



# **CEILING DESIGN**

**WHAT is it? and what DOES IT DO?**

# What is it.....

*“Large horizontal surface attached to or suspended from building structure”*

## **Elements:**

Planes  
Coves  
Coffers  
Slots  
Soffits  
Headers  
Slats  
Clouds

## **Materials:**

Gypsum  
Plaster  
Acoustic grids  
Wood  
Plastic  
Fabric  
Metal  
Glass





# What does it do.....

## Function:

Supports lighting

Aids in acoustics

- . Sound transmission
- . Sound reflection

## Design:

Supports scale

Reinforces spatial definition

- . Creates edges conditions imply enclosure
- . Provides texture
- . Creates rhythm
- . Supports hierarchy/emphasis

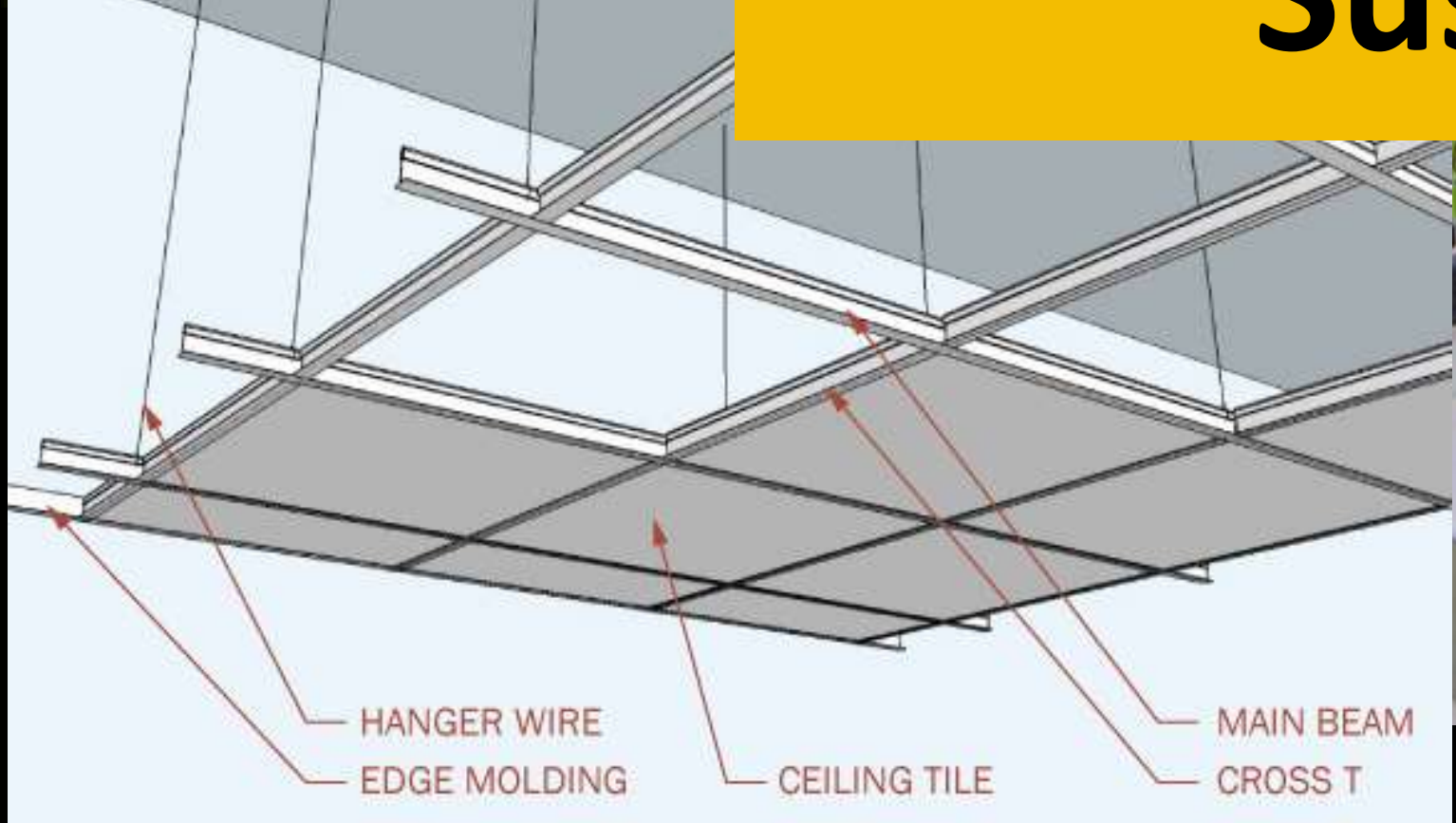


# WHAT'S UP THERE?

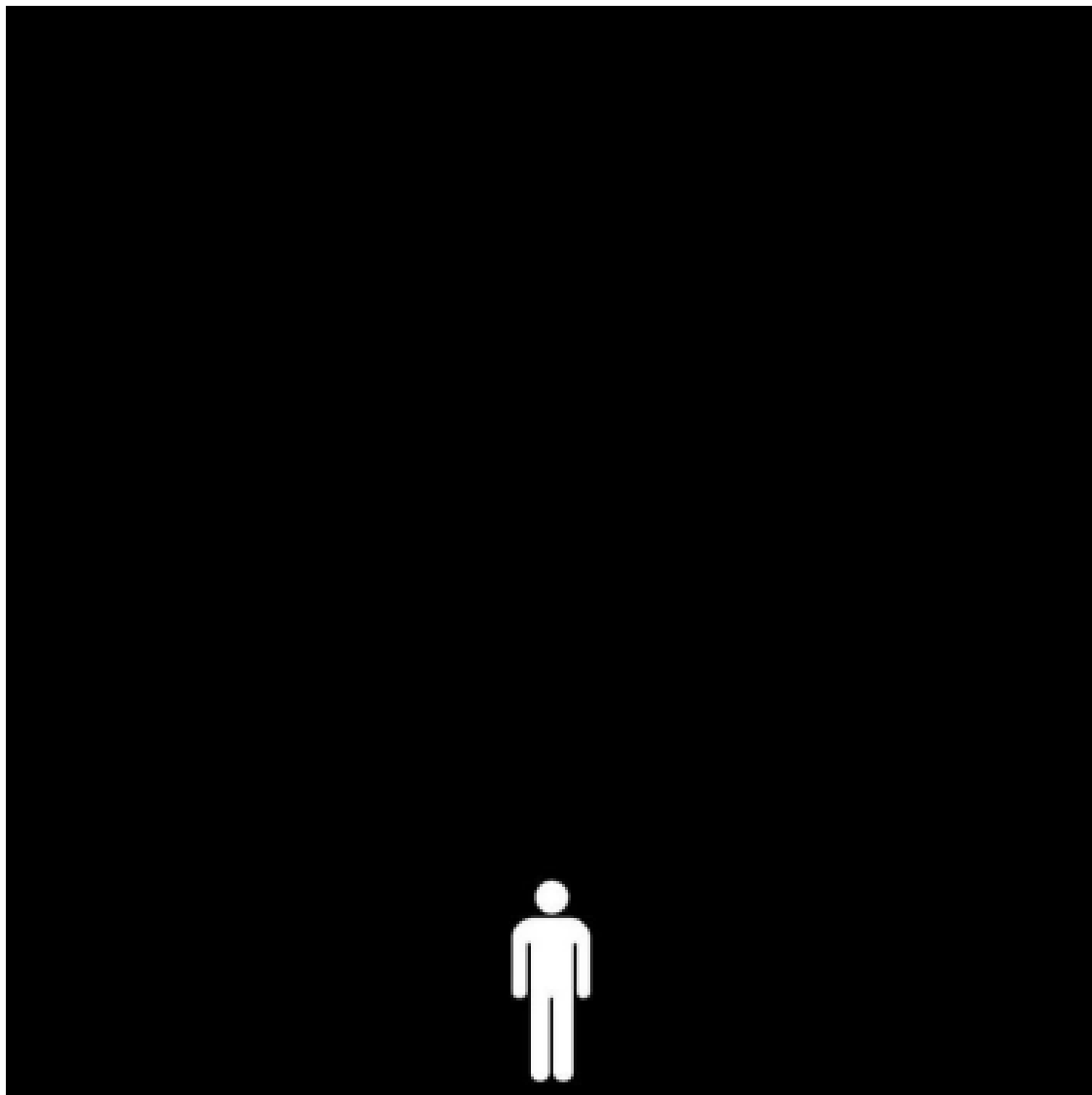
*“Large horizontal surface attached to or suspended from building structure”*



