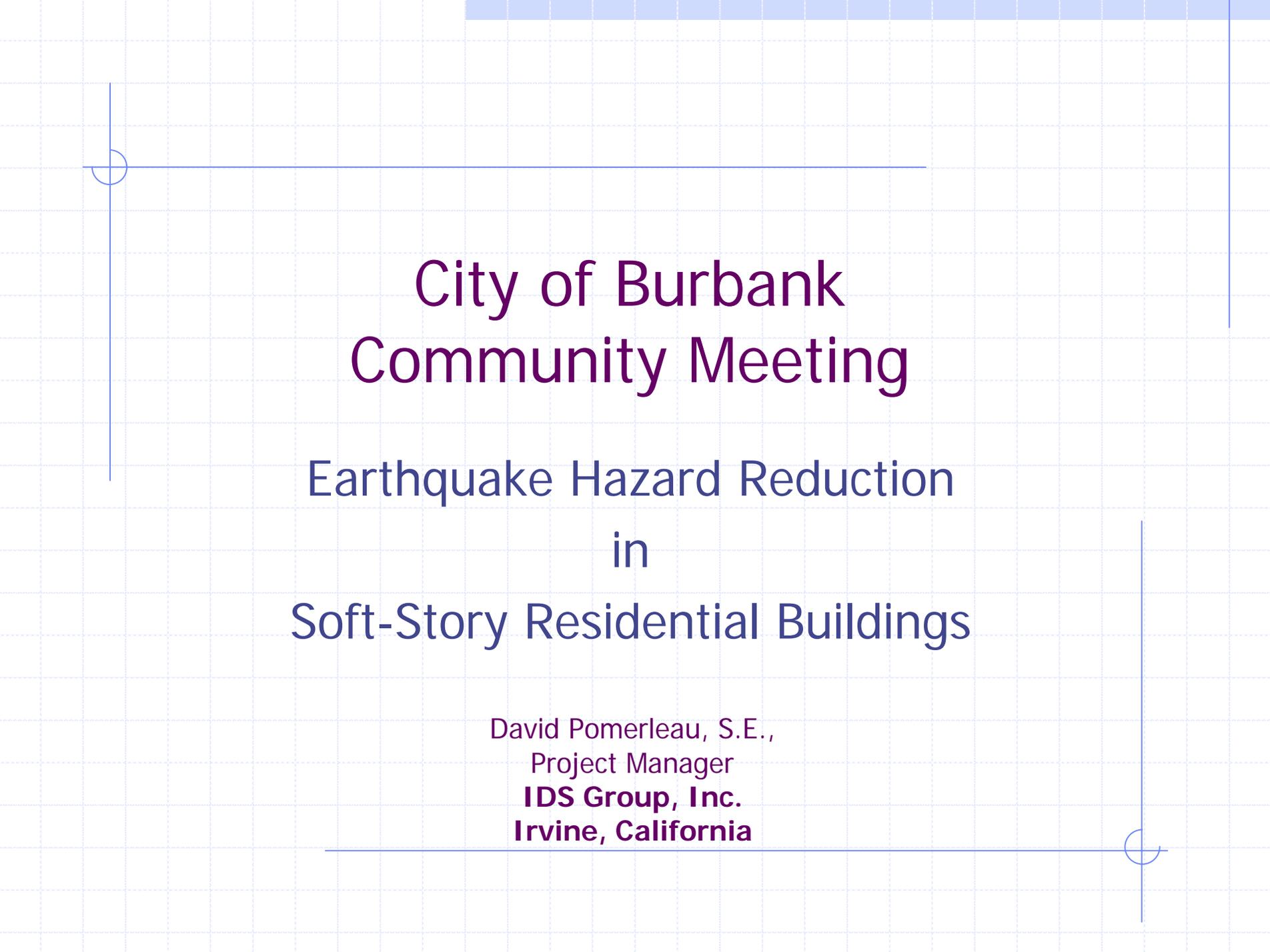


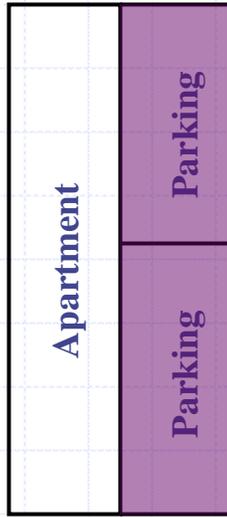
# City of Burbank Community Meeting

## Earthquake Hazard Reduction in Soft-Story Residential Buildings

David Pomerleau, S.E.,  
Project Manager  
**IDS Group, Inc.**  
**Irvine, California**



