A National Policy for Seismic Vulnerability Assessment of Buildings and Procedure for Rapid Visual Screening of Buildings for Potential Seismic Vulnerability

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Background

India has experienced several devastating earthquakes in the past resulting in a large number of deaths and severe property damage. During the last century, 4 great earthquakes struck different parts of the country: (1) 1897 Great Assam earthquake, (2) 1905 Kangra earthquake, (3) 1934 Bihar-Nepal earthquake and (4) 1950 Assam earthquake. In recent times, damaging earthquakes experienced in our country include (1) 1988 Bihar Nepal earthquake, (2) 1991 Uttarkashi earthquake, (3) 1993 Killari earthquake, (4) 1997 Jabalpur earthquake, (5) 1999 Chamoli earthquake and (6) 2001 Bhuj earthquake. The frequent occurrence of damaging earthquakes clearly demonstrates the high seismic hazard in India and highlights the need for a comprehensive earthquake disaster risk management policy.

The urban areas have experienced very rapid population growth during the last few decades due to economic factors such as decrease in economic opportunities in rural areas and consequent migration to the urban areas. The rapid urbanisation has led to proliferation of slums and has severely strained the resources in our urban areas. Most recent constructions in the urban areas consist of poorly designed and constructed buildings. The older buildings, even if constructed in compliance with relevant standards at that time, may not comply with the more stringent specifications of the latest standards. Until the 2001 Bhuj earthquake, our country was fortunate not to experience a large earthquake in an urban area. The very high vulnerability of urban India was starkly demonstrated during the Bhuj earthquake, in which the urban centres of Bhuj, Anjar and Bhachau experienced extensive damage and losses to both new and old constructions. During this earthquake, a large number of recently constructed concrete buildings in Ahmedabad were also badly damaged even though the city is located over 200 km from the epicentre and these buildings should have suffered only minor damage if properly designed and constructed.

There is an urgent need to assess the seismic vulnerability of buildings in urban areas of India as an essential component of a comprehensive earthquake disaster risk management policy. Detailed seismic vulnerability evaluation is a technically complex and expensive procedure and can only be performed on a limited number of buildings. It is therefore very important to use simpler procedures that can help to rapidly evaluate the vulnerability profile of different types of buildings, so that the more complex evaluation procedures can be limited to the most critical buildings.

India's national vulnerability assessment methodology, as a component of earthquake disaster risk management framework should include the following procedures:

- 1. Rapid visual screening (RVS) procedure requiring only visual evaluation and limited additional information (Level 1 procedure). This procedure is recommended for all buildings.
- 2. Simplified vulnerability assessment (SVA) procedure requiring limited engineering analysis based on information from visual observations and structural drawings or on-site measurements (Level 2 procedure). This procedure is recommended for all buildings with high concentration of people.
- 3. Detailed vulnerability assessment (DVA) procedure requiring detailed computer analysis, similar to or more complex than that required for design of a new building (Level 3 procedure). This procedure is recommended for all important and lifeline buildings.

The building profile for different construction types that is developed on the basis of application of the first procedure (rapid visual screening) will be useful to short-list the buildings to which simplified vulnerability assessment procedure should be applied. The simplified vulnerability assessment procedure will provide more reliable assessment of the seismic vulnerability of the building, and will form the basis for determining need for more complex vulnerability assessment. The rapid visual screening will be useful for all buildings except critical structures where detailed vulnerability assessment is always required.

A simpler and more approximate procedure for vulnerability assessment (Level 0 procedure) can also be developed; however, this is not recommended due to the non-technical and highly empirical nature of Level 0 assessment procedure, which will make progressive transition to higher level procedures untenable. The use of Level 0 procedure in a national earthquake disaster risk management framework for urban areas may also communicate incorrect message regarding the complexity of the problem and make later migration to technically rigorous procedures difficult.

A procedure for rapid visual screening (RVS) was first proposed in the US in 1988, which was further modified in 2002 to incorporate latest technological advancements and lessons from earthquake disasters in the 1990s. This RVS procedure, even though originally developed for typical constructions in the US have been widely used in many other countries after suitable modifications. The most important feature of this procedure is that it permits vulnerability assessment based on walk-around of the building by a trained evaluator. The evaluation procedure and system is compatible with GIS-based city database, and also permits use of the collected building information for a variety of other planning and mitigation purposes.

The simplified vulnerability assessment (SVA) procedure is more complex (and therefore more accurate) than the RVS procedure. This method utilises engineering information such as size and strength of lateral load resisting members and more explicit information on the design ground motion. This data is used to carry out a highly simplified analysis of the structure to estimate the building drift. Since good correlation exists between building drift and damage, the analysis results can be used to estimate the potential seismic hazard of the building. Unlike the RVS procedure, the simplified vulnerability assessment requires the use of a computer; however, the required inputs can be collected in paper form for later entry into the software system. Such procedure has been developed for RCC buildings by IIT Bombay and the SVA procedure can be adopted on a large scale. The results of the simplified vulnerability assessment procedure can be used to determine the potential status of the selected buildings, and to further short-list the buildings requiring detailed vulnerability assessment.