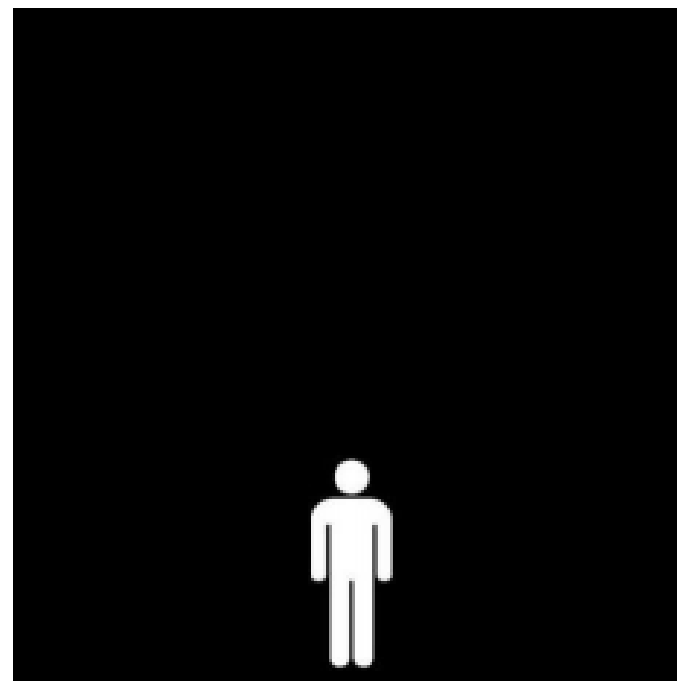
# Suspended Ceiling



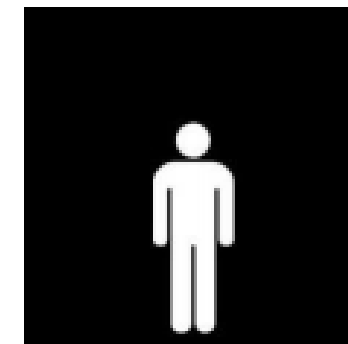
# CEILING DESIGN: SCALE



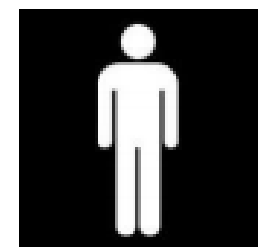
MONUMENTAL



GENEROUS



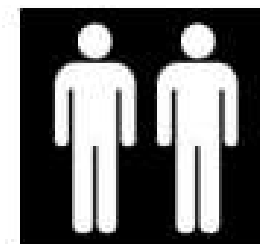
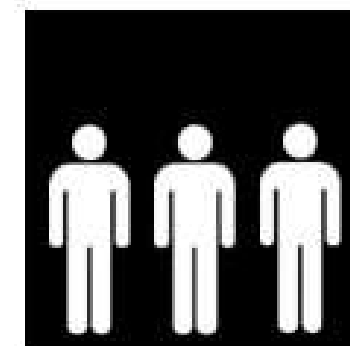
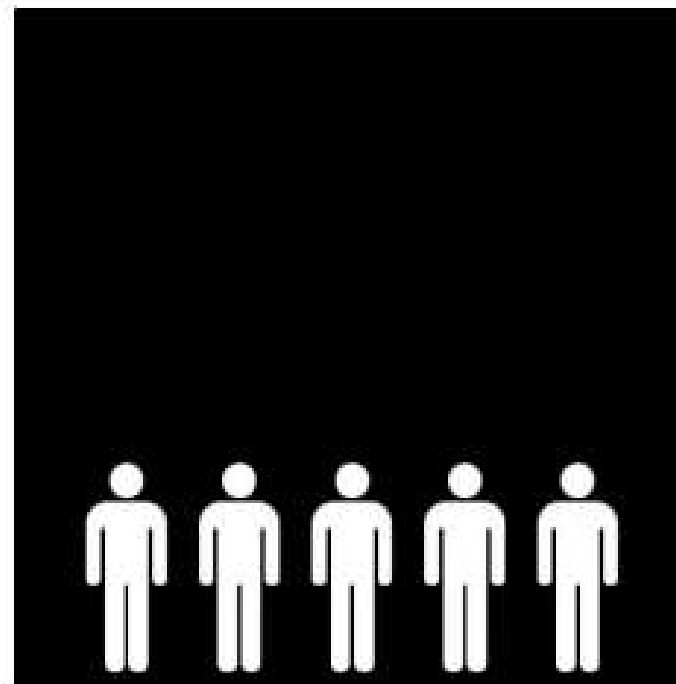
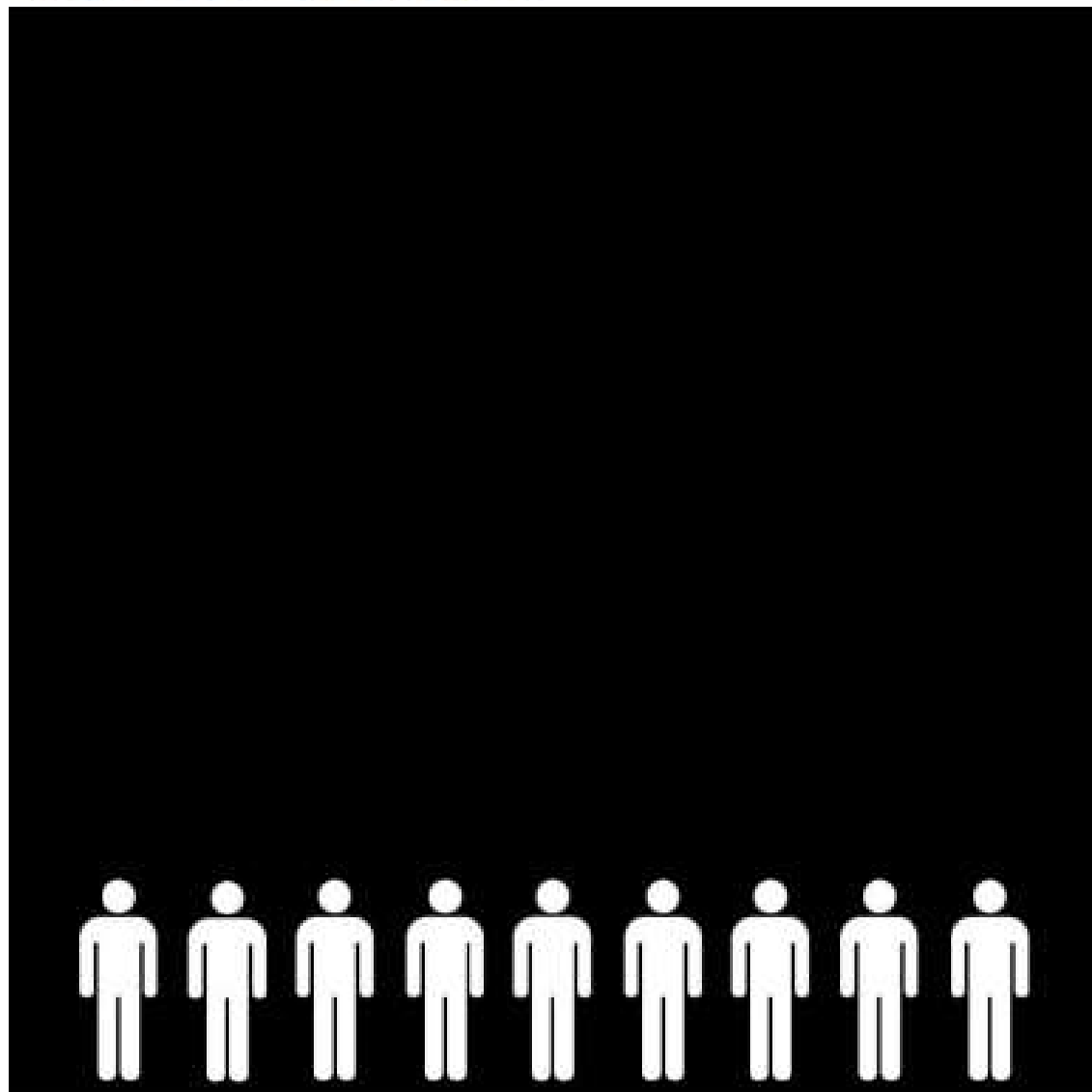
FUNCTIONAL