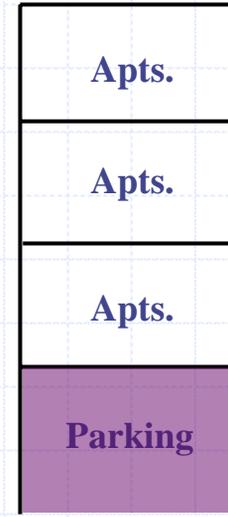
# Several Common Building Types



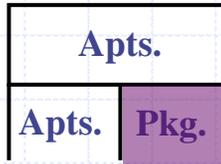
Plan View



Plan View



Plan View

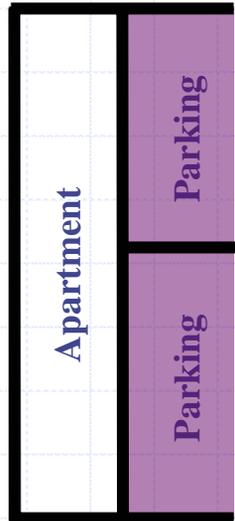


Section View

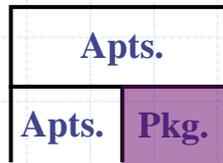


Section View

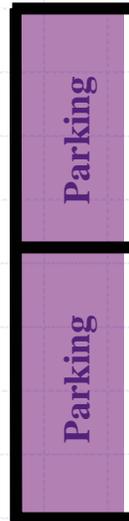
# Several Common Building Types



Plan View



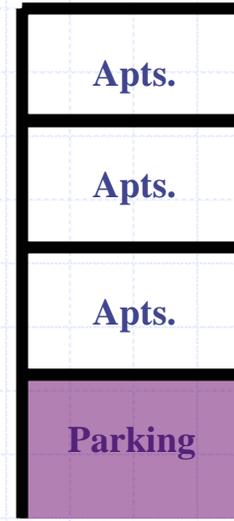
Section View



Plan View