The detailed vulnerability assessment (DVA) of a building requires carrying out comprehensive engineering analysis considering the nature of potential ground motions and the non-linear behaviour of the structural members. The detailed vulnerability assessment procedure is highly specialised and very few engineers in our country are currently capable of performing this task. The procedure also requires extensive as-built information regarding a building, which may not be readily available in the Indian context. Since very reliable information is essential for some critical facilities, the detailed vulnerability assessment procedure is most suitable for these structures. The DVA procedure should also be integrated in the national policy for seismic vulnerability assessment so that suitable tools and human resources can be developed as per national requirement.

While developing the earthquake disaster risk management framework, the current status of technical knowledge in India also needs to be considered. Our country currently does not have the required technical skills and trained manpower to implement any vulnerability assessment programme on a large scale. While broad consensus on the procedures for Level 1, Level 2 and Level 3 assessment exists among the experts, these procedures should also be benchmarked with experiences from our past earthquake. There is an urgent need to continue implementation of vulnerability assessment procedures in parallel with the other tasks of fine-tuning the technical aspects of these procedures based on benchmarking with past earthquake field data.

RVS Procedure, Objectives and Scope

The rapid visual screening method is designed to be implemented without performing any structural calculations. The procedure utilises a scoring system that requires the evaluator to (1) identify the primary structural lateral load-resisting system, and (2) identify building attributes that modify the seismic performance expected for this lateral load-resisting system. The inspection, data collection and decision-making process typically occurs at the building site, and is expected to take around 30 minutes for each building.

The screening is based on numerical seismic hazard and vulnerability score. The scores are based on the expected ground shaking levels in the region as well as the seismic design and construction practices for the city or region. The scores use probability concepts and are consistent with the advanced assessment methods. The RVS procedure can be integrated with GIS-based city planning database and can also be used with advanced risk analysis software. The methodology also permits easy and rapid reassessment of risk of buildings already surveyed based on availability of new knowledge that may become available in future due to scientific or technological advancements.

The RVS methodology can be implemented in both rural and urban areas. However, the variation in construction practice is more easily quantifiable for urban areas and the reliability of the RVS results for rural areas may be very low. It is therefore preferable that the RVS methodology be used for non-standard (or non-government) constructions in rural areas only with adequate caution. The RVS methodology is also not intended for structures other than buildings. For important structures such as bridges and lifeline

facilities, the use of detailed evaluation methods is recommended. Even in urban areas, some very weak forms of non-engineered buildings are well-known for their low seismic vulnerability and do not require RVS to estimate their vulnerability. These building types are also not included in the RVS procedure.

Uses of RVS Results

The results from rapid visual screening can be used for a variety of applications that are an integral part of the earthquake disaster risk management programme of a city or a region. The main uses of this procedure are:

- 1. To identify if a particular building requires further evaluation for assessment of its seismic vulnerability.
- 2. To rank a city's or community's (or organisation's) seismic rehabilitation needs.
- 3. To design seismic risk management program for a city or a community.
- 4. To plan post-earthquake building safety evaluation efforts.
- 5. To develop building-specific seismic vulnerability information for purposes such as regional rating, prioritisation for redevelopment etc.
- 6. To identify simplified retrofitting requirements for a particular building (to collapse prevention level) where further evaluations are not feasible.
- 7. To increase awareness among city residents regarding seismic vulnerability of buildings.

Seismicity in India

As per IS 1893:2002 (Part 1), India has been divided into 4 seismic zones (Figure 1). The details of different seismic zones are given below:

- Zone II Low seismic hazard (maximum damage during earthquake may be upto MSK intensity VI)
- Zone III Moderate seismic hazard (maximum damage during earthquake may be upto MSK intensity VII)
- Zone IV High seismic hazard (maximum damage during earthquake may be upto MSK intensity VIII)
- Zone V Very high seismic hazard (maximum damage during earthquake may be of MSK intensity IX or greater)

When a particular damage intensity occurs, different building types experience different levels of damage depending on their inherent characteristics. For carrying out the rapid visual screening, only three hazard zones have been defined, corresponding to low seismic risk (Zone II), moderate seismic risk (Zone III) and high seismic risk (Zones IV and V). More precise categorisation of hazard zones between Zone IV and Zone V does not enable better assessment of structural vulnerability using RVS procedure due to the influence of a large number of other factors on the building performance when the ground shaking is very intense.

Building Types Considered in RVS Procedure

A wide variety of construction types and building materials are used in urban areas of India. These include local materials such as mud and straw, semi-engineered materials such as burnt brick and stone masonry and engineered materials such as concrete and steel. The seismic vulnerability of the different building types depends on the choice of building materials. The building vulnerability is generally highest with the use of local materials without engineering inputs and lowest with the use of engineered materials.

The basic vulnerability class of a building type is based on the average expected seismic performance for that building type. All buildings have been divided into six vulnerability class, denoted as Class A to Class F based on the European Macroseismic Scale (EMS-98) recommendations. The buildings in Class A have the highest seismic vulnerability while the buildings in Class F have lowest seismic vulnerability. A building of a given type, however, may have its vulnerability different from the basic class defined for that type depending on the condition of the building, presence of earthquake resistance features, architectural features etc. It is therefore possible to assign a vulnerability range for each building type to encompass the expected vulnerability considering the different factors affecting its likely performance. The vulnerability ranges and the basic vulnerability class of different building types are given in Table 1. The basic class is denoted by O in Table 1, while the brackets specify the likely range of vulnerability of the buildings.