INTIMATE

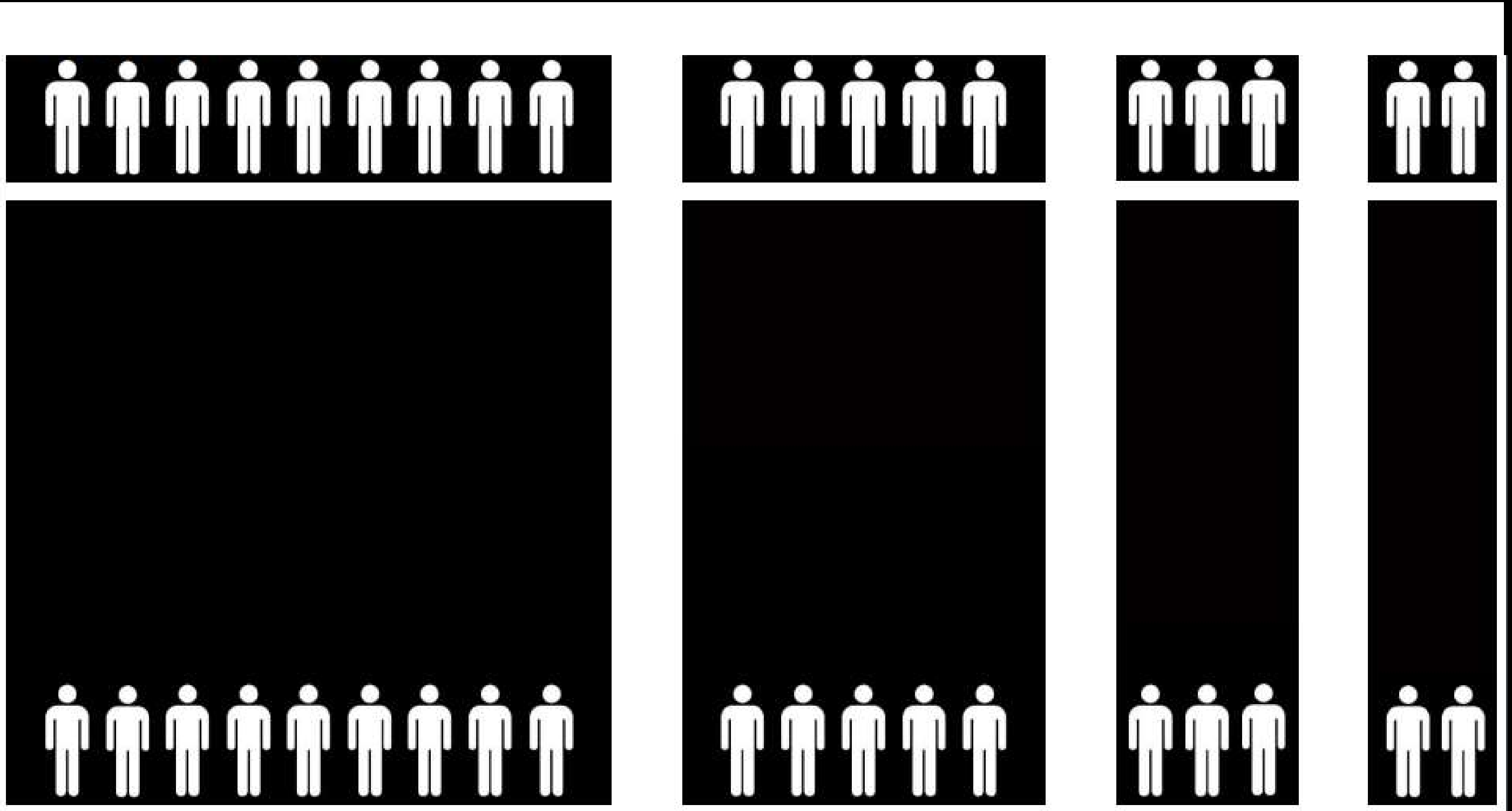
# CEILING DESIGN: SCALE

CROWDING



# CEILING DESIGN: SCALE

## PROPORTION





# MONUMENTAL

## DEFINITIONS

Elements:

- Planes
- Coves
- Slots

- Soffits
- **Coffers**
- Headers

## MATERIALS

- Gypsum
- **Plaster**
- Acoustic grids
- Wood

- Plastic
- Fabric
- **Metal**
- **Glass**
- **Concrete**

## DEFINITIONS

Elements:

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# GENEROUS



# FUNCTIONAL



## DEFINITIONS

Elements:

- Planes
- Coves
- Slots
- Soffits
- Coffers
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## MATERIALS

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## DEFINITIONS

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- Slates

## MATERIALS

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- Glass
- Concrete

# INTIMATE

# BALANCE





## DEFINITIONS

Elements:

- Planes
- Coves
- Slots
- Soffits
- Coffers
- Headers
- Slates

## MATERIALS

- Gypsum
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# SPATIAL DEFINITION



## DEFINITIONS

Elements:

- Planes
- Coves
- Slots
- Soffits
- Coffers
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- Slates

## MATERIALS

- Gypsum
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# SPATIAL DEFINITION