Section View



Plan View

# Example Photos



# Example Photos



Photo by: Ben Schmid, 2000

# Example Photos



Photo by: Ben Schmid, 2000

# Example Photos



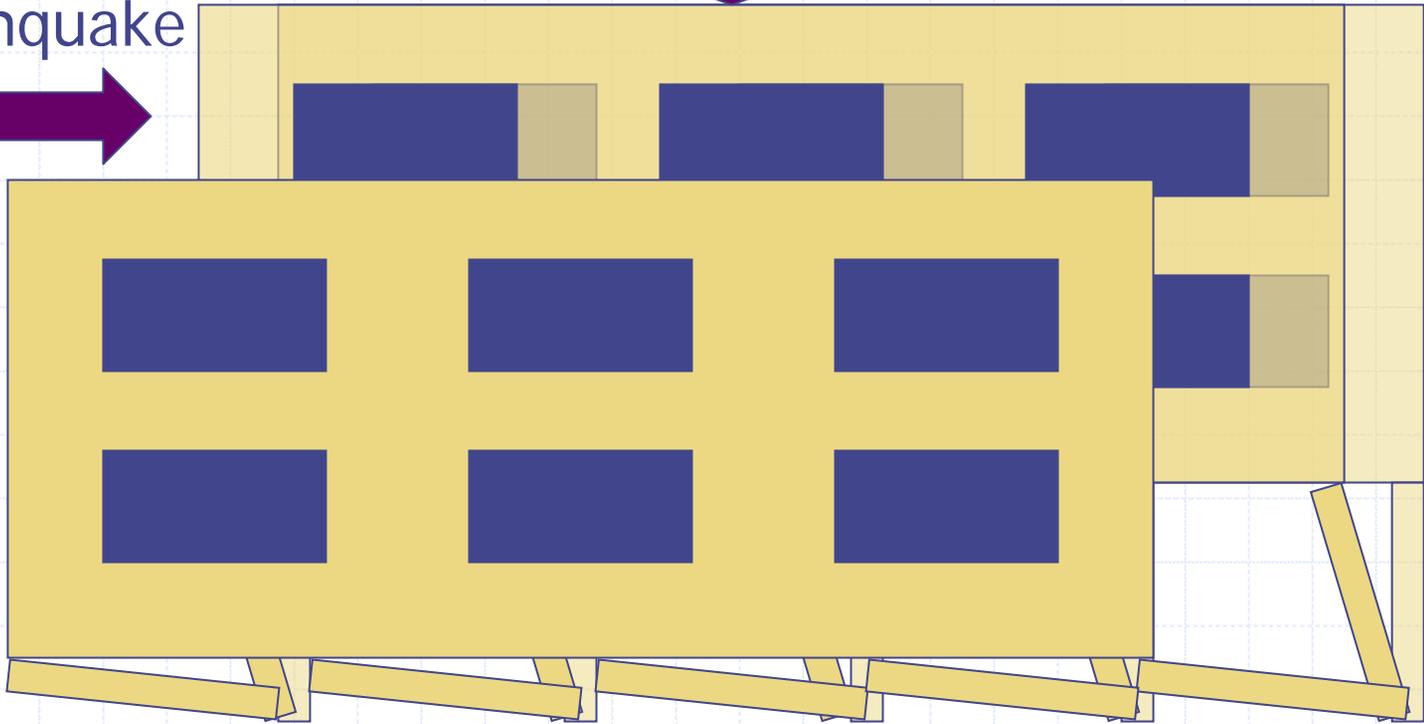
# Example Photos



Gravity



Earthquake



# Types of Observed Damage



# Types of Observed Damage



Photo by: Karl Steinbrugge, 1971

# Types of Observed Damage

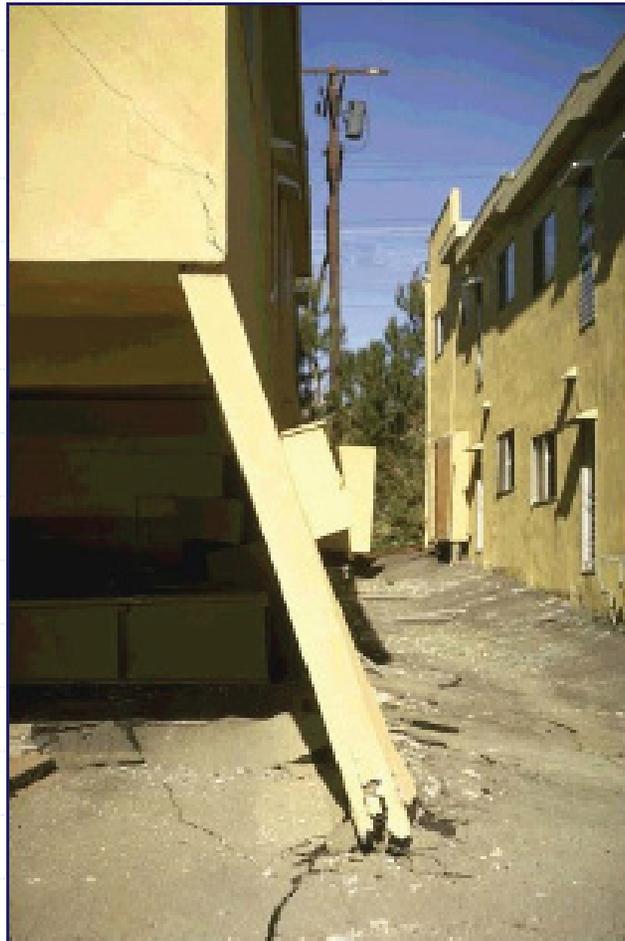


