Measuring and Drafting

Or How to Make Sure That Everything Fits Together Later.

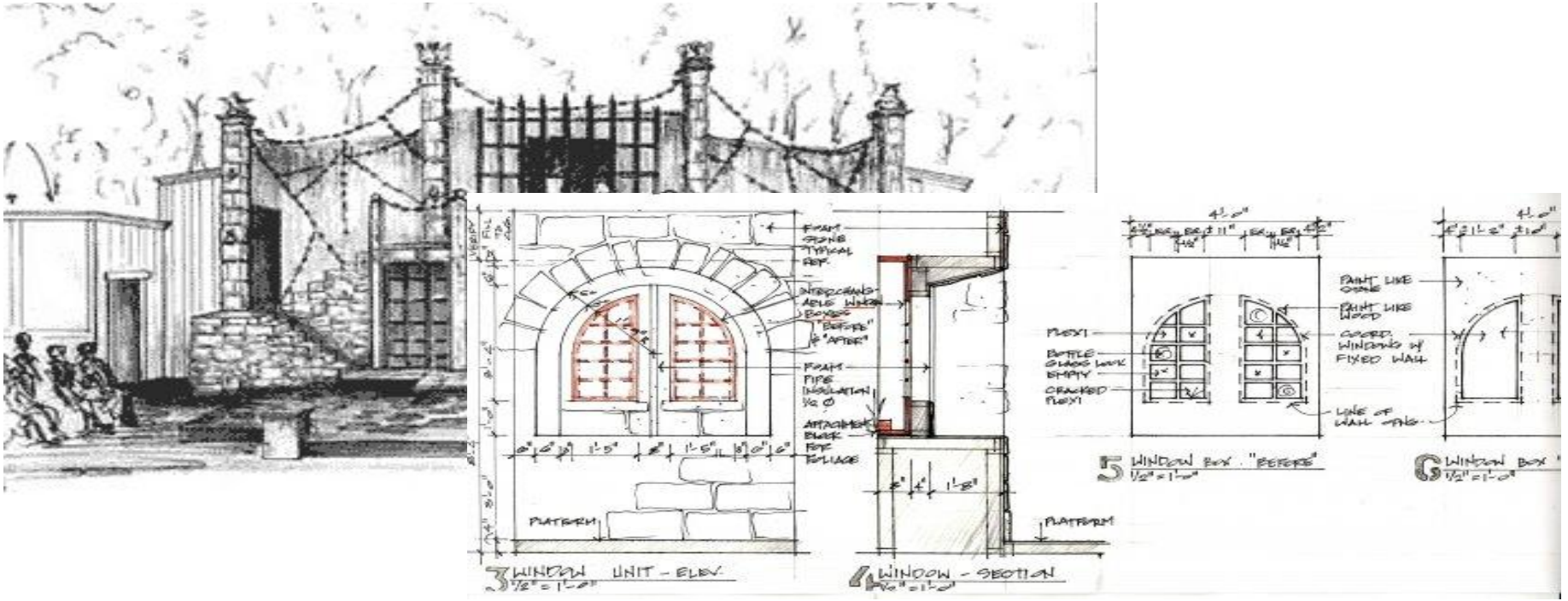
What *is* Drafting and Measuring?

Well measuring is exactly what you think it is: knowing the dimensions of something. Be it how big the wall of set should be, how much fabric you're going to need or the distance a projector is from a screen.

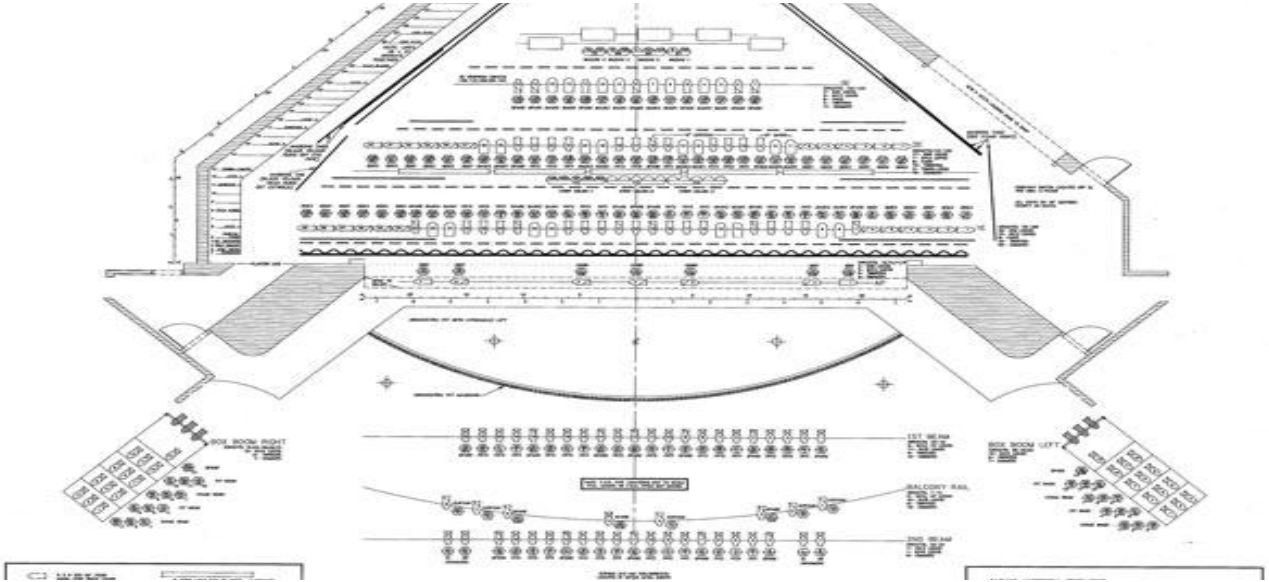
A **Drafting** is a representation of something drawn exactly to **scale**, which is to say, smaller (or bigger) than it is/ will be in real life. The thing about a drafting though is that it's exactly the dimensions of what you're drawing, not an artistic representation.