The RVS procedure has considered 10 different building types, based on the building materials and construction types that are most commonly found in urban areas. These included both engineered constructions (designed and constructed by following the specifications) and non-engineered constructions (designed or constructed without following the specifications). Some masonry building types constructed using local materials are prevalent in urban areas but are not included in this methodology since their seismic vulnerability is known to be very high (vulnerability class A and B) and do not require visual screening to provide any additional information regarding their expected structural performance. These include all constructions using random rubble masonry in mud mortar, earthen walls, adobe and tin sheet constructions.

The likely damage to structures have been categorised in different grades depending on their impact on the seismic strength of the building. The different damage levels that have been recommended by European Macroseismic Scale (EMS-98) are described in Table 2.

Table 3 provides guidance regarding likely performance of the building in the event of design-level earthquake. This information can be used to decide the necessity of further evaluation of the building using higher level procedures. It can also be used to identify need for retrofitting, and to recommend simple retrofitting techniques for ordinary buildings where more detailed evaluation is not feasible. Generally, the score S < 0.7 indicates high vulnerability requiring further evaluation and retrofitting of the building.

Table 1. Seismic vulnerability classification for different structural types.

All buildings can be divided into the following primary categories: (1) masonry buildings, (2) RCC buildings, (3) steel buildings, and (4) timber buildings. These can be further divided into various sub-categories. Based on their seismic resistance the following vulnerability classification has been proposed based on the European Macroseismic Scale (EMS-98) and modified during development of World Housing Encyclopaedia.

Mate-	Type of Load-	Sub-Types	Vulnerability Class					
rial	Bearing Structure		Α	В	С	D	Е	F
	Stona Maganny	Rubble stone (field stone) in mud/lime mortar or	0					
	Walls	without mortar (usually with timber roof)						
	w ans	Massive stone masonry (in lime/cement mortar)	-	-	0	-		
Farthen/Mud/		Mud walls	0					
	A dobe/Rammed	Mud walls with horizontal wood elements	-	0	-			
	Farthen Walls	Adobe block walls	0	-				
	Earthen wans	Rammed earth/Pise construction	0	-				
		Unreinforced brick masonry in mud mortar	-	0	-			
		Unreinforced brick masonry in mud mortar with	-	0	-	-		
		vertical posts						
	Burnt clay	Unreinforced brick masonry in lime mortar	-	0	-	-		
	brick/block	Unreinforced brick masonry in cement mortar with		-	0	-		
	masonry walls	reinforced concrete floor/roof slabs						
	musoni y wuns	Unreinforced brick masonry in cement mortar with		-	0	-		
		lintel bands (various floor/roof systems)						
		Confined brick/block masonry with concrete			-	0	-	
		posts/tie columns and beams						
IJ		Unreinforced, in lime/cement mortar (various		-	0	-		
son	Concrete block	floor/roof systems)						
Mas	masonry	Reinforced, in cement mortar (various floor/roof			-	0	-	
A A		systems)						
		Designed for gravity loads only (predating seismic	-	-	0	-		
		codes i.e. no seismic features)					-	
ete	Moment resisting	Designed with seismic features (various ages)			-	-	0	-
ncı	frame	Frame with unreinforced masonry infill walls		-	0	-	-	
00		Flat slab structure		-	0	-	-	
ıral		Precast frame structure		-	0	-		
ictr		Frame with concrete shear walls (dual system)			-	-	0	-
tt.	Shear wall structure	Walls cast in-situ				-	0	-
01	Shear wan Sudetare	Precast wall panel structure		-	0	-		
	Moment-resisting	With brick masonry partitions			-	0	-	-
	frame	With cast in-situ concrete walls			-	-	0	-
	inume	With lightweight partitions				-	0	-
tee	Braced frame	With various floor/roof systems				-	0	-
S	Light metal frame	Single storey LM frame structure			-	-	0	-
es		Thatch roof	-	-	0	-		
tur		Post and beam frame			-	0	-	
Ĭ	Load bearing	Walls with bamboo/reed mesh and post (Wattle		-	0	-		
n st	timber frame	and Daub)						
odei	unioer manie	Frame with (stone/brick) masonry infill	-	-	0	-		
Voc		Frame with plywood/gypsum board sheathing		-	0	-		
5		Frame with stud walls				-	0	-

O Most likely vulnerability class

- Most likely lower range

-| Most likely upper range

Table 2. Classification of damage to buildings.

The damage classifications based on the European Macroseismic Scale (EMS-98) define building damage to be in Grade 1 to Grade 5. The damage classifications help in evaluation of earthquake intensity following an earthquake. They are used in RVS to predict potential damage of a building during code-level earthquake.