Photo by: Karl Steinbrugge, 1971

# Types of Observed Damage



Photo by: Ben Schmid, 1994

# Types of Observed Damage



Photo by: Ben Schmid, 1994

# Types of Observed Damage



# Types of Observed Damage



Photo by: J. Dewey, U.S.G.S., 1994

# Types of Observed Damage

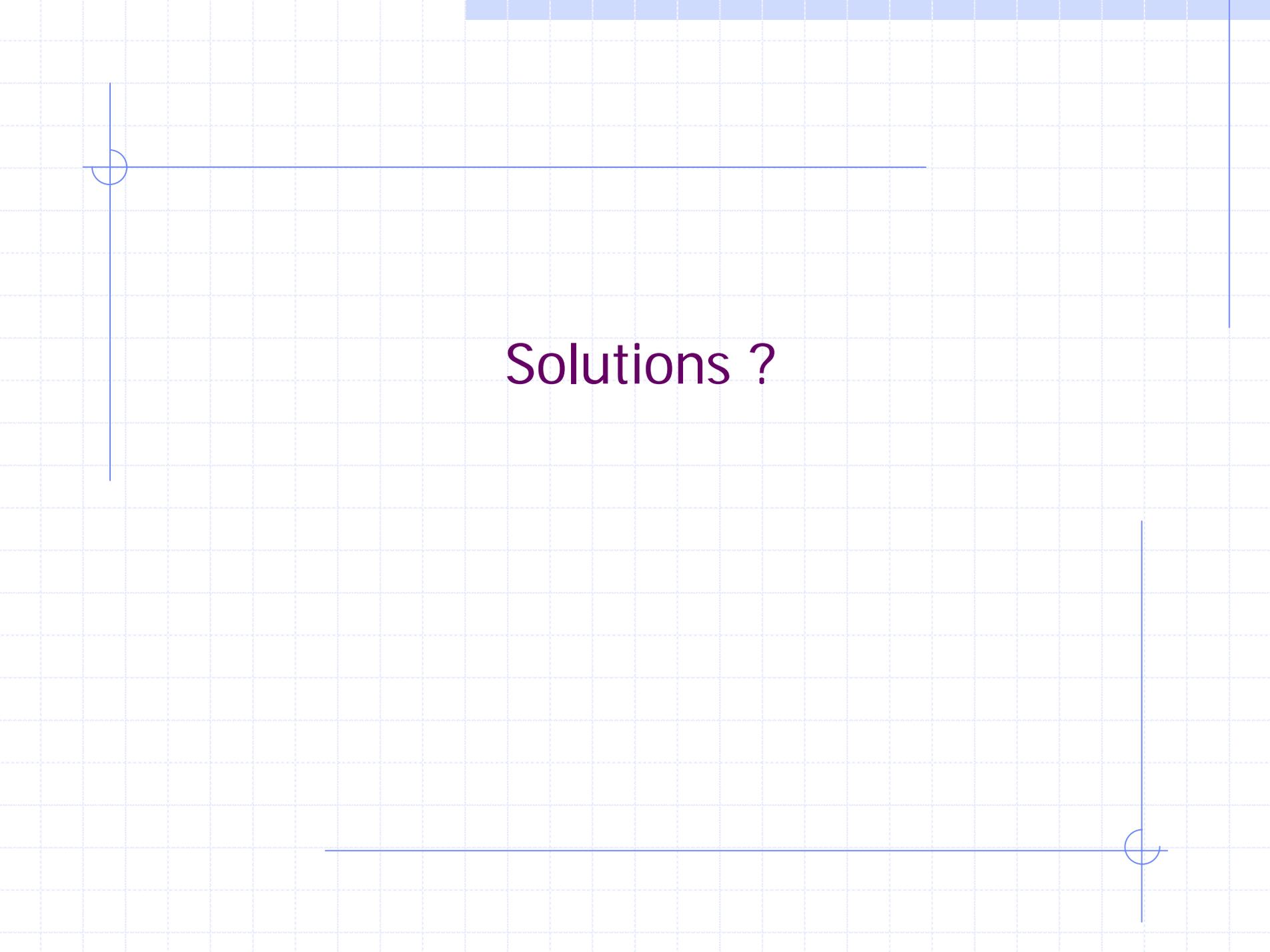


# Types of Observed Damage



# Types of Observed Damage





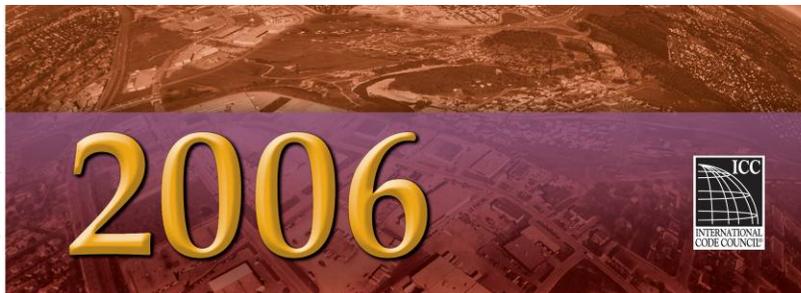
Solutions ?

