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IMPLICATIONS OF MAJOR INTERNATIONAL CODAL DESIGN PROVISIONS FOR OPEN GROUND STOREY BUILDINGS: REVIEW

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Abstract - *Parking is a major concern for residential apartments in populated cities. Therefore, the building is being used in the land store for the building. The "Open Ground Story" (OGS) building is a building that is free to any Infilled building wall of ground water. Such buildings are very common in India for parking purposes. Common design practices are ignored infill wall strength and energy in infilled frame buildings in structural modeling. Such designs will usually be conservative in the form of fully tight structures. But in the case of an OGS-frame building, the behavior is different. In the OGS Spit Building, there is a slightly shiny, large drift (especially in geo-politics) compared to bare frames, and the failure of soft structures on the underground floor.*

In the current study, a common ten Storied OGS Framed Building is considered and the building is considered as a seismic zone-vim. For Ground Star Colors, the design teams are evaluated by Indians, Euro, Israel, Bulgarian code, and Koshak.L. (2009) on the basis of various Indian codes. Various OGS frames MF as 1.0, 2.1 (Israel) 2.5 (Indian), 3.0 (Bulgarian), 3.79 (Kaushik et al, 2009) and 4.68 (Euro). The performance of each building is studied using the process of laminate analyzed by Cornell and Al (2002), the uncertainty of concrete, steel and shiny walls is calculated. Third computational model has been developed in the semicolon (2012) program to analyze the analysis of the dynamics of each media. According to the Indian Code, for compilation of thirty natural history (ISO 1893-2002) was selected and the reaction was modified to select spectrum. In the current study, the construction of each building is made of bad breath curves

On the first floor of the OGS Building, it is found to be more risky when the soil level columns are designed in 2.5, 3.0 or more MF. Star Ground and the first Star Israel code applies, which makes the stars closer to the ratio of the proportion of the loading ability of the staff to demand a similar shear.

Key Words: Fragility curves, Open ground storey (OGS), Multiplication Factor (MF), Peak Ground Acceleration (PGA), Probabilistic Seismic Demand Model (PSDM)

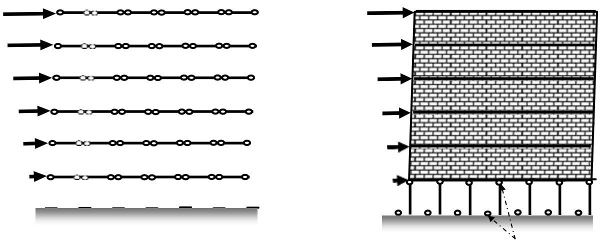
1. INTRODUCTION

1.1 Overview

Especially in developing countries in India, because of the increase in population, the need for change in urban areas becomes very important. While parking the building, the parking space plays an important role. Providing adequate parking space, building land is used in the building. In such buildings Ground Floor does not have any bending walls, but all are filled up on the floor, which is known as Open Ground Story (OGS) Building. Most of the apartments are such and the use of infill wall is essentially brick mineral. The upper stories of these buildings are harsh and the inter-colonial flow will be small, resulting in large curves, shear forces and the stocking column of the land will be in tilt moments. Therefore, the demand for strength on the columns in the land-building of buildings is very high. In most of these buildings, the previous earthquake has declined in many countries. Failure of OGS buildings is considered due to the storied system in the ground floor. In the ground floor, there is a high strain in the ground floor column under seismic loading due to lateral hardness and sudden decrease in mass. In most cases, the ground-story columns were either seriously damaged or completely failed, causing buildings to be damaged. Due to the presence of walls in the upper upper floor, apart from the approval of the land, the upper floors make the open ground more harsh than the floor. Thus, the upper floors move almost simultaneously in the form of a block, and most of the building's horizontal displacement is in the soft ground shop itself separates the behavior of the frame and OGS building filled during the Bhuj earthquake (2001). It can be seen that in the building of the left side the building on the left is infrared with minor cracks in the walls. The building on the right is an OGS frame, which has completely demolished due to the soft-stacked system in the ground floor due to the absence of the Infill wall.

1.2 OPEN GROUND STOREY (OGS)

The presence of intrusive walls in the upper floors of the OGS Building increases the hardness of the building globally, as seen in a specific infilled ready building. Due to the increase of global hardness, the demand for base shear increases on the building. In the case of building the typical infilled frame, the increased base shear is shared by both frames and infill walls in all the floors. In the OGS buildings, where the infinite walls are not present in the ground floor (no truss action), the increased base shear is completely resistant to the ground storage column, around the walls without any load loading. . In the Ground Storozol column, increased shear forces in the increased shear forces will generate momentum and curvature more, resulting in a significant decline at the level of the first floor. Large lateral deflection increases the bending moments due to the P-Δ effect. The durable plastics of the plastic develop on the top and bottom end of the storied pillars. The upper floors will remain undesirable and will move like a rough body. The damage is mostly concentrated in the ground-level column, and it is called the typical "soft-storied collapse". As shown in Figure 1.1, it is also called 'Manjila Tantra' or 'Column Tantra' in the Ground Structure. These buildings are considered weak due to the sudden decrease of hardness or strength (vertical irregularity) in the ground floor compared to building a normal infilled frame. As a result of the presence of soft story, there is a lot of localized drift, which causes a huge loss or collapse of the story during severe earthquake. Most lateral playbacks were deposited in the clearance of soft and weak ground due to the presence of heavy mass on upper stories and the absence of the ground floor and infills in plastic bracelets.



(a) bare frame (b) OGS frame

Figure 1.1 : Difference in behaviour between bare frame and OGS building

2. OBJECTIVES OF CURRENT STUDY

1. The present study is limited to reinforced concrete multi-storey framed buildings that are regular in plan.
2. The present study is based on a case study of ten storey six bays and the buildings with basement, shear wall and stiff plinth beams are not considered in this study.
3. The infill walls are assumed to be non-integral, non-load bearing and made of brick masonry.
4. Out-of-plane action of masonry walls is not considered in the study.
5. Asymmetric arrangement of infill walls are ignored and window and door openings infill panels are neglected in the modeling.

3. Methodology

Various steps to be followed to achieve the objectives are given below.

Step 1 : Select a ten storey six bay frame.

Step 2 : Design the frame as per IS 456 and IS 1893.

Step 3 : Develop Fragility curves for the designed frames as per Cornell et. al (2002)

Step 4 : Building performance levels are considered using FEMA – 356.

Step 5 : Analyse the fragility curves obtained to draw the conclusions.

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