But what fields in theatre uses drafting?

HA! Ha! Ahaahaahaha… **All of them**.

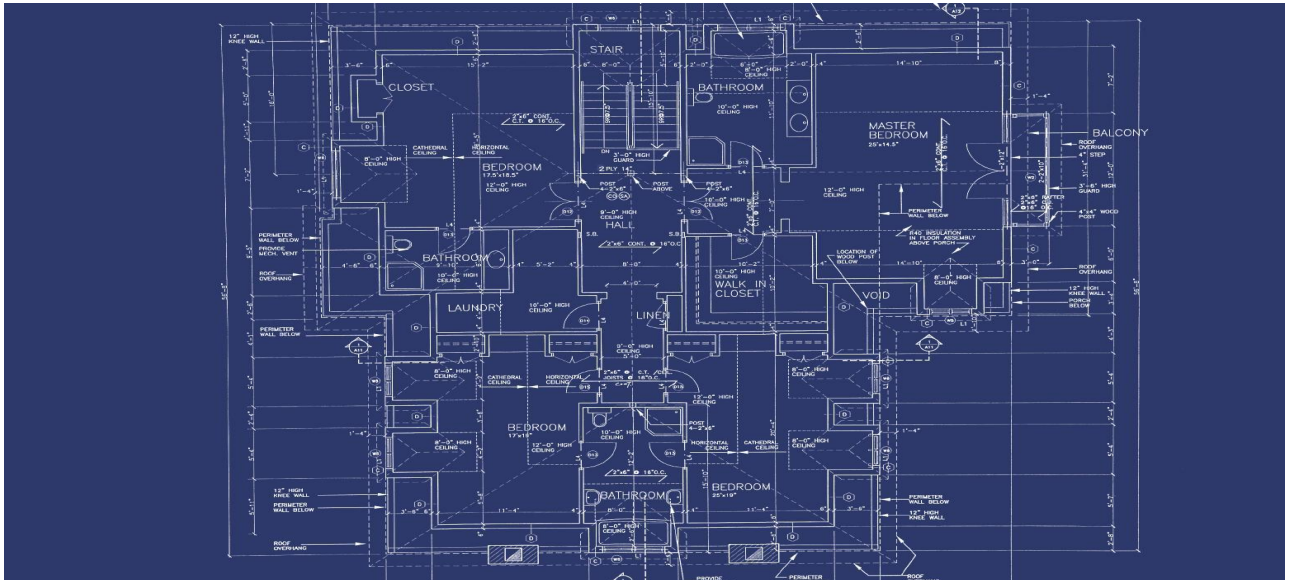

FOAM
STONE
TYPICAL
REF.
UNDERGROUND
ABLE WIRE
BOXES
"BEFORE"
& "AFTER"
FOAM
PIPE
INSULATION
½ Ø
ATTACHMENT
BLOCK
FOR
EXHAUST
PLATFORM
3 WINDOW UNIT - ELEV.
1½" = 1'-0"
4 WINDOW - SECTION
PLATFORM
PLEXI
BOTTLE
GLASS WORK
EMPTY
CRACKED
PLEXI
5 WINDOW BOX "BEFORE"
1½" = 1'-0"
PAINT LINE
STONE
PAINT LINE
WOOD
GOOD
WINDOWS W/
FIXED WALL
LINE OF
WALL TILE
6 WINDOW BOX
1½" = 1'-0"

Sets



Lighting

Costumes


STAIR
CLOSET
BATHROOM
MASTER BEDROOM
BALCONY
BEDROOM
HALL
BATHROOM
LAUNDRY
LINEN
WALK IN CLOSET
VOID
BEDROOM
BATHROOM
BEDROOM

Audio

Props

So Drafting.

What is Drafting?

