STAGE RIGGING

The performance space should feature a permanent overhead **pipe grid rigging system**, designed to provide maximum flexibility for lighting, audio, and scenic design. The grid consists of structural steel or aluminum pipes arranged in a tight network (typically 4-foot to 6-foot squares) suspended safely below the architectural ceiling.

This infrastructure allows technicians to hang and patch lighting fixtures, mount audio speakers, and suspend lightweight scenic elements or masking drapery at virtually any point over the stage and audience areas. Because black box theaters require frequent reconfigurations of seating and performance zones, this grid eliminates the need for floor stands, maximizing usable square footage and ensuring rapid turnarounds between productions.

TECHNICAL SPECIFICATIONS & REQUIREMENTS

- **Pipe Dimensions:** Schedule 40 steel pipe, 1.5-inch Inside Diameter (I.D.), 1.9-inch Outside Diameter (O.D.).
- **Grid Spacing:** Modules configured in 4' x 4' to 6' x 6' uniform squares.
- **Clearance Height:** Ideally around 16 feet from stage floor to bottom of pipe.
- **Dead Load Capacity:** Uniformly distributed load (UDL) of 25 to 30 lbs per square foot.
- **Point Load Capacity:** Concentrated load capacity of 250 to 500 lbs at any single node.
- **Structural Connection:** Rigidly supported by the building's structural steel or concrete ceiling joists.

HVAC SYSTEM

Air conditioning and heating are a necessity and likely a forced air system would be best as it can provide both heat and cooling from one system.

FAVORABLE ELEMENTS OF BENCHMARK THEATRES

Lewisville Grand Theater (see references section)

ANCILLARY ACTIVITIES BEYOND THEATRE PERFORMANCE

The space can also be used for other activities beyond traditional performances. This will enhance community presence and diversify revenue streams. All activities should be mission related to avoid paying tax on revenue.

Some of these activities could include:

- **Workshops and Classes:** Offering acting, directing, playwriting, dance, and technical theatre workshops for different age groups and skill levels.
- **Community Events:** Hosting local events such as open mic nights, poetry slams, or community storytelling sessions to engage the local community.
- **Film Screenings:** Presenting classic films, independent films, or recordings of live performances, including operas or theater productions.
- **Rehearsal Space Rental:** Renting out the theater for rehearsals of other productions or for dance and performance groups.
- **Gallery Space:** Utilizing lobby or other areas to showcase local artists' works, turning the theater into a cultural hub.
- **Educational Programs:** Partnering with schools for educational programs that incorporate theater arts into their curriculum.
- **Themed Events and Fundraisers:** Organizing themed parties, galas, or fundraisers that may include auctions, dinners, or community gatherings.
- **Play Readings and Development Programs:** Hosting staged readings of new works or scripts in development, encouraging playwrights and new voices.
- **Technical Services:** Offering technical support, such as lighting and sound design services for external events or productions.
- **Tours and Behind-the-Scenes Experiences:** Offering guided tours of the theater and insights into the production process, including a peek behind the curtain.
- **Literary Events:** Hosting book readings, author signings, or talks that relate to the themes of current or upcoming productions.
- **Social Events:** Organizing social gatherings such as mixers for theater enthusiasts, networking events for artists, or community-building events.

Incorporating these ancillary activities can strengthen community engagement, foster artistic development, and create additional revenue opportunities.

REFERENCES

Black Box Theater Design:

<https://evstudio.com/black-box-theater-design/>

ETC (Theater Lighting):

<https://www.etcconnect.com/>

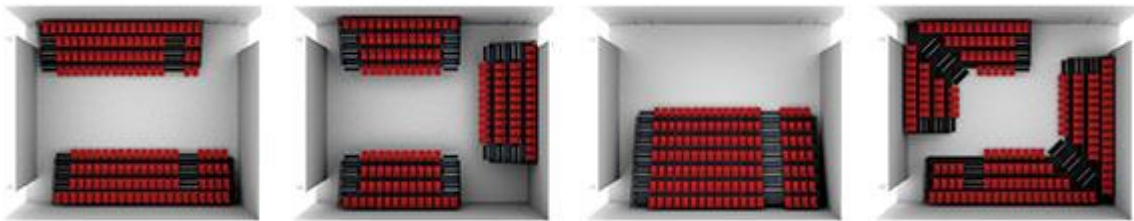
Stage Right (Audience Risers):

<https://performance.stageright.com/products/audience-risers/>

Theater Planning: Facilities for Performing Arts and Live Entertainment

By: Gene Leitemann

Riser Configurations in a Black Box Theater:



<https://performance.stageright.com/products/theater-products/black-box-theater-seating-risers/>

Example: Lewisville Grand Theater (Lewisville, TX)