## DEFINITIONS

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## MATERIALS

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# SPATIAL COHESION



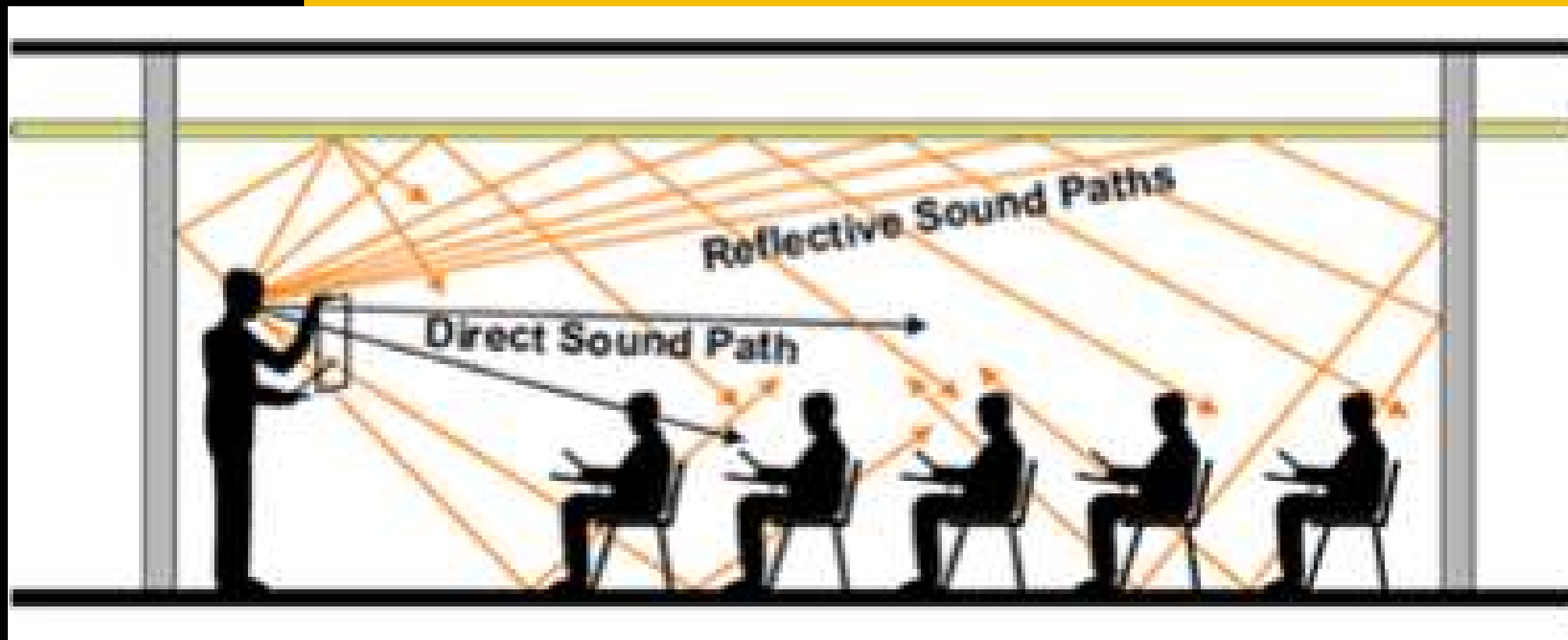
# ACOUSTICS

Sound Reflection / Reverberation

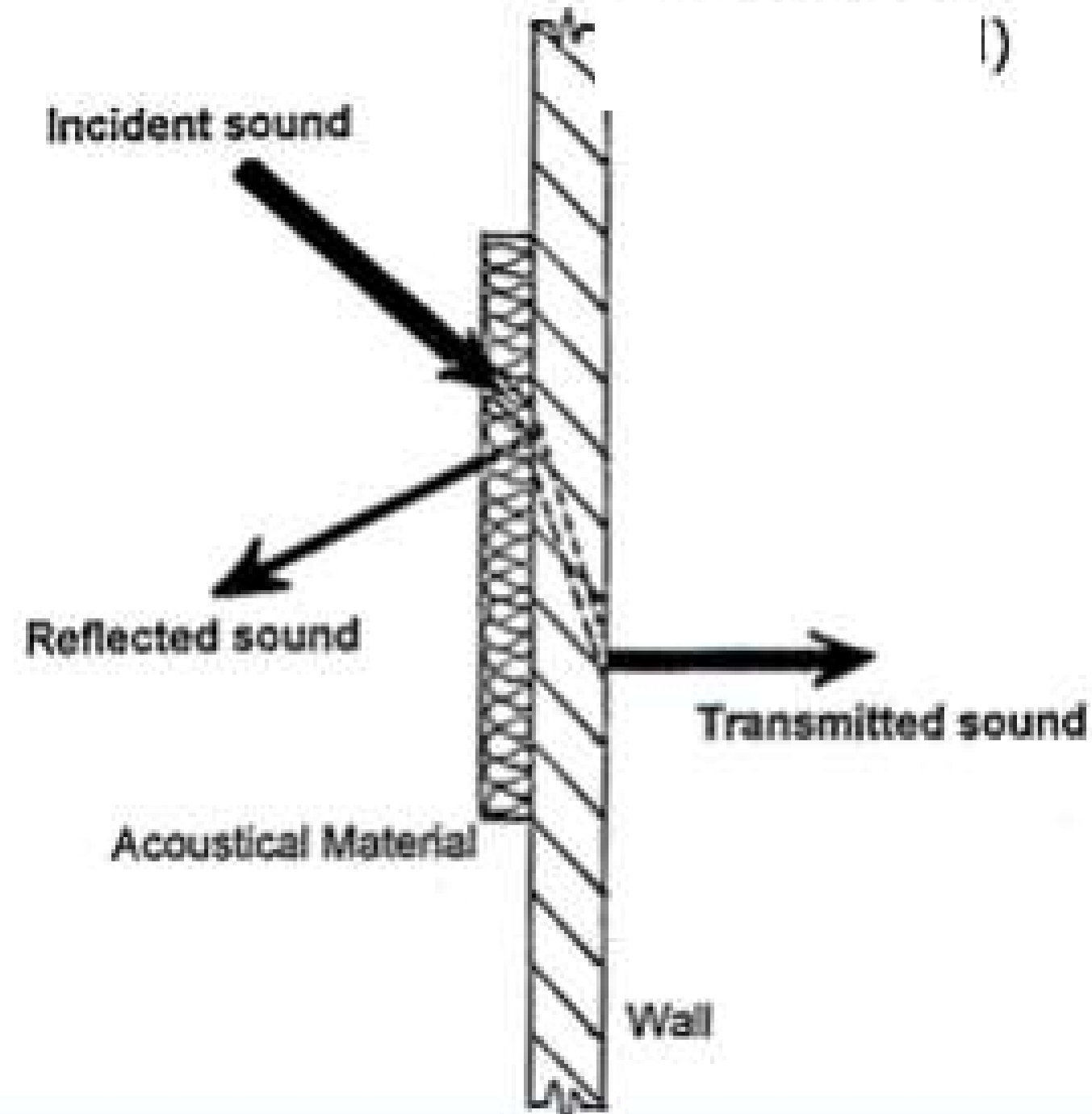
Sound Absorption / Transmission

*Reverberation is the time it takes for reflected sound to die down by 60 decibels from the cessation of the original sound signal (measured in seconds)*

# SOUND ABSORPTION/REVERBERATION



- Reflected sound tends to build up to a level louder than direct sound. Reflected sounds **MASK** direct sound.
- Late arriving reflections tend to **SMEAR** the direct sound signal.