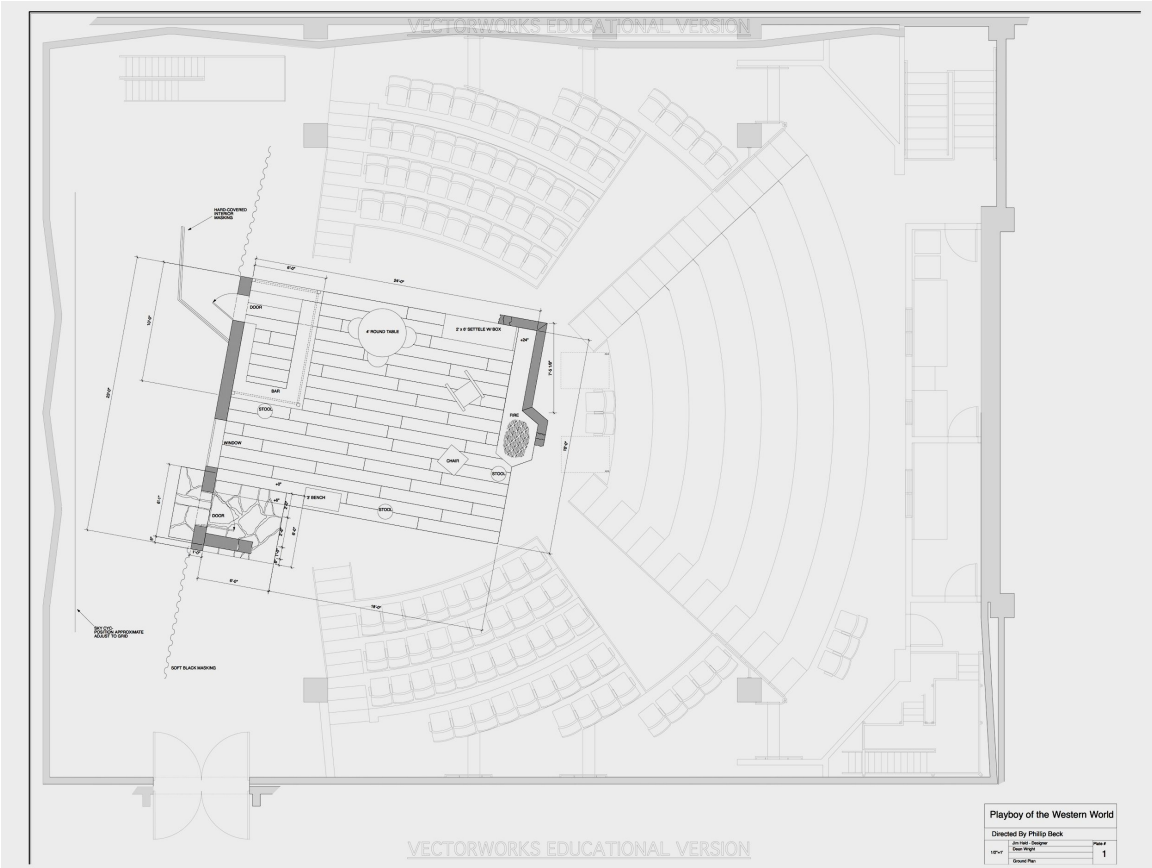
Drafting is creating a technical drawing for... whatever you need. In theatre, we use it primarily for Scenic and Lighting, though costumes, props and even audio makes use of drafting as well.

For Scenic, it's for anything from seeing where the set goes onstage to what each piece actually looks like and exactly how big it is.

Lighting uses it to show what kind of lights are hung where.

GROUND PLANS

A **Ground Plan** is the main type of drafting we'll see. It shows the stage if we were looking down on it from above.

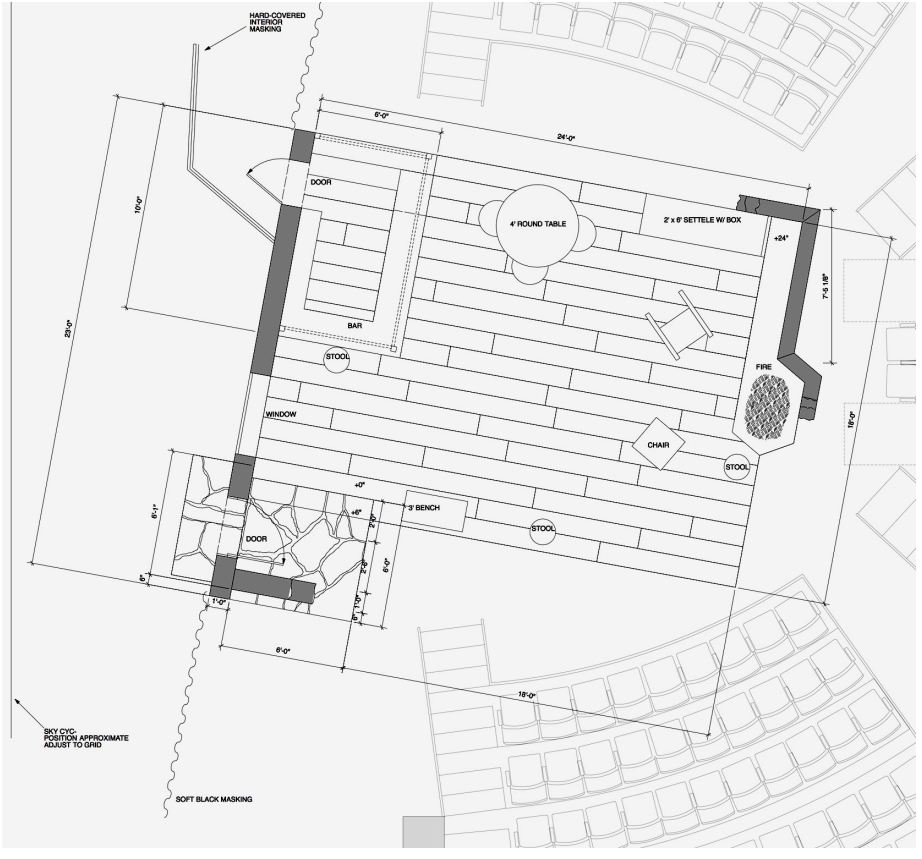


Ground Plan: ENHANCE!

Playboy of the Western World		
Directed By Phillip Beck		
1/2"=1'	Jim Held - Designer Dean Wright 5/13/2009 Ground Plan	Plate # 1

Title Block: Has all of the essential Information about the drawing.