Classification of damage to masonry buildings	Classification of damage to reinforced concrete buildings
Grade 1: Negligible to slight damage	Grade 1: Negligible to slight damage
(No structural damage, slight non-structural damage)	(No structural damage, slight non-structural damage)
Hair-line cracks in very few walls.	Fine cracks in plaster over frame members or in
Fall of small pieces of plaster only.	walls at the base.
Fall of loose stones from upper parts of buildings in very few cases.	Fine cracks in partitions and infills.
Grade 2: Moderate damage	Grade 2: Moderate damage
(Slight structural damage, moderate non- structural damage)	(Slight structural damage, moderate non- structural damage)
Cracks in many walls. Fall of fairly large pieces of plaster.	Cracks in columns and beams of frames and in structural walls.
Partial collapse of chimneys and mumptys.	Cracks in partition and infill walls; fall of brittle cladding and plaster. Falling mortar from the joints of wall panels.
Grade 3: Substantial to heavy damage (moderate structural damage, heavy non- structural damage)	Grade 3: Substantial to heavy damage (moderate structural damage, heavy non- structural damage)
Large and extensive cracks in most walls.	Cracks in columns and beam-column joints of
Roof tiles detach. Chimneys fracture at the roof line; failure of individual non-structural elements (partitions. gable walls etc.).	frames at the base and at joints of coupled walls. Spalling of concrete cover, buckling of reinforced bars.
(*************************************	Large cracks in partition and infill walls, failure of individual infill panels.
Grade 4: Very heavy damage (heavy structural damage, very heavy non-structural damage)	Grade 4: Very heavy damage (heavy structural damage, very heavy non-structural damage)
Serious failure of walls (gaps in walls); partial structural failure of roofs and floors.	Large cracks in structural elements with compression failure of concrete and fracture of rebars; bond failure of beam reinforcing bars; tilting of columns.
	Collapse of a few columns or of a single upper floor.
Grade 5: Destruction (very heavy structural damage)	Grade 5: Destruction (very heavy structural damage)
Total or near total collapse of the building.	Collapse of ground floor parts (e.g. wings) of the building.

Table 3. Expected damage level as function of RVS score.

The probable damage can be estimated based on the RVS score and is given below. However, it should be realised that the actual damage will depend on a number of factors that are not included in the RVS procedure. As a result, this table should only be used as indicative to determine the necessity of carrying out simplified vulnerability assessment of the buildings. These results can also be used to determine the necessity of retrofitting buildings where more comprehensive vulnerability assessment may not be feasible.

RVS Score	Damage Potential
S < 0.3	High probability of Grade 5 damage; Very high probability of Grade 4
	damage
0.3 < S < 0.7	High probability of Grade 4 damage; Very high probability of Grade 3
	damage
0.7 < S < 2.0	High probability of Grade 3 damage; Very high probability of Grade 2
	damage
2.0 < S < 3.0	High probability of Grade 2 damage; Very high probability of Grade 1
	damage
S > 3.0	Probability of Grade 1 damage



Figure 1. Seismic zoning map of India (IS 1893-2002 (Part 1)).

Rapid Visual Screening of Buildings for Potential Seismic Vulnerability

FEMA-154/ATC-21 Based Data Collection Form

(Seismic Zone II)

PinPi						
Other Identifiers GPS Coordinates (if available)						
GPS Coordinates (if available)						
No. Stories Year Built	No. StoriesYear Built					
Surveyor Date	Surveyor Date					
Total Floor Area (sg. ft./sg. m)						
Building Name						
	/ Distressed					
Building on Stilts / Open Ground Floor: Yes / No						
PHOTOGRAPH						
(OR SPECIFY PHOTOGRAPH NUMBER	RS)					
	,					
Plan and Elevation Scale:						
OCCUPANCY SOIL TYPE (IS 1893:2002) FALLING HAZ/	ARDS					
Assembly Govt. Office Max. Number of Persons Commercial Historic Residential 0 – 10 11 – 100 Type II Type II Type III						
Emer.Service Industrial School 101 – 1000 1000+ Hard Soil Medium Soil Soft Soil Chimneys Parapets Clar	dding Other:					
BASIC SCORE, MODIFIERS, AND FINAL SCORE, S						
BUILDING TYPE Wood S1 S2 C1 C2 C3 URM1 URM2 URI (FRAME) (LM) (MRF) (SW) (INF) (BAND+RD) (BAND+FD)	M3 URM4					
Basic Score 6.0 4.6 4.6 4.4 4.8 4.4 4.6 4.8 4.1	.6 3.6					
Mid Rise (4 to 7 stories) N/A +0.2 N/A +0.4 -0.2 -0.4 -0.2 -0.4 -0. High Rise (>7 stories) N/A +1.0 N/A +1.0 0.0 -0.4 N/A N/A N/	.6 -0.6 /A N/A					
Vertical Irregularity -3.0 -2.0 N/A -1.5 -2.0 -2.0 -1.5 -2.0 -1.5	.5 -1.5					
Plan Irregularity -0.8 -0.8 -0.8 -0.8 -0.8 -0.8 -0.8 -0.8	.8 -0.8 /A N/A					
Soil Type II -0.4 -0.8 -0.4 -0.6 -0.4 -0.4 -0.2 -0.4 -0.	.4 -0.4					
Soil Type III0.81.41.01.40.80.	.8 -0.8 .4 -1.4					
Liquifiable Soil -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -1.6 -1.4 -1.						
Solid type in -0.0 -1.4 -1.0 -1.4 -0.0						
Solid type in File	Further					
Solid type in File	Further Evaluation					
Solin type in 10.0 11.4 10.0 </td <td>Further Evaluation Recommended</td>	Further Evaluation Recommended					
Solin type in 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5	Further Evaluation Recommended YES NO					
Solin type in 10.0 11.4 11.5 11.4 10.0 </td <td>Further Evaluation Recommended YES NO</td>	Further Evaluation Recommended YES NO					
Solin type in 10.0 11.4 11.5 11.4 10.0 </td <td>Further Evaluation Recommended YES NO ced burnt brick isonry (cem mortar)</td>	Further Evaluation Recommended YES NO ced burnt brick isonry (cem mortar)					