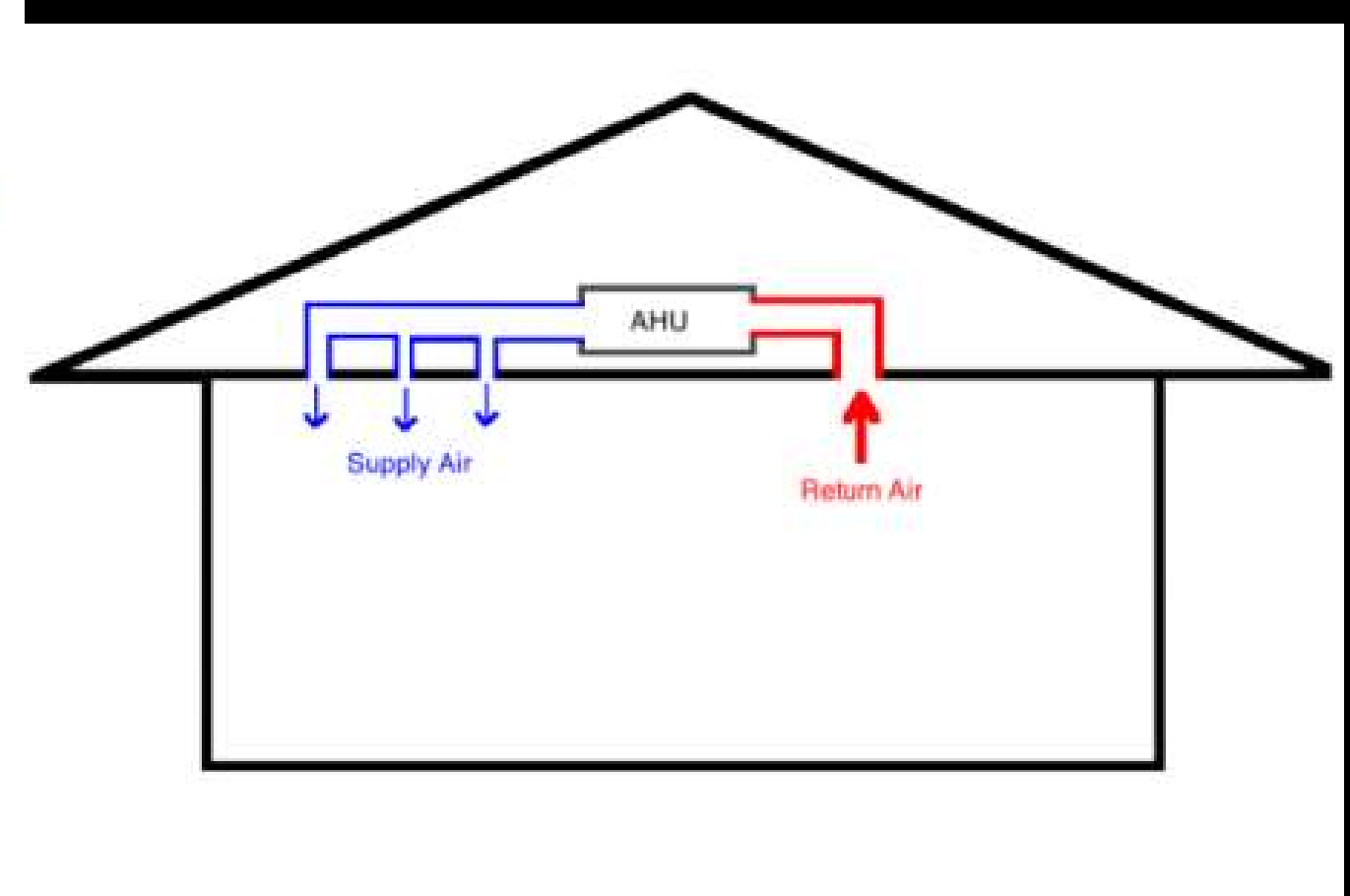
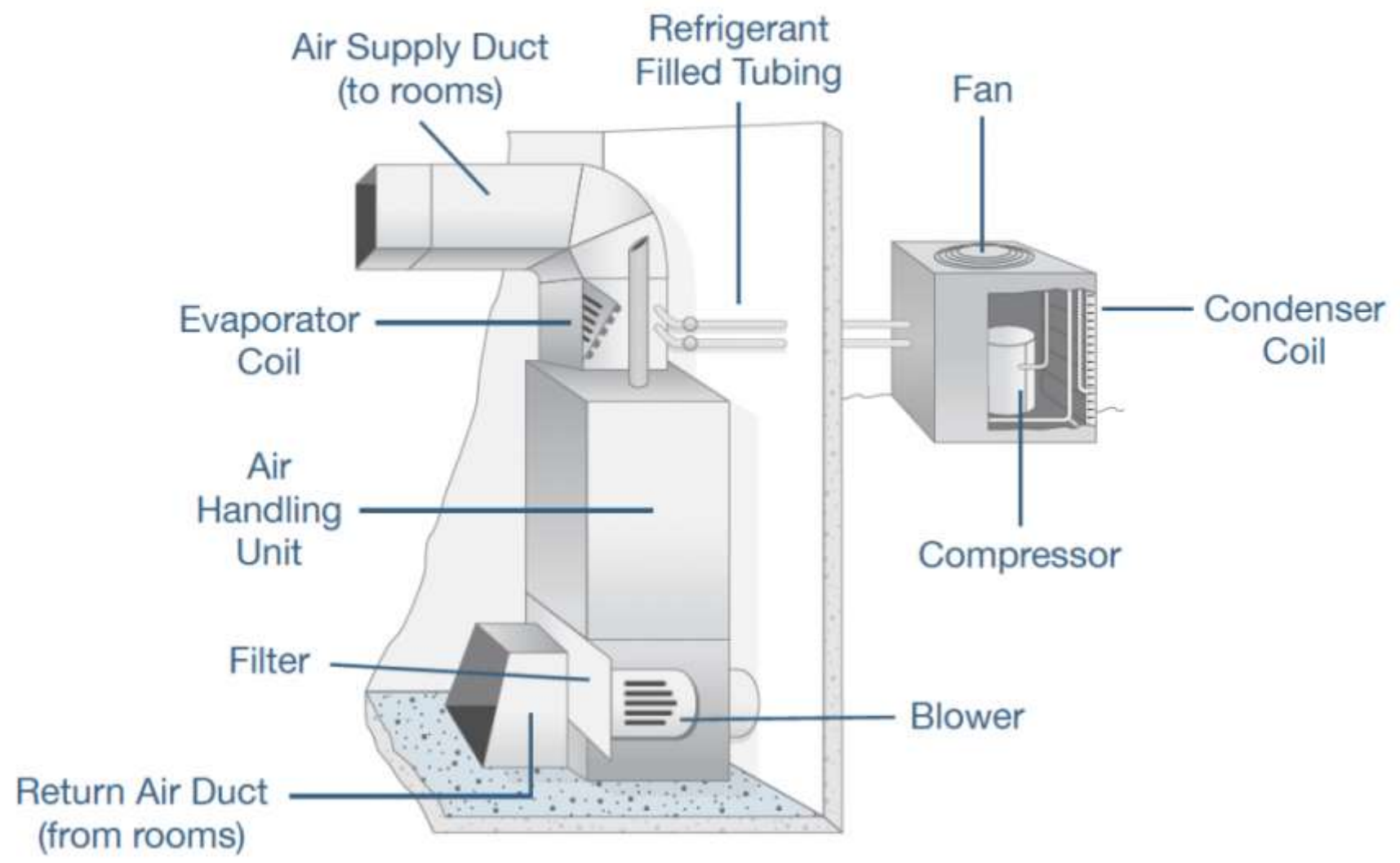
# SOUND ABSORPTION/TRANSMISSION