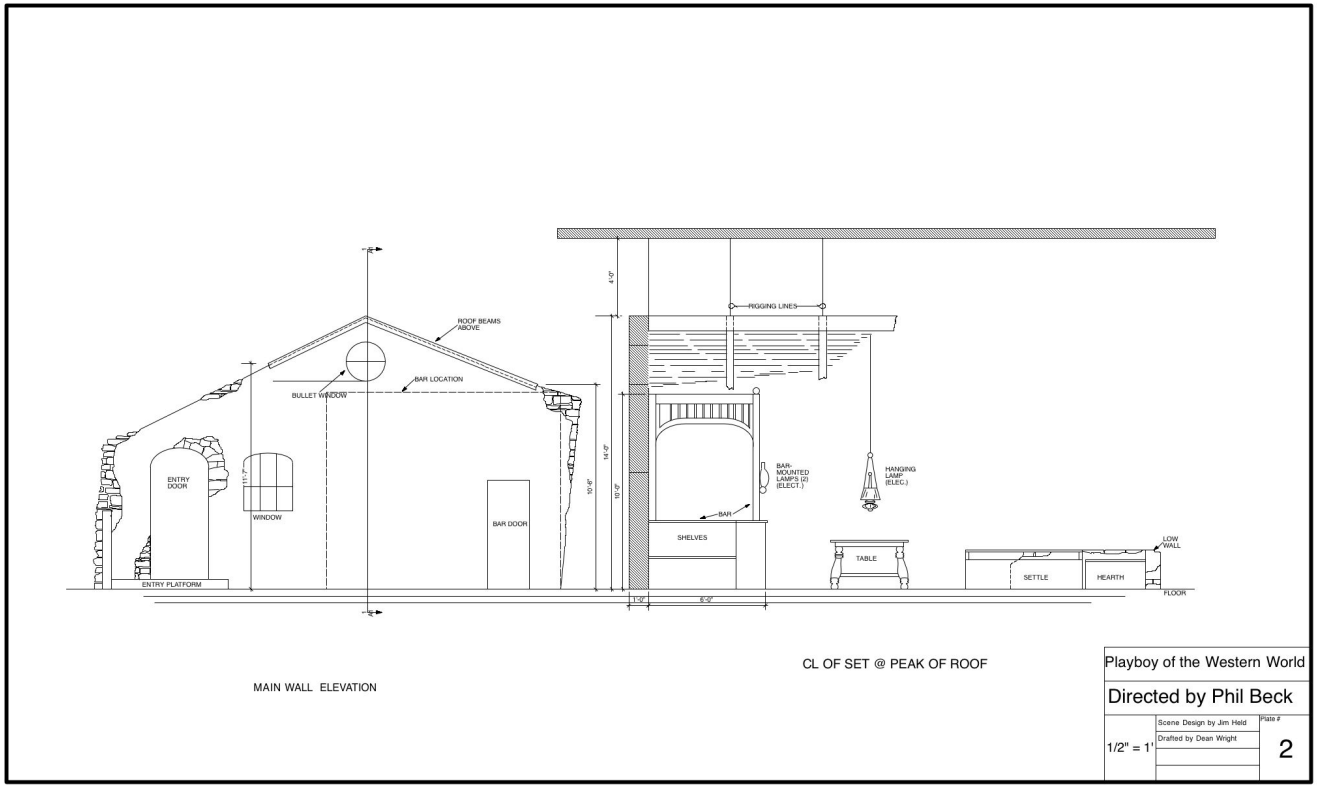
- Title
- Director
- Designers
- Scale
- Plate #
- Date



Sectional and Elevation

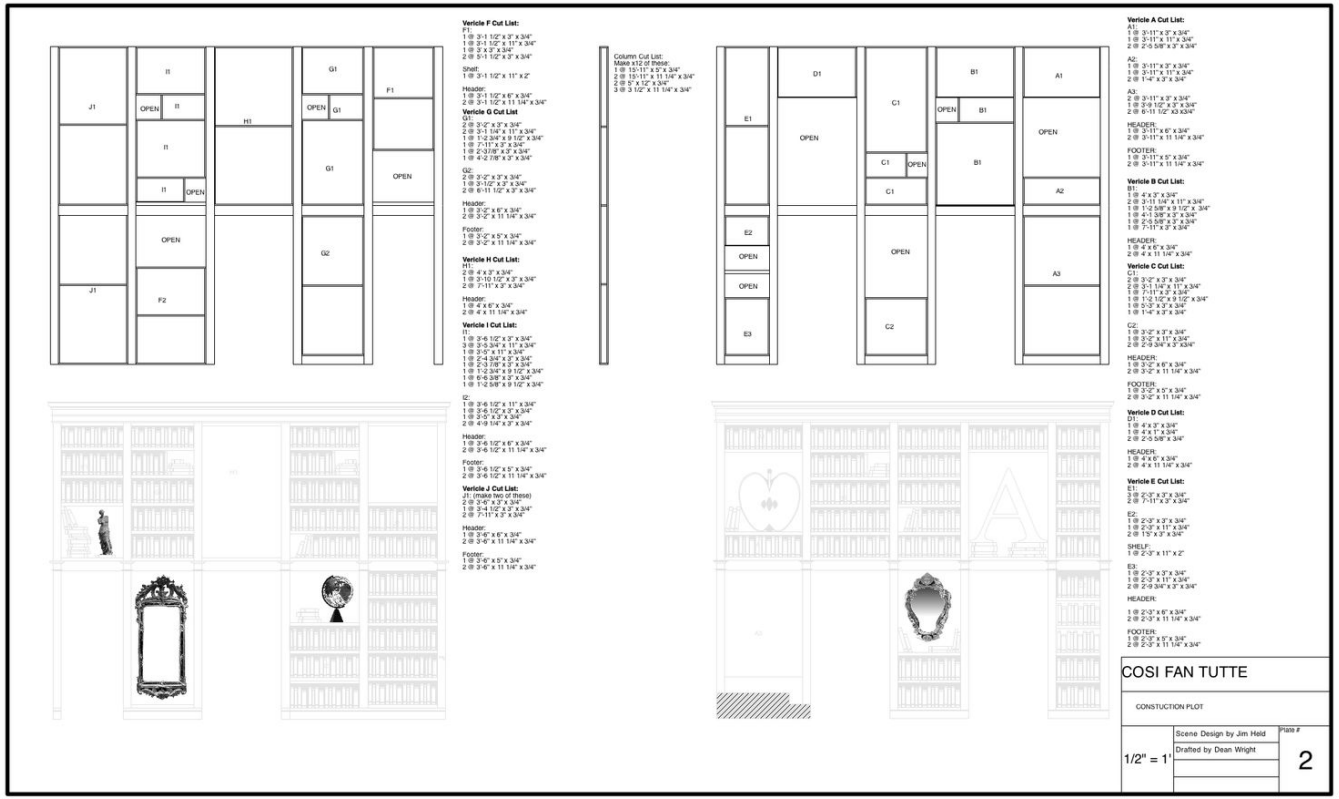
A **Sectional** is a drawing where you're viewing the set from the side, as if it were cut right down the center.