# International Existing Building Code Appendix A4



CHAPTER A4

EARTHQUAKE HAZARD REDUCTION  
IN EXISTING WOOD-FRAME RESIDENTIAL BUILDINGS  
WITH SOFT, WEAK OR OPEN-FRONT WALLS



# IEBC A4 - Basic Objectives

## ◆ Risk Reduction

- Retrofit Building Not Equal to New Construction
- Doesn't Aim to Protect Property or Function

## ◆ Reduce the Effects of those Problems with

- Less Design Effort
- Lower Construction Cost
- Less Tenant Disruption

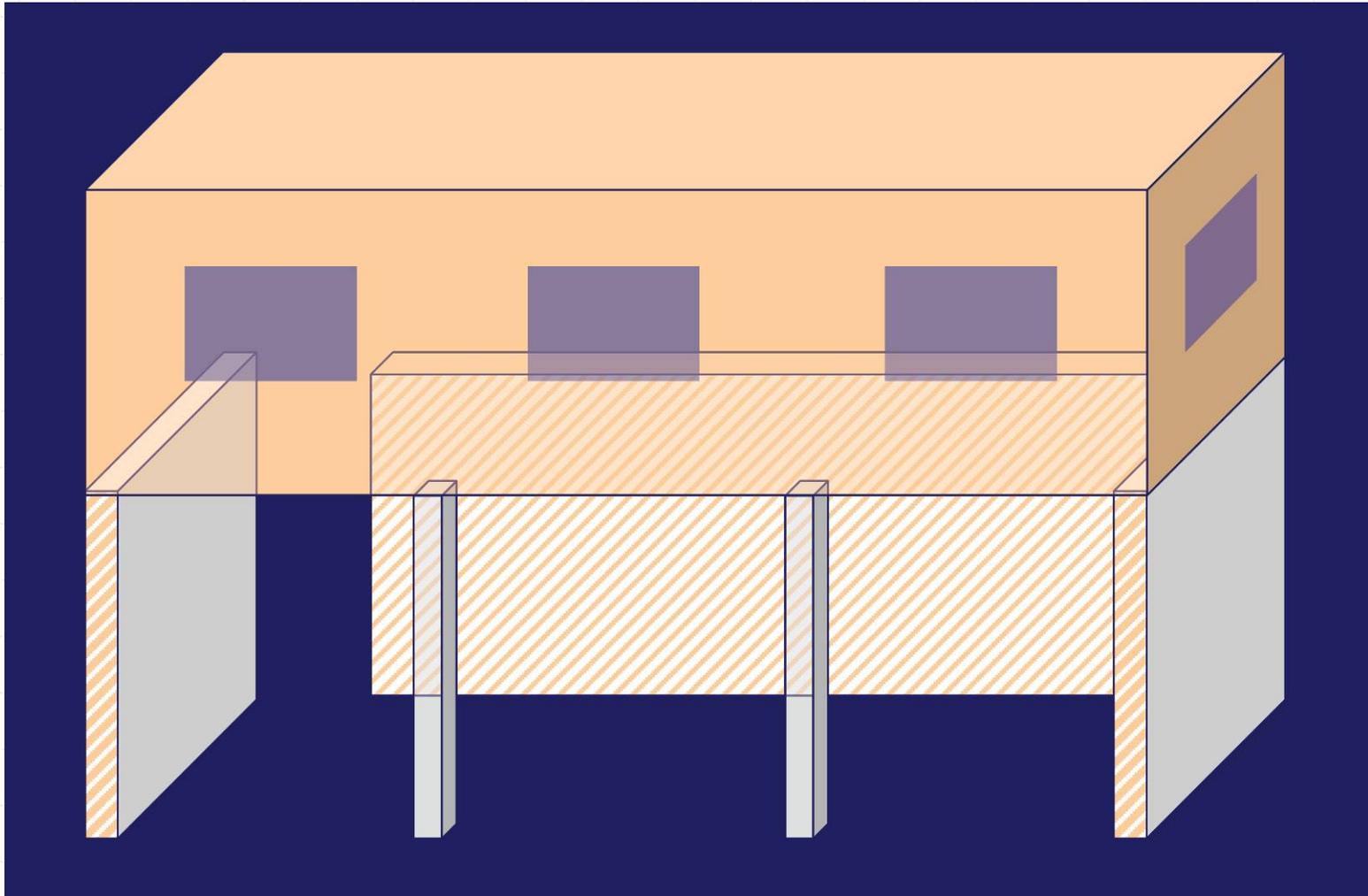
# IEBC A4 – Provisions

- ◆ Address Major Performance Problems
  - Focus is on the First Story
  - Not a Comprehensive Evaluation
  - No Requirements for Other Hazards
- ◆ Two Methods of Compliance
  - Prescriptive Method (Must meet specific requirements)
  - Evaluation Method
  - Submittal Requirements Apply to Both Methods