**WHICH WILL BE BEST...ACOUSTICALLY**



**HVAC**



# HVAC DIAGRAM

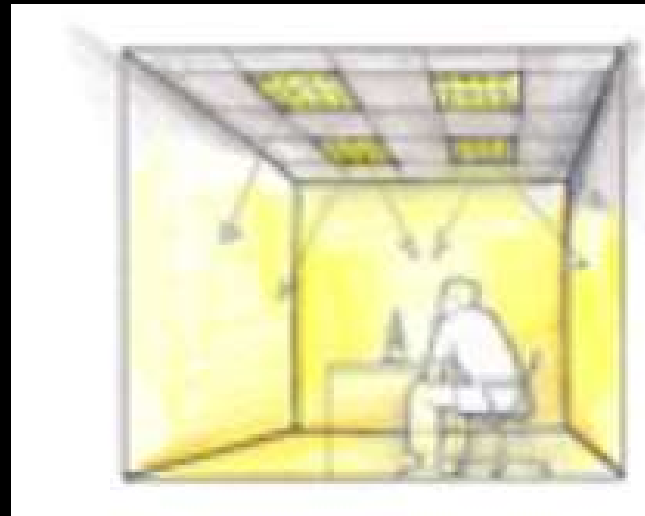


# LIGHTING DESIGN

## BASICS

# ...WHAT DOES IT DO...

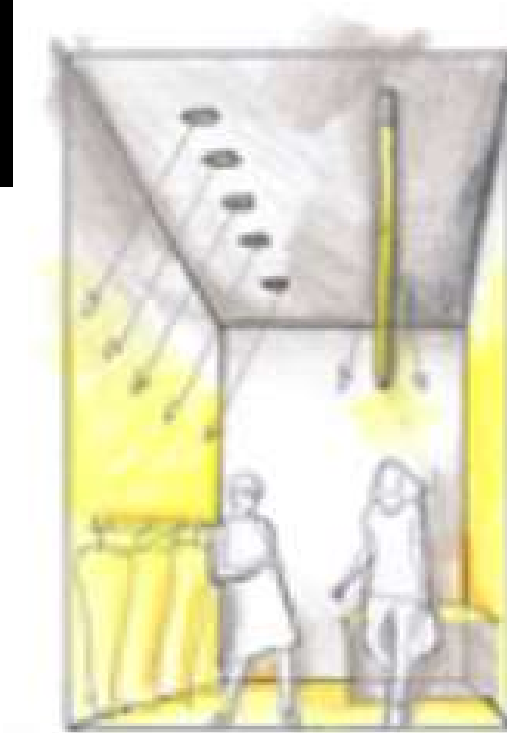
- 
- Sets the desired mood for the space
  - Directs and concentrate attention where you want it.
  - Aids users in seeing texture and materiality by controlling light and shadow
  - Emphasizes and modifies spatial perception



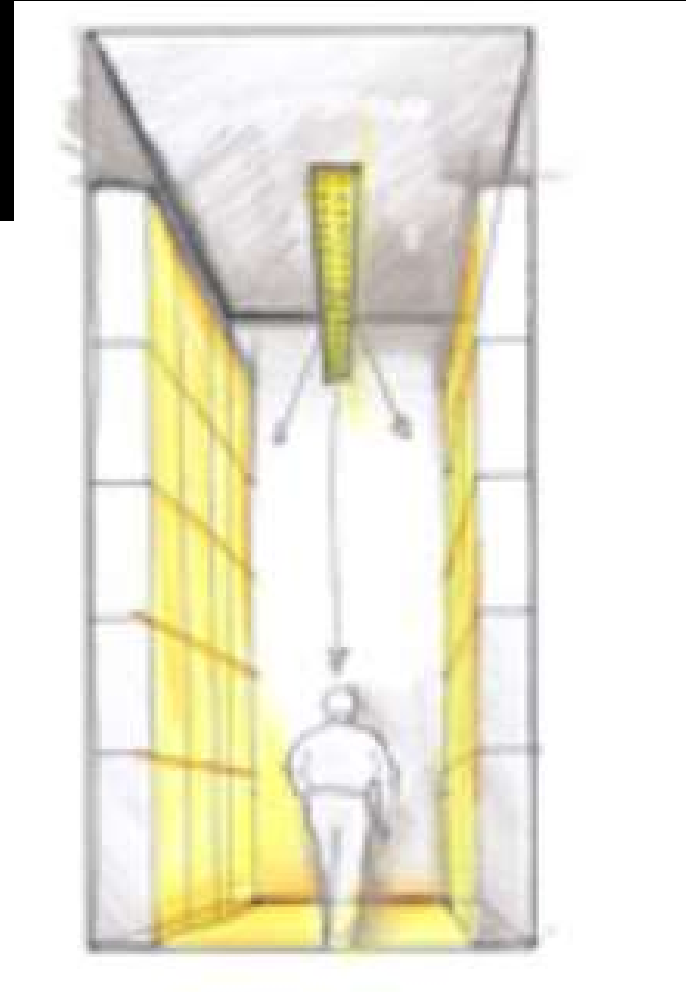
**OFFICE**



**SCHOOL**



**SHOP**



**INDUSTRY**

***1 2X2 FIXTURE PER 60 SQ FT***

**RULE OF THUMB...**



**AMBIENT  
TASK  
ACCENT**



**AMBIENT  
FOCAL  
TASK  
DECORATIVE**

# **LAYER METHOD**



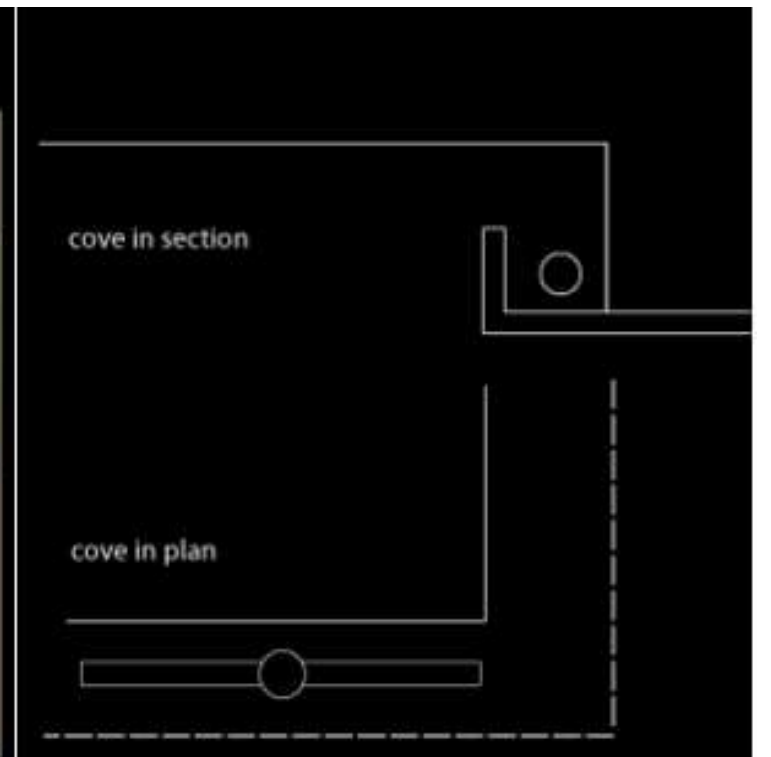
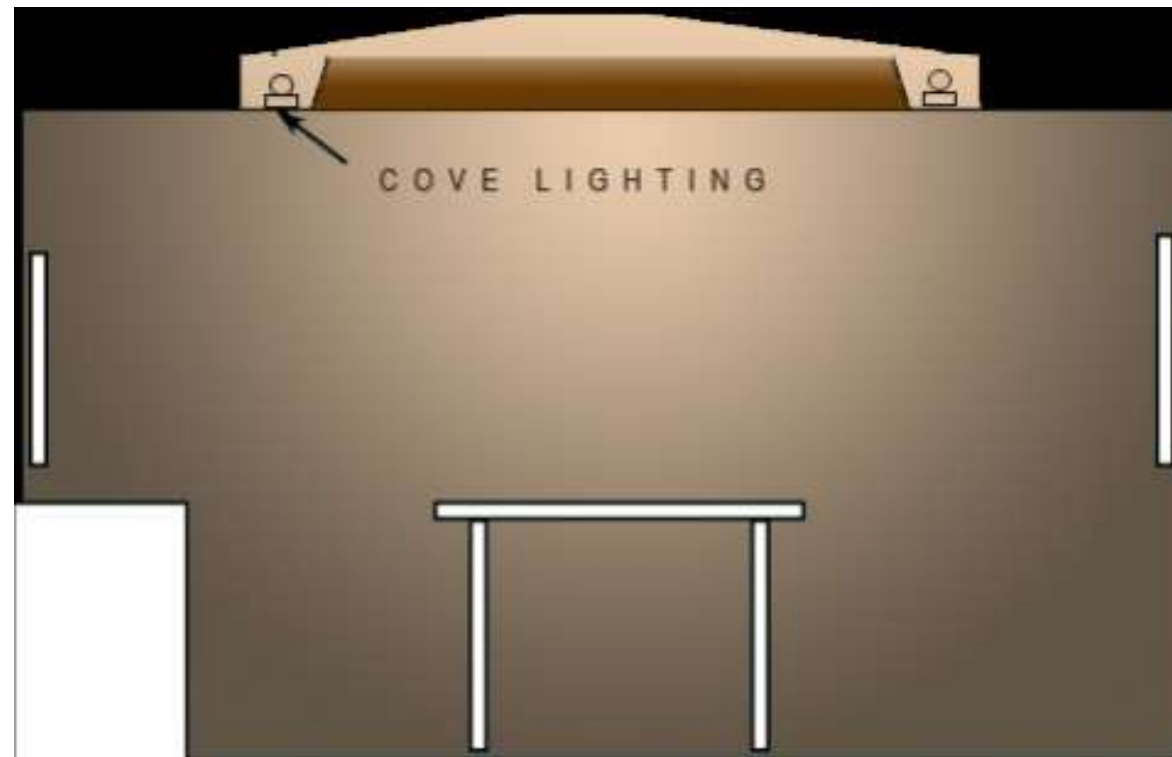
**Establishes Mood.**  
**THINK low or high**  
**Ambient light levels.**