A **Front Elevation** is a drawing showing a particular piece as if you were looking at it from the front.



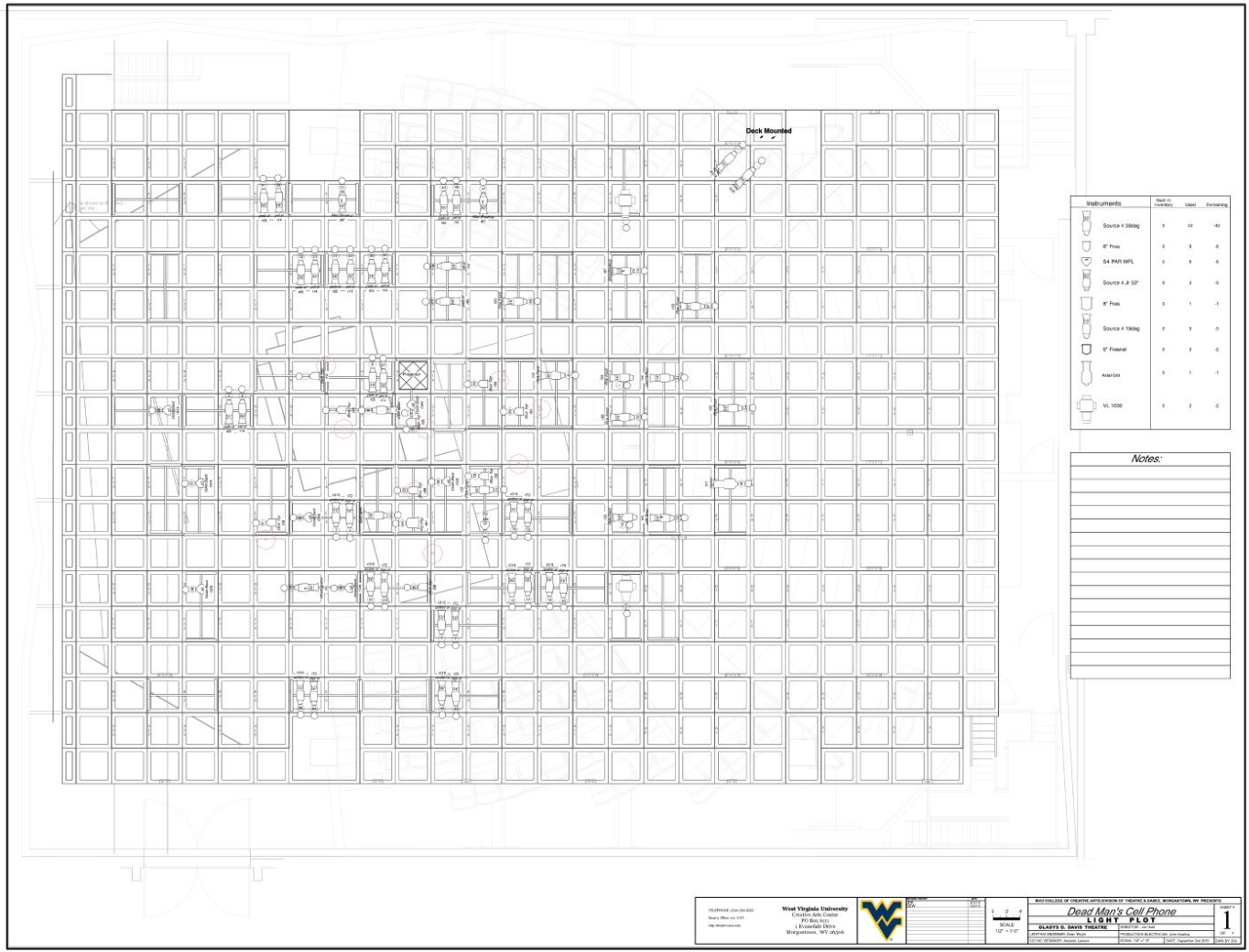
Construction Plot

A **Construction plot** is a drawing that shows how something is to be put together. This will also contain cut lists and specific instructions for more complex pieces.



Light Plot

A **Light Plot** shows where lights are as well as information about where they are plugged into, what color they are and other such information.