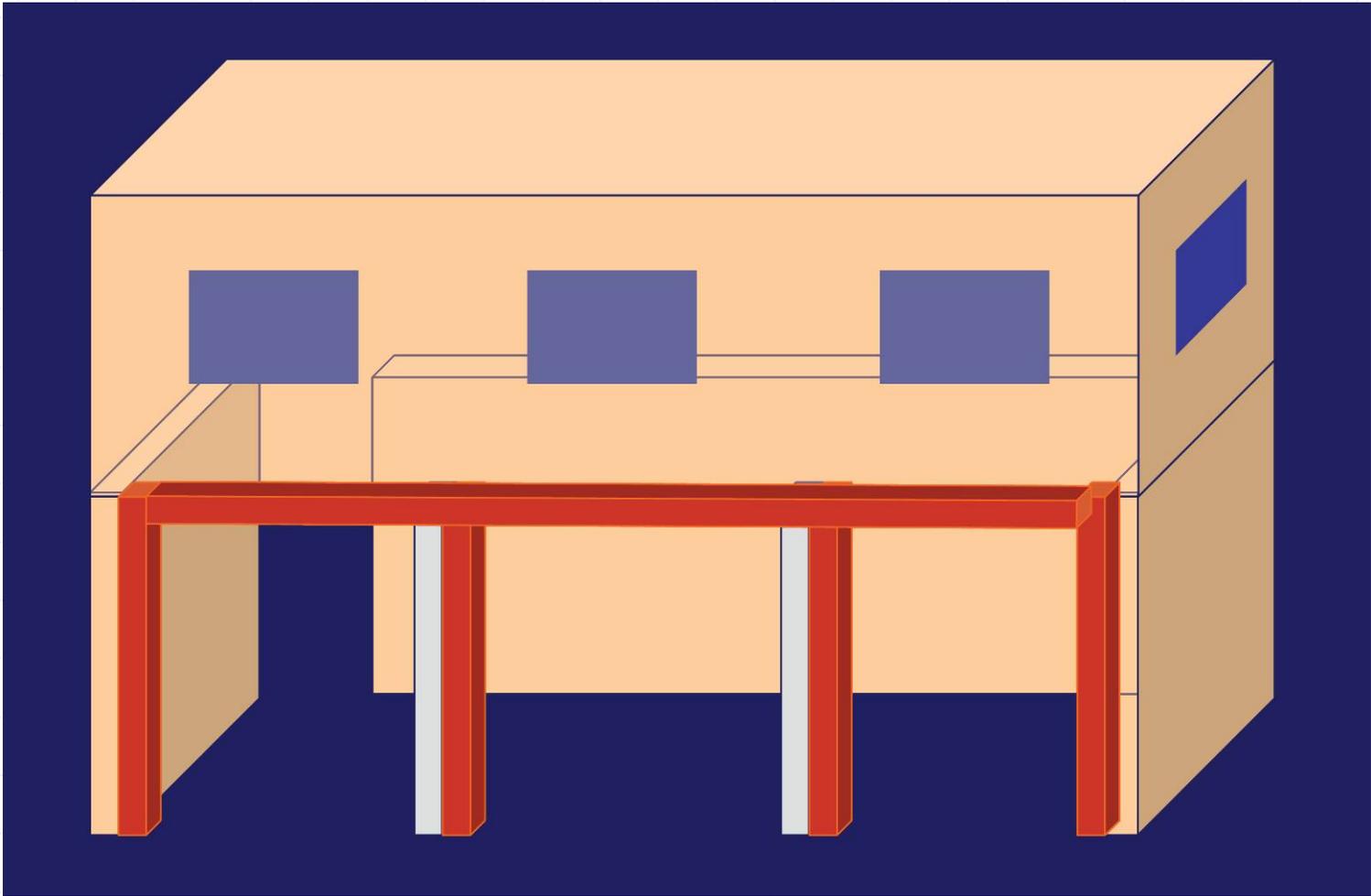
The image features a light blue dashed grid background. A solid blue horizontal line spans across the top, and a solid blue vertical line runs down the right side. At the top-left corner, there is a blue L-shaped line with a small circle at its vertex. At the bottom-right corner, there is a blue L-shaped line with a small circle at its vertex. The text "Retrofits ?" is centered in a dark purple font.