- Called “general lighting”
  - . at task levels (30-50 fc or more).
- Called “ambient lighting”
  - . lower than task levels

**Techniques :**

- Uniform downlighting,
- Indirect lighting
  - . Uplighting
  - . Slot lighting
  - . Cove lighting

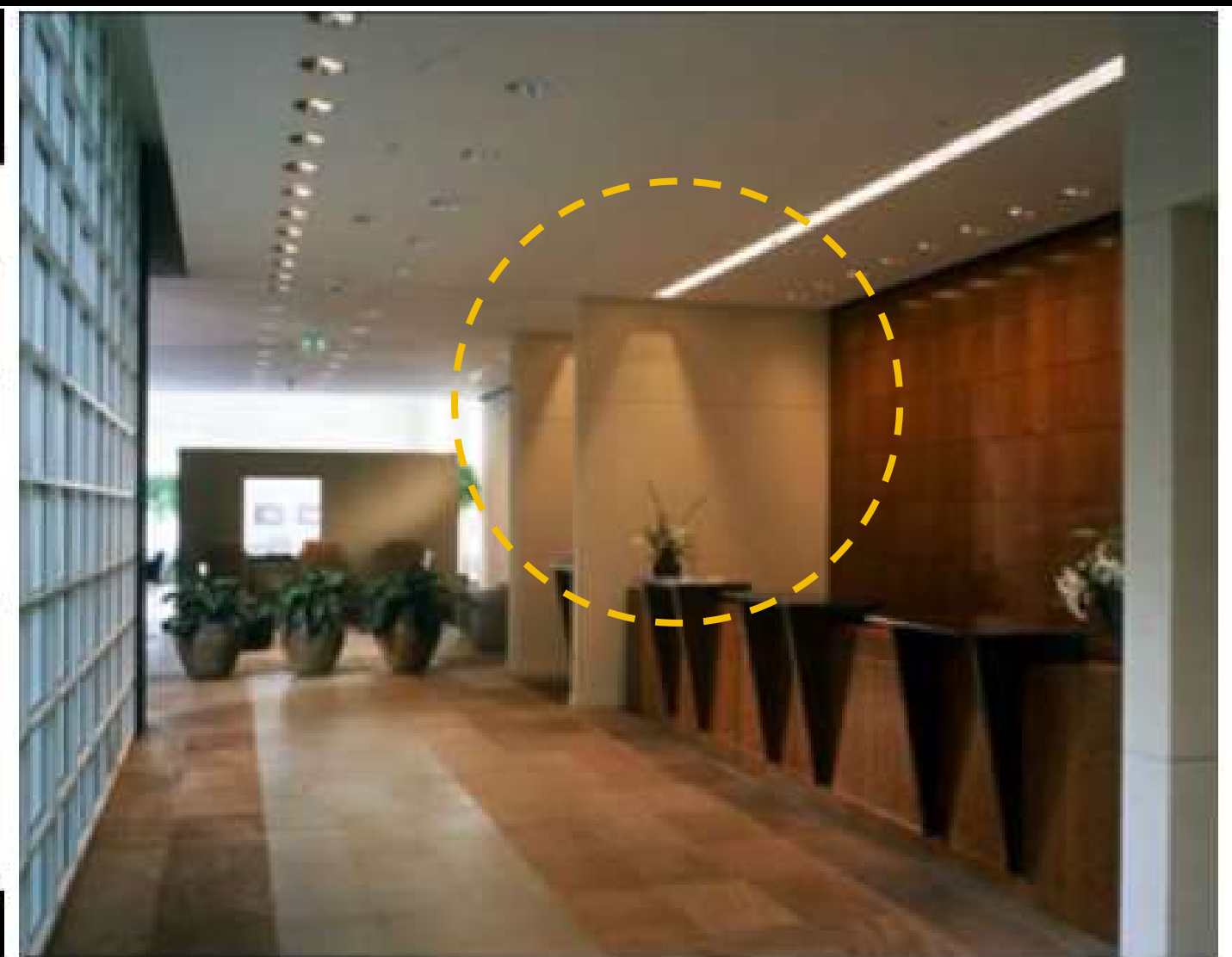
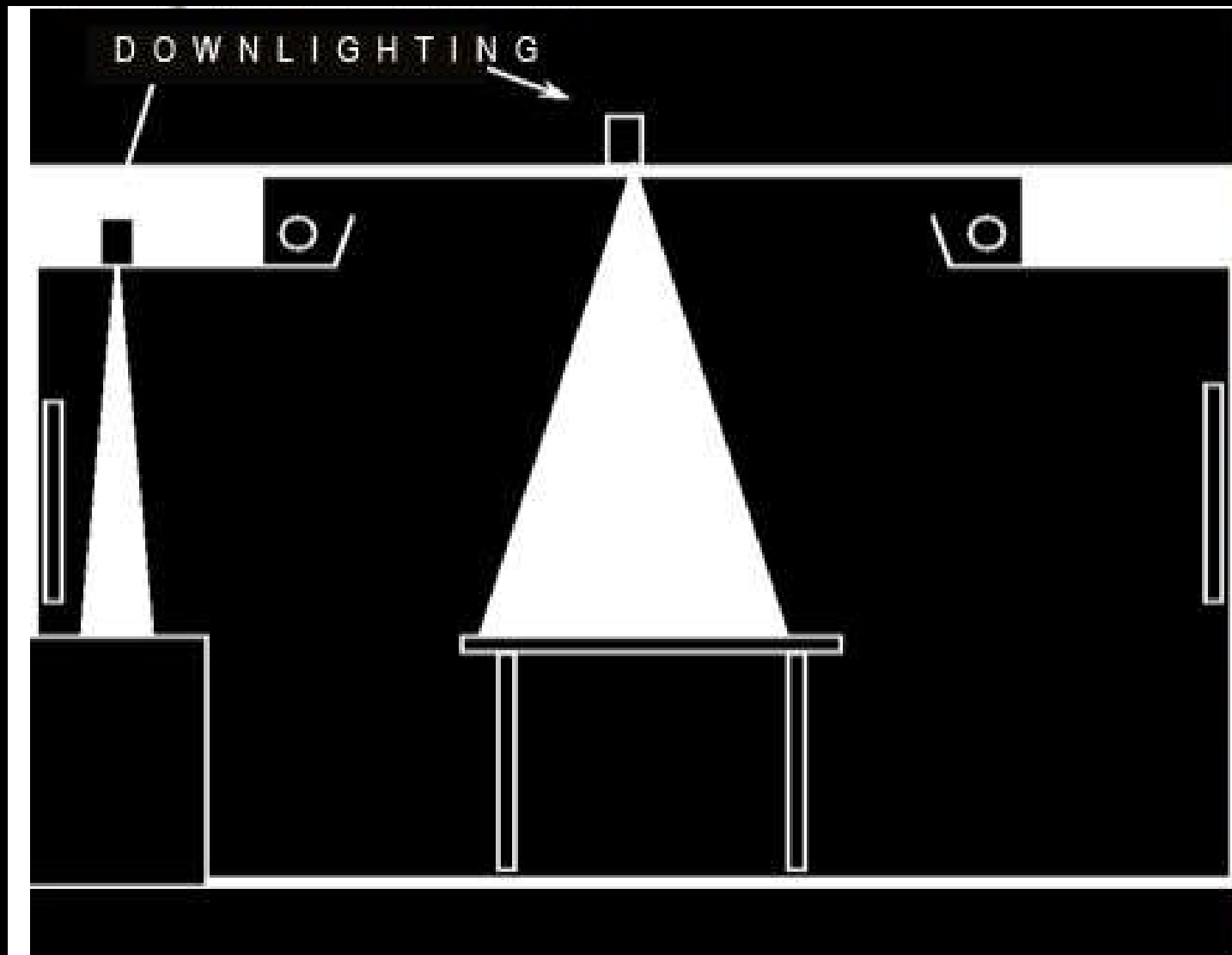
**AMBIENT LIGHT LAYER**