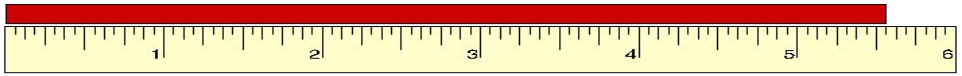
Measuring

It all starts with measurements…

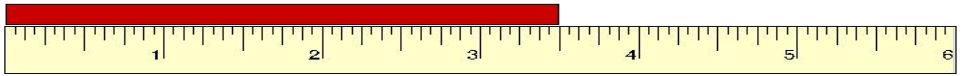
- In the U.S. we measure in **feet and inches**
  - The number of **feet** may be conveyed using the number, followed by an apostrophe (i.e. 7’ or 5’)
  - **Inches** may be conveyed by using the number, followed by a quotation mark (i.e. 5” or 7”)
  - Full measurements utilizing feet and inches are conveyed by feet’-inches” (i.e. 5’-7” or 3’-6”)
  - Portions of inches may be displayed fractionally (i.e. 6 ½” or 3’-6 ½”)

Measuring in Inches

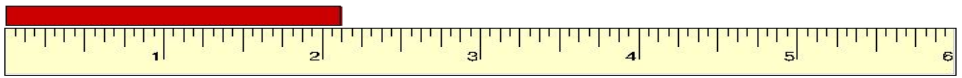
How many Inches ?



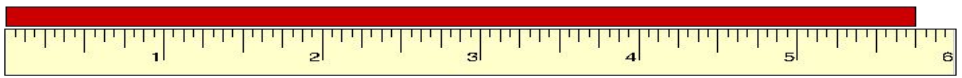
5 9/16”



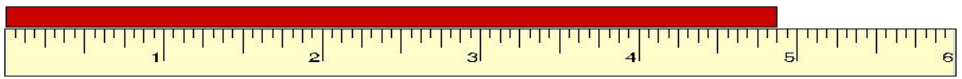
3 ½”



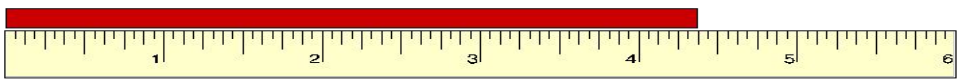
2 1/8”



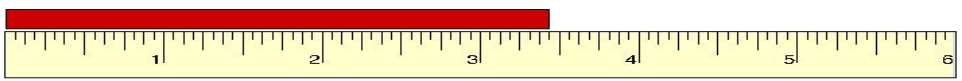
5 ¾”



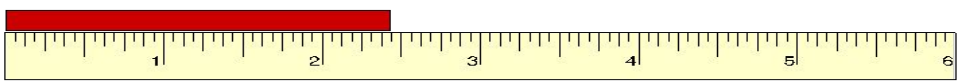
4 7/8”



4 3/8”



3 7/16”



2 7/16”

Measuring in Scale

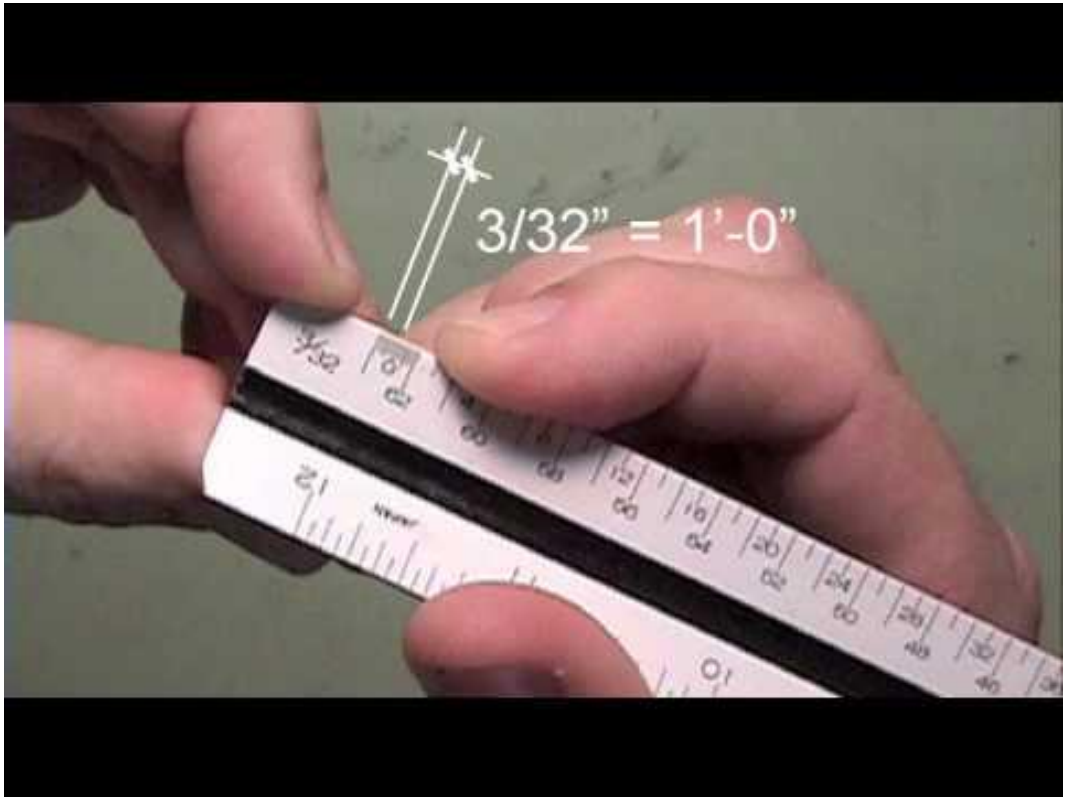
What is Measuring in Scale?:

- Measuring something where the measurement represents a bigger number.
- So in ½” scale. Every ½” on the paper is 1’ in real life.
- So something 2” long on the page would be 4’ long in real life.
- This makes it so we could draw, say, a car on a page and know how big it is in real life.