Rapid Visual Screening of Buildings for Potential Seismic Vulnerability

FEMA-154/ATC-21 Based Data Collection Form

(Seismic Zone III)

						Address:					
										Pin	
						Other Identifiers	s				
						GPS Coordinate	es (if availat	ole)			
						No. Stories	-	-	_Year Built	t	
						Surveyor			Date		
						Total Floor Area	a (sq. ft./sq.	m)			
						Building Name		,			
						Use					
						Current Visual (Condition: E	xcellent 🗍/ (Good 🗍 / Dam	aged 🗍/ Distr	essed 🗌
						Buildina on Stilt	s / Open Gr	ound Floor			_
						Construction Dr	, awings Ava	ilable: Yes [/ No	_	
							9	-			
								PHOTOGE	арн		
						(0					
						(0				NDER(0)	
Plan and Eleva	ation Sc	ale:									
		000115411	0)/								
Assembly (Govt	OCCUPAN Office	CY Max Numbe	r of Persons	SOIL	. TYPE (IS 1893	3:2002)		FALLING	HAZARDS	
Assembly C Commercial H Emer.Service I	Govt. Historic Industrial	OCCUPAN Office Residential School	CY Max. Numbe 0 – 10 101 – 1000	r of Persons 11 – 100 1000+	SOIL Type I Hard Soil	. TYPE (IS 1893 Type II Medium Soil	3:2002) Type III Soft Soil	Chimneys	FALLING Parapets	HAZARDS	Other:
Assembly C Commercial H Emer.Service I	Govt. Historic Industrial	OCCUPAN Office Residential School	CY Max. Numbe 0 – 10 101 – 1000 BAS	r of Persons 11 – 100 1000+ SIC SCORE,	SOIL Type I Hard Soil	TYPE (IS 1893 Type II Medium Soil	3:2002) Type III Soft Soil	Chimneys	FALLING Parapets	HAZARDS	D Other:
Assembly C Commercial H Emer.Service I BUILDING TY	Govt. Historic Industrial YPE	OCCUPAN Office Residential School Wood	CY Max. Numbe 0 – 10 101 – 1000 BAS S1	r of Persons 11 – 100 1000+ SIC SCORE, S2	SOIL Type I Hard Soil MODIFIE C1	TYPE (IS 1893 Type II Medium Soil RS, AND FINAI	Soft Soil C3	Chimneys URM1	FALLING Parapets	HAZARDS Cladding	Other:
Assembly C Commercial H Emer.Service I BUILDING TY	Govt. Historic Industrial YPE	OCCUPAN Office Residential School Wood	CY Max. Numbe 0 – 10 101 – 1000 BAS S1 (FRAME)	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM)	SOIL Type I Hard Soil MODIFIE C1 (MRF)	TYPE (IS 1893 Type II Medium Soil RS, AND FINAI	3:2002) Type III Soft Soil _ SCORE, S C3 (INF) (Chimneys Chimneys	FALLING Parapets URM2 (BAND+FD)	HAZARDS Cladding URM3	Cther:
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 st	Govt. Historic Industrial YPE tories)	Office Residential School Wood 4.4 N/A	CY Max. Numbe 0 - 10 101 - 1000 BAS S1 (FRAME) 3.6 +0.4	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2	. TYPE (IS 1893 Type II Medium Soil RS, AND FINAI C2 (SW) 3.6 +0.4	3:2002) Type III Soft Soil - SCORE, \$ (INF) (1 3.2 +0.2	Chimneys Chimneys S URM1 (BAND+RD) 3.4 +0.4	FALLING Parapets URM2 (BAND+FD) 3.6 +0.4	HAZARDS Cladding URM3 3.0 -0.4	URM4
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 stor High Rise (>7 stor	Govt. Historic Industrial YPE tories) ries)	OCCUPAN Office Residential School Wood 4.4 N/A N/A	CY Max. Numbe 0 - 10 101 - 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 2.0	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 2.0	TYPE (IS 1893 Type II Medium Soil RS, AND FINAI C2 (SW) 3.6 +0.4 2.0	3:2002) Type III Soft Soil - SCORE, S C3 (INF) (1 3.2 +0.2 +0.4 2.0	Chimneys Chimneys G URM1 BAND+RD) 3.4 +0.4 N/A 2.0	FALLING Parapets URM2 (BAND+FD) 3.6 +0.4 N/A 2.0	HAZARDS Cladding URM3 3.0 -0.4 N/A	Cther: URM4 2.4 -0.4 N/A 1.5
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 stor Vertical Irregularity Plan Irregularity	Govt. Historic Industrial YPE tories) ries) ry	Office Residential School Wood 4.4 N/A N/A -3.0 -0.5	CY Max. Numbe 0 - 10 101 - 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A N/A -0.5	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5	TYPE (IS 1893 Type II Medium Soil RS, AND FINAL C2 (SW) 3.6 +0.4 +0.8 -2.0 -0.5	3:2002) Type III Soft Soil C3 (INF) (1 3.2 +0.2 +0.4 -2.0 -0.5	Chimneys Chimneys URM1 (BAND+RD) 3.4 +0.4 N/A -2.0 -0.5	URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5	HAZARDS Cladding URM3 3.0 -0.4 N/A -1.5 -0.5	URM4 0.4 -0.4 N/A -1.5 -0.5