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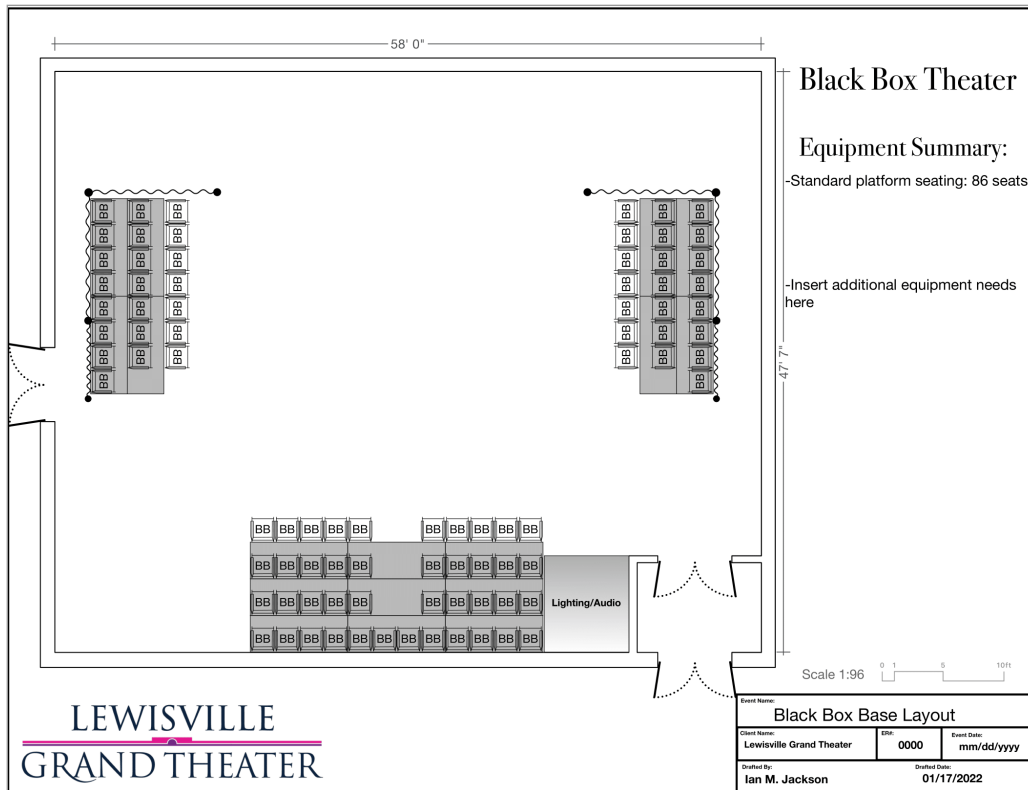
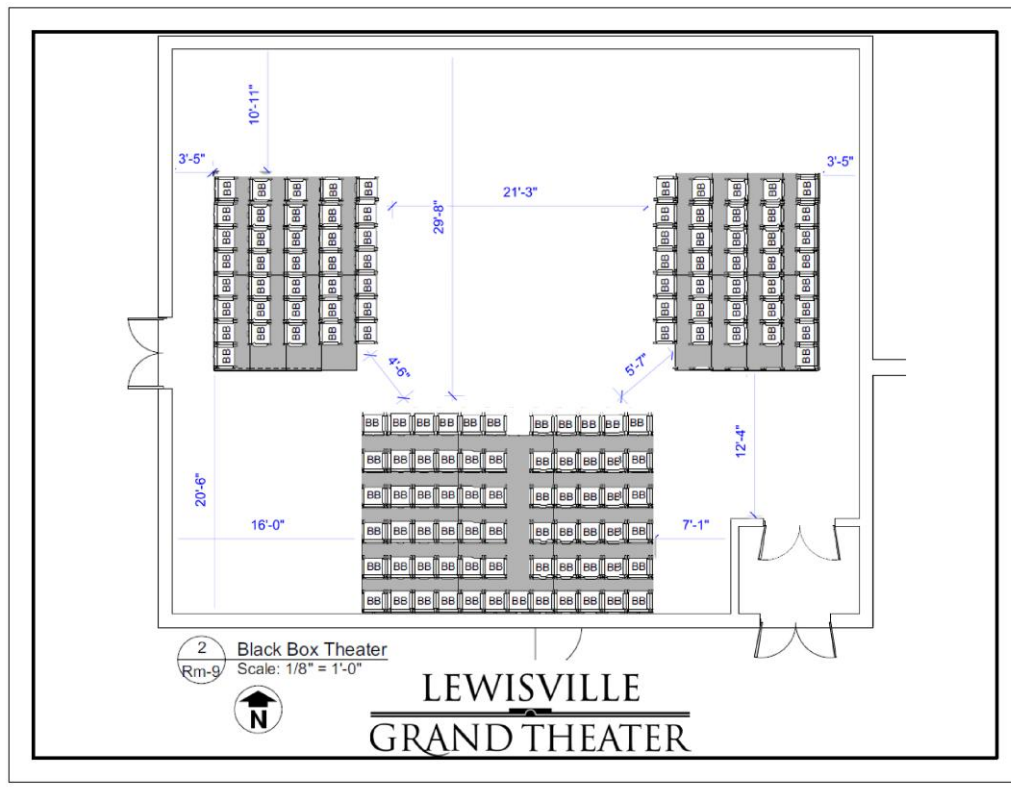
360 Link: [LGT Black Box 360 Link](#)

This medium sized Black Box Theater is a 3,000 square foot flexible space which accommodates a maximum of 160 people in a variety of arrangements, from theater-in-the-round to an open floor for banquets, meetings or social events.

Black Box Theater features:

- 3,000-square-foot room
- Lighting grid (20-foot at bottom)
- Flexible seating options for up to 160

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