A Scale Rule:

- There are a few standard scaled used across many industries.
- The scale ruler is a tool to quickly measure something in one of these standard scales.

Architect Scale



WORKING IN SCALE

And measuring animals.

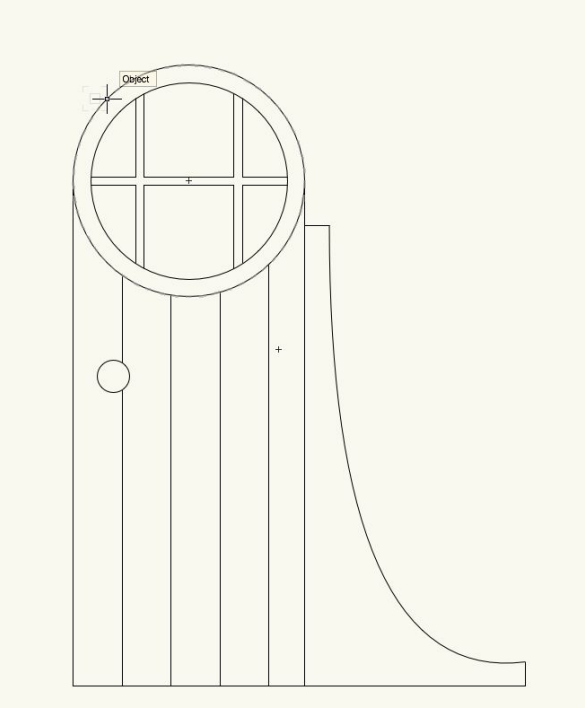
SCALE!

Drawing something **to scale** means drawing it smaller than it actually is. For example, in half inch scale, for every half inch something is drawn on the paper, that's how many feet long something is. So if something is 2 inches long in ½ inch scale, it's 4 feet long in real life (because a 2 inch long line is 4 half inches long).

On top of that, is something is ¼ inch long in half inch scale, it's 6 inches long in real life, because ¼ inch is one half of ½ inch.

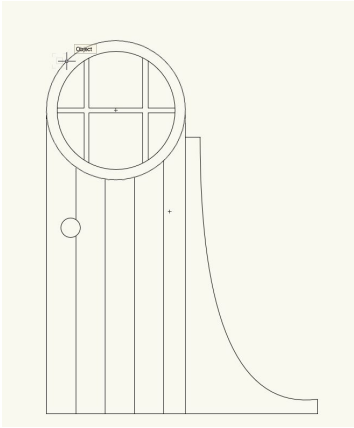
It takes a bit of mind bending, but you'll get the hang of it!

Example of Scale*

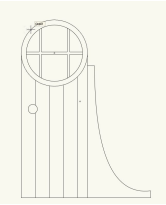


1” = 1’

*Kinda. Because of how this is projected/ the size of your screen, this will not really be to scale, but you get the drift, hopefully. The smaller the scale, the smaller the thing is drawn.



½” = 1’



¼”=1’

ACTUALLY DRAFTING

The golden rule of drafting is:

Drafting exist to, as clearly as possible, communicate.

Anyone should be able to look at drafting and tell what's going on. It should have any needed information easily visible.

LINESSSS

Lines are important.

What drafting, how thick a line is, the pattern of a line and the strightness of a line all are used to convey different things.

Lines

REALLY THICK lines are the **border** of the drafting.

THICK lines are for architectural walls of the theatre and space itself.

Normal thickness lines are used for visible lines. This is pretty much for any **object** in your drafting. any piece of scenery, wall, anything.

Dotted lines are for hidden objects, or things hidden behind other things.

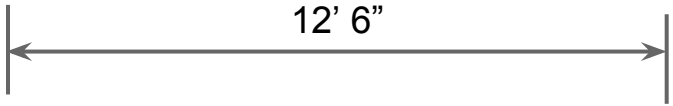
Thin lines are for dimensional lines.

Special Lines

Center Line: A dash-dotted line running down the center of the space.

Plaster Line: Line running between the point where the apron meets the stage.

Dimensional Line: Line that shows the length of an object.



SO NOW

With your swanky blank piece of paper, let's draw a **border** ½" away from the edges of the paper. Make it super thick!

It's important that lines are as straight and consistent as possible. The line should be the same thickness the entire way across.

ALTERNATIVELY, you can do two thick lines with a small 1/8th inch gap between the two.

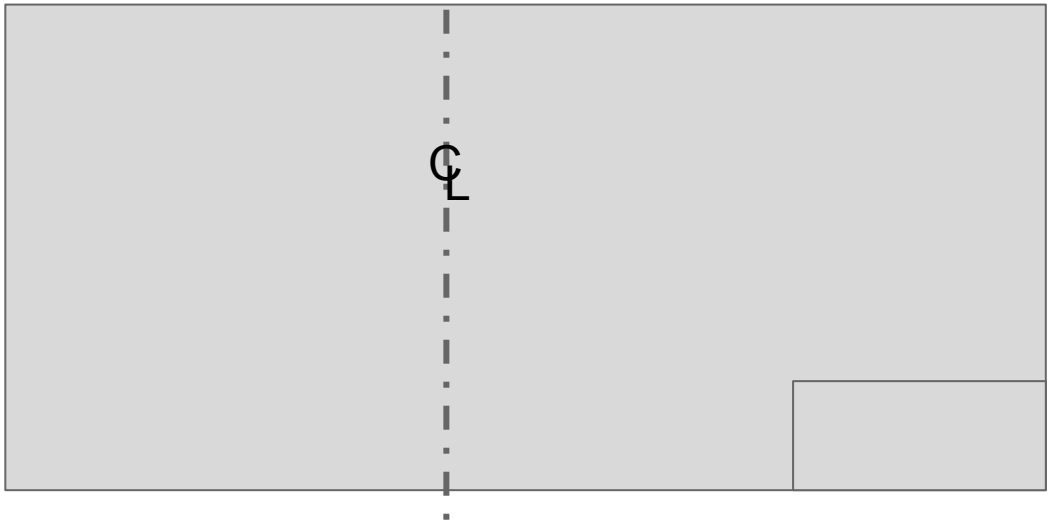
TITLE BLOCK!

