



ASMSU Films – Procrastinator Theatre

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Procrastinator Theatre Booth Design Requirements

The following information has been updated based on questions from the SUB Renovation meeting on 5 Dec '07. Much of this information comes from a Claco theater installation and repair technician who is familiar with the Linfield Procrastinator Theatre.

Code Requirements

The relevant and applicable codes for Projection Booths are as follows:

- At least 3 feet of clearance behind the Projector/Lamphouse unit. As currently configured, the projector would extend 42" in to the booth from the front wall.
- A visible sign on the Projection Booth door stating "Safety Film Only"
 - All film since 1952 has been made of cellulose acetate based "safety" film. No film that was *not* cellulose acetate based would *ever* be shown in the Procrastinator Theatre.
 - (This is contrary to what has been previously stated, that non-safety film prints could be shown in the Procrastinator Theatre, which was based on incomplete information.)
- A minimum of 600cfm exhaust from the Lamphouse unit. At 5,000 feet, this would require a sea-level blower capable of at least 1,000 cfm.

It should be noted that the code requirements for DCI digital projection are the same as 35mm. A "2K" DCI projector would use the same bulb as a 35mm projector and have equally stringent requirements in terms of power consumption, ventilation, etc.

A 35mm print arrives on 6-10 14" reels. For projection, the 14" reels are built into a single 34-36" diameter print. This "built" print can reside on either a platter or on a MUT Spool (a large, rigid reel).

Using a platter system, the film goes from platter to projector and back on to another platter. Using a reel system, the film goes from the reel to the projector and back on to another reel. Both reels are mounted on to a double Make Up Table (MUT) or tower system.

A platter system is preferable, in terms of ease of building, operating and breaking. A double MUT system, however, is smaller in size, moveable, and weighs less. Films could be built in the ticket booth, below, and moved to the booth above for projection.

Booth Equipment

These are the approximate dimensions of the equipment that would need to be installed in the booth for 35mm projection:

- Build table: 2' x 2'
- Projector: 2' x 4'
- Audio rack: 2' x 2'
- Platter (3' x 4') or portable double MUT unit.

This is an approximate breakdown of equipment weights:

- Projector – 545lbs, consisting of

- Projector Base – 200lbs
- Lamphouse (Strong Lume-X) – 130lbs
- Lamphouse switcher (power supply unit) – 65lbs
- Projector Head – 150 lbs
- Platter – Christie Miniwind - 350lbs vs. double MUT table – 200lbs
- Sound Rack – 125 lbs (including digital decoder and sound processor. Excludes amps, which will be located elsewhere)
- **Total (platter): 1,020lbs vs. Total (double MUT): 870lbs**

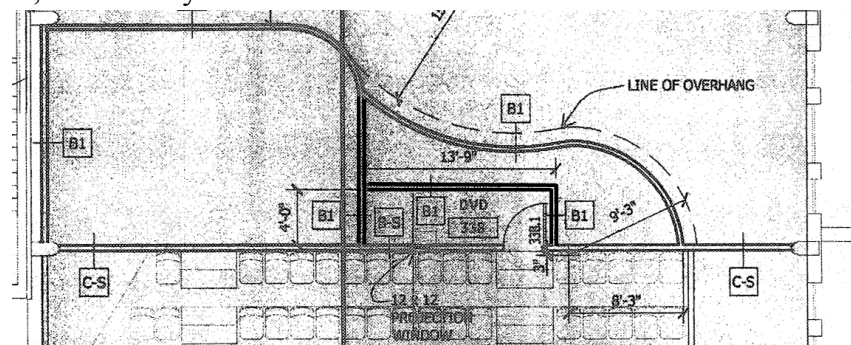
Refer to Appendix B for a full list of expected equipment.

The Booth

The current Procrastinator Theatre booth is 5'x19'. It's a little tight, but sufficient for our operation. A 6'x18' booth, similarly, would be tight but sufficient.

To install a 35mm projector, the existing “DVD” booth needs to be expanded to be large enough to house the projector, build table, and platter / double MUT.

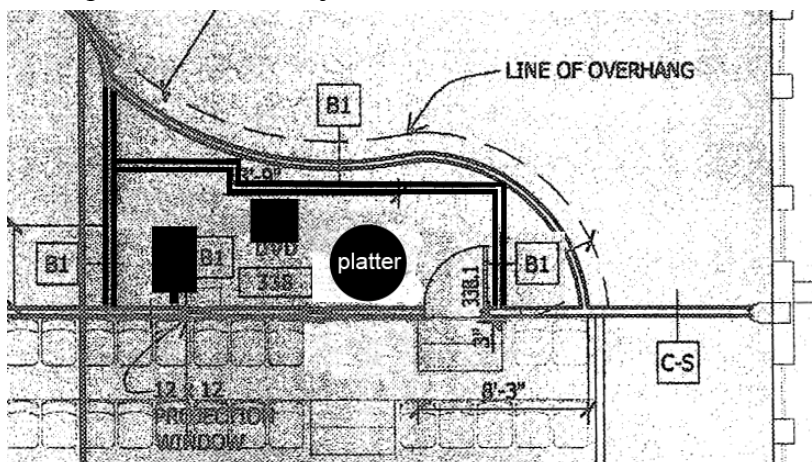
This is the DVD booth, as currently drawn:



The following are two options for booth design, listed below in order of desirability:

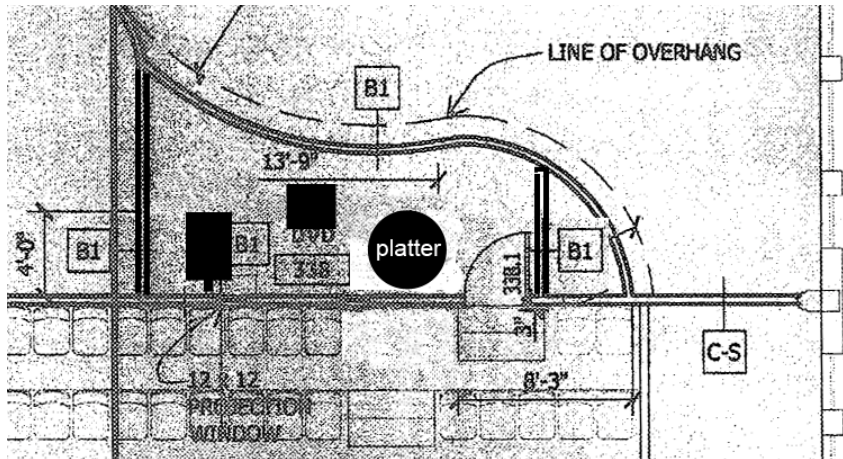
Option One – Horizontal Platter Arrangement

The existing DVD booth can be expanded in to the dead space above the ticket window to 6' by 18', with an additional 18" of depth behind the Projector. As seen below:



To accommodate the platter, the door into the booth would need to be moved to the right. This would require sacrificing at least three seats.

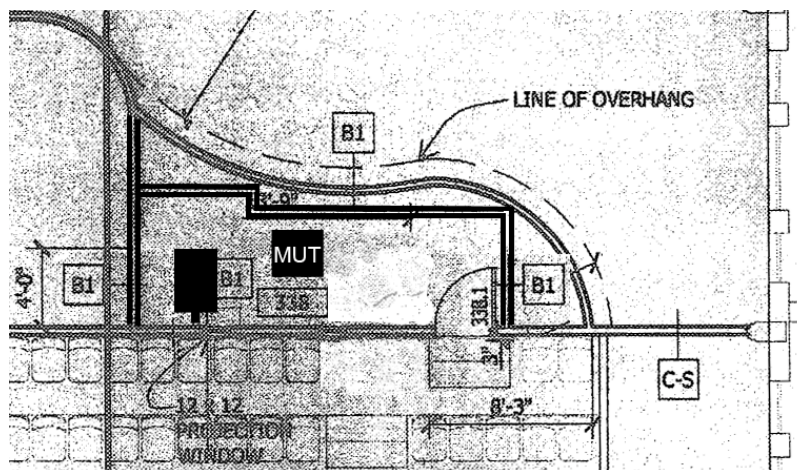
A slight variation of the above layout removes the rear wall entirely, increasing the amount of space in the booth and weight associated with the rear wall:



Option Two – Double MUT Arrangement

As an alternative to using a platter system in the new booth, a double MUT system could be installed in its place. A double MUT is a portable, moveable table that builds the film prints on to 4' reels that can be easily moved and transported. A double MUT configuration would be less desirable from the perspective of the projectionist who would build and break the films, but would reduce the space and weight requirements for the booth.

A double MUT booth configuration would look like this:



This still requires 36" of clearance behind the projector. The double MUT can be moved in and out of the projection booth, as necessary.

Electrical Requirements

The booth will require the following circuits:

- 3 Phase, 220v 30amp circuit for the Lamphouse

- 120v 20amp circuit for the Projector motor
- 120v 20amp Exhaust Fan
- 120v 20amp circuit for the Platter/MUT
- 120v 20amp circuit for the Sound Processor.
- An additional 120v 20amp circuit for the Sound Processor is recommended for future expansion.

It is recommended that all circuits run to a 4"x4" wire-way that will run 4-5' in length in front of the projector, rather than individual pipes. This will reduce installation costs and result in a cleaner, more expandable finished product.

HVAC Requirements

The lamphouse will attach to a 6" rigid or flexible exhaust duct. To meet code, there must be exhaust running *from* the lamphouse greater than or equal to 600cfm (400cfm for elevations below 5,000 feet). The internal blower of the lamphouse should draw in cool room air and the vent pipe on the top should be connected to a blower to provide sufficient suction to maintain a negative pressure inside the lamphouse.

If permitted by code, a grate anywhere in the ceiling and/or wall to allow outside air to flow in to the booth would be adequate and sufficient, from the Procrastinator's perspective.

The 2006 Uniform Building Code may or may not require the lamphouse to be vented outside.

Fire Suppression Requirements

Additional fire suppression requirements may be considerably less than originally envisioned. All film screened in the SUB Procrastinator Theatre will be cellulose acetate based "safety" film.

Appendix A

As a reference, here's a picture of a typical, simple booth set up, including audio rack, projector and platter:



Appendix B

Projector Base

(transfer from existing theater)

Includes rack space for sound processor and digital decoder.

Estimated to weigh 200lbs.

Lamphouse & Power-supply -- Strong Super Lume-X Lamphouse

(Purchase used from Claco.)

-Lamphouse (80lbs) equipped with a 2,000w bulb

-2000w Switcher or comparable power supply (30-65lbs)

Projector Head -- Strong Century projector head

(transfer from existing theater)

-Estimated to weigh 100-150lbs.

Platter System

(transfer from existing theater)

-Christie Miniwind MW3R

Weight and Dimensions * 340 lbs * 74.5" H x 42" W x 49" D

Sound Processor

Dolby CP65 (30 lbs)

Digital Decoder

Dolby DA20 (25 lbs)