# COVE LIGHTING



**WALL LIGHTING**



**TASK LAYER**



**FOCAL LAYER**



# BAR LIGHTING



**DECORATIVE LAYER**










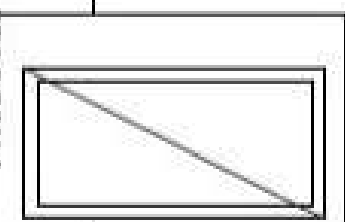
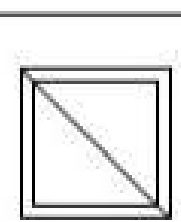






# REFLECTING CEILING PLAN RCP

- Lighting locations – Showing the location where connecting to the electric system
- Type of light fixture – Is it a sconce, Ceiling or recessed light use symbol provide legend
- Notes referring to the type of fixture or instructions – Is it a clg. Fan, it might need more support
- Drops or ceiling height changes
- Notes referring to another floor
- Exhaust fans or exhaust hoods
- Air diffusers and vents/HVAC
- Speakers from stereos or other communication devices
- Smoke/fire/carbon monoxide/fire protection/alarm devices
- Any item decorative or structural, which touches the ceiling
- Do not show windows or doors – show lighter lines where door would be
- If its on RCP it is in a continuous line

**SOME ITEMS INCLUDED IN RCP's PLANS**

## COMMERCIAL LIGHTING LEGEND LIGHT TYPE SYMBOLS

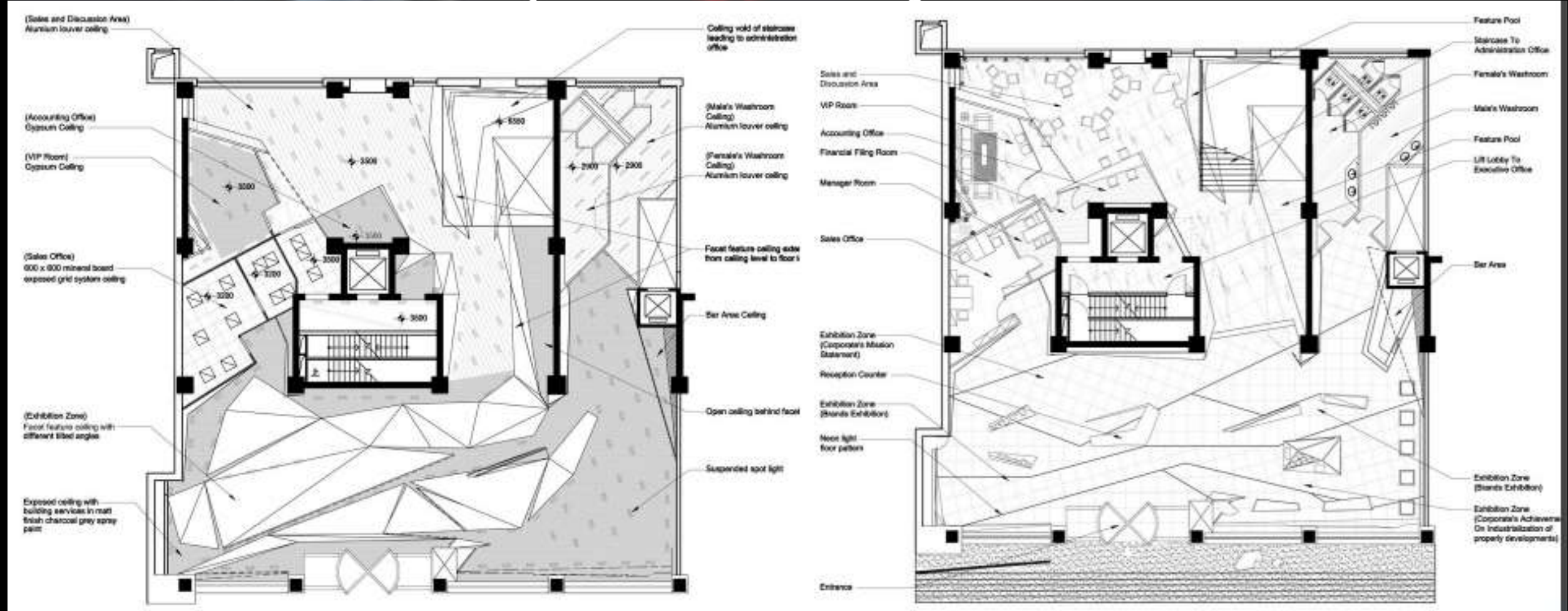
	Wall sconce - A Light Mounted on Wall at 5'6"+- Off Floor	
	Recessed Light - Directional	
	Recessed Light - A Light Installed in the Ceiling	
	Under Cabinet Light As Long as Necessary - Goes under any Cabinet, Shelf, In Cabinet	
	Ceiling Mounted Fixture - Attached to the Ceiling- Also use for Track Lighting	
	Ceiling Mounted Fan - Will need more support in Ceiling	
	Bath light and fan	
	Track Lighting Add Lights as Necessary	
	Cove Light As Long as Necessary	
		2'x4' or 2'x2' Fluorescent Troffer
	Cable Location TV	
	Cable Location For Internet Service For Computer	
	Motion Detector	
	Speaker	

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**LIGHT TYPE SYMBOLS**

# RCP EXAMPLES



# RCP EXAMPLES