Retrofits ?

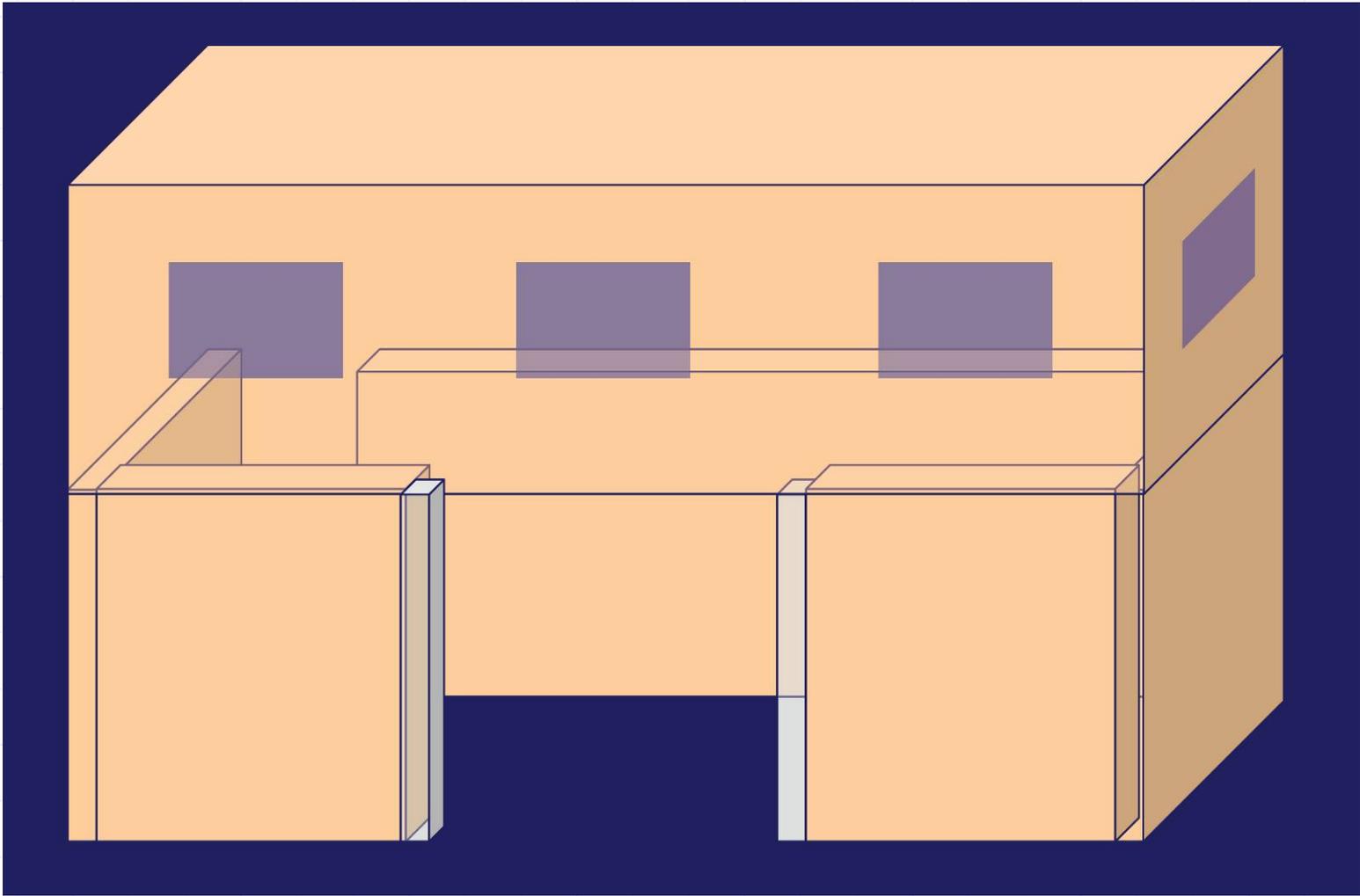
# Enhance Existing Walls



# Add Moment Frames



# Add Shearwalls



Any Questions ?