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 st High Rise (>7 stor Vertical Irregularity Plan Irregularity Code Detailing	Govt. Historic Industrial YPE tories) ries) y	Office Residential School Wood 4.4 N/A N/A -3.0 -0.5 N/A	CY Max. Numbe 0 - 10 101 - 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5 +1.4	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A -0.5 N/A	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5 +1.2	TYPE (IS 1893 Type II Medium Soil RS, AND FINAI C2 (SW) 3.6 +0.4 +0.8 -2.0 -0.5 +1.6	C3 C3 C3 (INF) 0.2 +0.2 +0.4 -2.0 -0.5 +1.2	Chimneys Chimneys URM1 BAND+RD) 3.4 +0.4 N/A -2.0 -0.5 +2.0	FALLING □ Parapets URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5 +2.0	HAZARDS Cladding URM3 0.4 N/A -1.5 -0.5 N/A	URM4 0.4 -0.4 N/A -1.5 -0.5 N/A
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 stor Vertical Irregularity Plan Irregularity Code Detailing Soil Type II Soil Type II Soil Type II	Govt. Historic Industrial YPE tories) ries) ry	Office Residential School Wood 4.4 N/A N/A -3.0 -0.5 N/A -0.2 -0.6	CY Max. Numbe 0 - 10 101 - 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5 +1.4 -0.6 -1 2	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A N/A -0.5 N/A -0.6 -1 0	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5 +1.2 -0.6 -1.0	TYPE (IS 1893 Type II Medium Soil RS, AND FINAL C2 (SW) 3.6 +0.4 +0.4 +0.8 -2.0 -0.5 +1.6 -0.8 -1.2	3:2002) Type III Soft Soil C3 (INF) (1 3.2 +0.2 +0.4 -2.0 -0.5 +1.2 -0.6 -1 0	Chimneys Chimneys URM1 (BAND+RD) 3.4 +0.4 N/A -2.0 -0.5 +2.0 -0.5 +2.0 -0.8 -1.2	URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5 +2.0 -0.5 +2.0	HAZARDS Cladding URM3 3.0 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.4 -0.4 -0.8	URM4 0.4 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.4 -0.8
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 st High Rise (>7 stor Vertical Irregularity Plan Irregularity Code Detailing Soil Type II Soil Type II Soil Type II Liquifiable Soil	Govt. Historic Industrial YPE tories) ries) y	Office Residential School Wood 4.4 N/A N/A -3.0 -0.5 N/A -0.2 -0.6 -1.2	CY Max. Numbe 0 - 10 101 - 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5 +1.4 -0.6 -1.2 -1.6	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A N/A -0.5 N/A -0.6 -1.0 -1.6	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	TYPE (IS 1893 Type II Medium Soil RS, AND FINAL C2 (SW) 3.6 +0.4 +0.8 -2.0 -0.5 +1.6 -0.8 -1.2 -1.6	Score C3 C3 (INF) SCORE, S (INF) 0.2 (0.4 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	Chimneys Chimneys Chimneys 3.4 +0.4 N/A -2.0 -0.5 +2.0 -0.5 +2.0 -0.8 -1.2 -1.6	URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5 +2.0 -0.8 -1.2 -1.6	HAZARDS Cladding URM3 URM3 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.4 -0.8 -1.6	URM4 0.4 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.4 -0.8 -1.6
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 st High Rise (>7 stor Vertical Irregularity Plan Irregularity Code Detailing Soil Type II Soil Type II Soil Type II Liquifiable Soil FINAL SCORE	Govt. Historic Industrial YPE tories) ries) ry E, S	Office Residential School Wood 4.4 N/A N/A -3.0 -0.5 N/A -0.2 -0.6 -1.2	CY Max. Numbe 0 - 10 101 - 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5 +1.4 -0.6 -1.2 -1.6	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A -0.5 N/A -0.6 -1.0 -1.6	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	TYPE (IS 1893 Type II Medium Soil RS, AND FINAL C2 (SW) 3.6 +0.4 +0.8 -2.0 -0.5 +1.6 -0.8 -1.2 -1.6	S:2002) Type III Soft Soil - SCORE, S (INF) (INF) +0.2 +0.4 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	Chimneys Chimneys Chimneys 3.4 +0.4 N/A -2.0 -0.5 +2.0 -0.8 -1.2 -1.6	URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5 +2.0 -0.8 -1.2 -1.6	HAZARDS Cladding URM3 URM3 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6	Cother: Other: URM4 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 st High Rise (>7 stor Vertical Irregularity Code Detailing Soil Type II Soil Type II Soil Type II Liquifiable Soil FINAL SCORI Result Interpr	Govt. Historic Industrial YPE tories) ries) ry E, S retation	Office Residential