TITLE BLOCK AGAIN!

So there's the title, director, designers, the scale, date and plate #

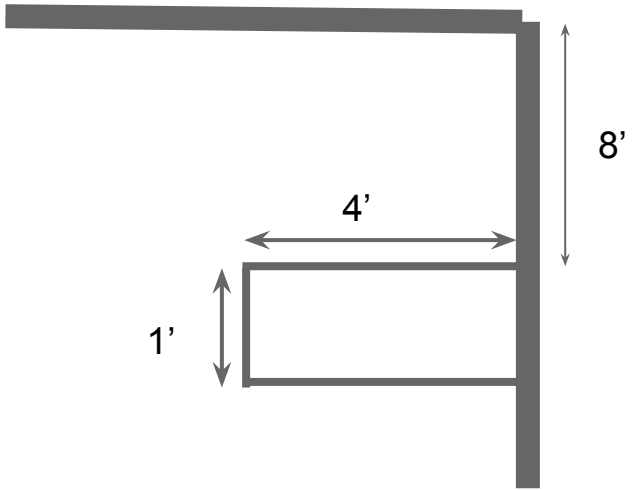
LET'S MAKE A CENTER LINE!

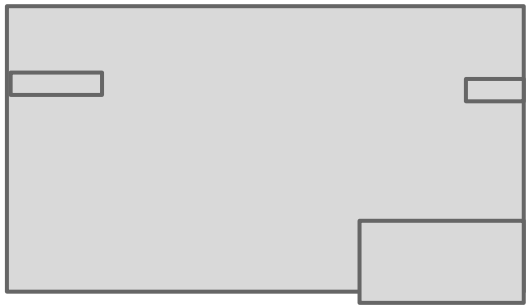
Down the dead center of your page, let's make it the center line. Thi is a dotted and dashed line. Somewhere along it, near the center of the page, put a ℄ on it to label as the center line.



LET'S MAKE WALLS!

starting 8 feet from the top of the page, let's make some theatre walls. We'll have them extend onstage 4 feet, and be one foot thick. Do it on both sides.



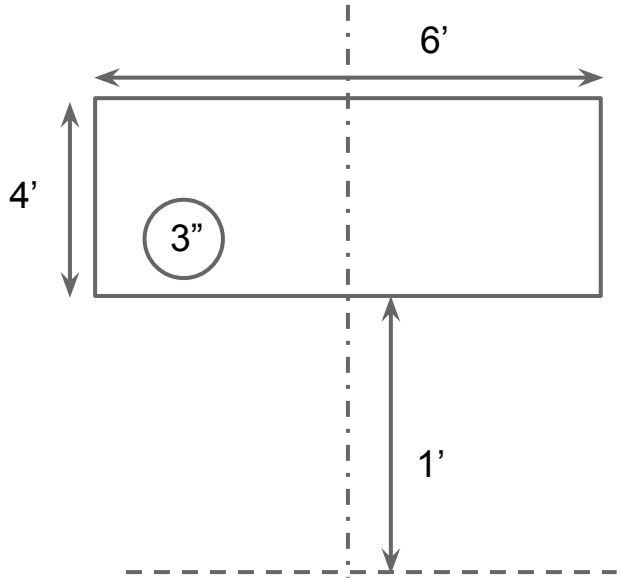


Plaster Line

Now make a dashed line between the two walls. That’s your plaster line!

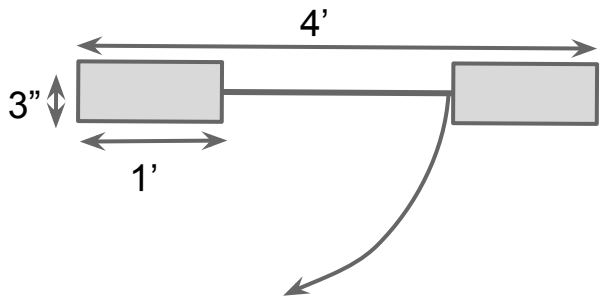
LET'S MAKE A PLATFORM!

So let's put a platform onstage! Let's have it be center stage, 1 feet upstage of the plaster line. The platform will be 6' x 4' x 3" Add these dimension lines (Hint: these lines are not drawn correctly)



A Door with small flat.

2 Feet downstage of the plaster line and 3 feet offstage, lets make a 3” x 4’ flat. We’ll put a 2’ door in the middle.



That's the basics

Now, add a few things:

- A square stool whose top is 1' 6" x 1' 6"
- A bear skin rug, roughly 2' x 4'
- A sacrificial table to the Chaos Lord Ghul'than. 2' x 3'
- A dog, curled into a circle of 1' diameter.

Now, go wild. Add a few extra things of your own! Be sure to label them.