School Wood 4.4 N/A N/A -3.0 -0.5 N/A -0.2 -0.6 -1.2	CY Max. Numbe 0 – 10 101 – 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5 +1.4 -0.6 -1.2 -1.6 ding performation	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A N/A -0.5 N/A -0.6 -1.0 -1.6 -1.0 -1.6	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	TYPE (IS 1893 Type II Medium Soil RS, AND FINAL C2 (SW) 3.6 +0.4 +0.8 -2.0 -0.5 +1.6 -0.8 -1.2 -1.6	S:2002) Type III Soft Soil - SCORE, S (INF) (INF) +0.2 +0.4 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	Chimneys Chimneys Chimneys 3.4 +0.4 N/A -2.0 -0.5 +2.0 -0.5 +2.0 -0.8 -1.2 -1.6	URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5 +2.0 -0.8 -1.2 -1.6	HAZARDS Cladding URM3 URM3 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6 -UR -0.4 -0.8 -1.6	URM4 0.4 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6 rther
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 st High Rise (>7 stor Vertical Irregularity Plan Irregularity Code Detailing Soil Type II Soil Score	Govt. Historic Industrial YPE tories) ries) y E, S retation	Office Residential School Wood 4.4 N/A N/A -3.0 -0.5 N/A -0.2 -0.6 -1.2 -0.6 -1.2	CY Max. Numbe 0 – 10 101 – 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5 +1.4 -0.6 -1.2 -1.6 ding performation of Grade 5 dam	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A N/A -0.5 N/A -0.6 -1.0 -1.6 ance) mage; Very high p	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	C2 (SW) 3.6 +0.4 +0.8 -2.0 -0.5 +1.6 -0.8 -1.2 -1.6 -0.8	3:2002) Type III Soft Soil - SCORE, S C3 (INF) (1 3.2 +0.2 +0.4 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	Chimneys Chimneys 3.4 +0.4 N/A -2.0 -0.5 +2.0 -0.8 -1.2 -1.6	URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5 +2.0 -0.8 -1.2 -1.6	HAZARDS Cladding URM3 URM3 0.4 N/A -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6 -0.4 -0.8 -1.6	URM4 0.4 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6 rther luation mended
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 st High Rise (>7 stor Vertical Irregularity Plan Irregularity Code Detailing Soil Type II Soil Type II Soil Type III Liquifiable Soil FINAL SCORI Result Interpr S < 0.3 0.3 < S < 0.7 0.7 < S < 2.0	Govt. Historic Industrial YPE tories) ries) ry E, S retation	Office Residential School Wood 4.4 N/A N/A -3.0 -0.5 N/A -0.2 -0.6 -1.2	CY Max. Numbe 0 – 10 101 – 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5 +1.4 -0.6 -1.2 -1.6 ding performations of Grade 5 dam of Grade 3 dam	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A N/A -0.5 N/A -0.6 -1.0 -1.6 ance) mage; Very high p mage; Very high p	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	C2 (SW) 3.6 +0.4 +0.8 -2.0 -0.5 +1.6 -0.8 -1.2 -1.6	3:2002) Type III Soft Soil - SCORE, S (INF) (INF) +0.2 +0.4 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	Chimneys Chimneys URM1 (BAND+RD) 3.4 +0.4 N/A -2.0 -0.5 +2.0 -0.5 +2.0 -0.8 -1.2 -1.6	URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5 +2.0 -0.5 +2.0 -0.5 +2.0	HAZARDS Cladding URM3 URM3 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6 -0.4 -0.8 -1.6 -0.4 -0.8 -1.6	URM4 2.4 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6 rther luation mended
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 st High Rise (>7 stor Vertical Irregularity Plan Irregularity Code Detailing Soil Type II Soil Type II Soil Type II Soil Type III Liquifiable Soil FINAL SCORI Result Interpr S < 0.3 0.3 < S < 0.7 0.7 < S < 2.0 2.0 < S < 3.0	Govt. Historic Industrial YPE tories) ries) ries) y E, S retation H	OCCUPAN Office Residential School Wood 4.4 N/A -3.0 -0.5 N/A -0.2 -0.6 -1.2 -0.6 -1.2 -0.6 -1.2	CY Max. Numbe 0 – 10 101 – 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5 +1.4 -0.6 -1.2 -1.6 ding performation of Grade 5 dam of Grade 3 dam of Grade 2 dam	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A -0.5 N/A -0.6 -1.0 -1.6 ance) age; Very high p age; Very high p age; Very high p	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	C2 (SW) 3.6 +0.4 +0.8 -2.0 -0.5 +1.6 -0.8 -1.2 -1.6 -0.8 -1.2 -1.6 Grade 4 damage Grade 2 damage Grade 1 damage	3:2002) Type III Soft Soil - SCORE, S (INF) (1 3.2 +0.2 +0.4 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	Chimneys Chimneys 3.4 +0.4 N/A -2.0 -0.5 +2.0 -0.8 -1.2 -1.6	FALLING Parapets Parapets URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5 +2.0 -0.8 -1.2 -1.6	HAZARDS Cladding URM3 URM3 OLA OLA OLA OLA OL5 N/A -0.4 -0.5 N/A -0.4 -0.8 -1.6 Fu Eval Recom YES	URM4 URM4 2.4 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6 rther inter ded 5 NO
Assembly C Commercial F Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 st High Rise (>7 stor Vertical Irregularity Plan Irregularity Code Detailing Soil Type II Soil Type II Soil Type III Liquifiable Soil FINAL SCORI Result Interpr S < 0.3 0.3 < S < 0.7 0.7 < S < 2.0 2.0 < S < 3.0 S > 3.0	Govt. Historic Industrial YPE tories) ries) ry E, S retation	Office Residential School Wood 4.4 N/A N/A -3.0 -0.5 N/A -0.2 -0.6 -1.2 (<i>Likely buil</i> digh probability digh probability digh probability of G r uprolabiled do	CY Max. Numbe 0 – 10 101 – 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5 +1.4 -0.6 -1.2 -1.6 ding performation of Grade 5 dam of Grade 5 dam of Grade 2 dam of Grade 2 dam of Grade 2 dam	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A N/A -0.5 N/A -0.6 -1.0 -1.6 age; Very high p age; Very high p age; Very high p age; Very high p age; Very high p	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6	C2 (SW) 3.6 +0.4 +0.8 -2.0 -0.5 +1.6 -0.8 -1.2 -1.6	3:2002) Type III Soft Soil - SCORE, S (INF) (1 3.2 +0.2 +0.4 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6 -1.0 -1.6	Chimneys Chimneys 3.4 +0.4 N/A -2.0 -0.5 +2.0 -0.5 +2.0 -0.8 -1.2 -1.6	URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5 +2.0 -0.5 +2.0 -0.8 -1.2 -1.6	HAZARDS Cladding URM3 URM3 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6 -0.4 -0.8 -1.6 -0.4 -0.8 -1.6 -0.8 -1.6	URM4 2.4 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6 rther luation mended 5 NO
Assembly C Commercial H Emer.Service I BUILDING TY Basic Score Mid Rise (4 to 7 st High Rise (>7 stor Vertical Irregularity Plan Irregularity Code Detailing Soil Type II Soil Type II Soil Type III Liquifiable Soil FINAL SCORI Result Interpr S < 0.3 0.3 < S < 0.7 0.7 < S < 2.0 2.0 < S < 3.0 S > 3.0 * = Estimated, sub DNK = Do Not Km	Govt. Historic Industrial YPE tories) ries) ry E, S retation F retation H h h h h bjective, o	Office Residential School Wood 4.4 N/A N/A -3.0 -0.5 N/A -0.5 N/A -0.2 -0.6 -1.2 (<i>Likely buil</i> tigh probability tigh probability tigh probability robability of G r unreliable dat	CY Max. Numbe 0 – 10 101 – 1000 BAS S1 (FRAME) 3.6 +0.4 +0.8 -2.0 -0.5 +1.4 -0.6 -1.2 -1.6 ding performation of Grade 5 dam of Grade 3 dam of Grade 2 dam of Grade 1 damage ta	r of Persons 11 – 100 1000+ SIC SCORE, S2 (LM) 3.8 N/A N/A N/A N/A -0.5 N/A -0.6 -1.0 -1.6 age; Very high p age; Very high p	SOIL Type I Hard Soil MODIFIE C1 (MRF) 3.0 +0.2 +0.5 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6 probability of probability of probability of probability of probability of probability of	C2 (SW) 3.6 +0.4 +0.8 -2.0 -0.5 +1.6 -0.8 -1.2 -1.6	2:2002) Type III Soft Soil C3 (INF) (1 3.2 +0.2 +0.4 -2.0 -0.5 +1.2 -0.6 -1.0 -1.6 Shear Wall ight Metal - Scientin Park	Chimneys Chimneys 3.4 +0.4 N/A -2.0 -0.5 +2.0 -0.8 -1.2 -1.6	URM2 (BAND+FD) 3.6 +0.4 N/A -2.0 -0.5 +2.0 -0.8 -1.2 -1.6	HAZARDS Cladding URM3 URM3 O-0.4 N/A -0.4 N/A -0.5 N/A -0.4 -0.8 -1.6 Fu Eval Recom YES	URM4 0.4 -0.4 N/A -1.5 -0.5 N/A -0.4 -0.8 -1.6 Ther luation mended S NO th brick sem mortar)

Rapid Visual Screening of Buildings for Potential Seismic Vulnerability

FEMA-154/ATC-21 Based Data Collection Form

(Seismic Zones IV & V)

							Address:					
											Pin	
							Other Identifiers	i				
							GPS Coordinate	es (if availat	ole)			
	1				-		No. StoriesYear Built					
							Surveyor			Date		
							Total Floor Area	ı (sq. ft./sq.	m)			_
							Building Name		,			
							Use					
							Current Visual C	Condition: E		Good 🗍 / Dam	aged 🗍/ Distre	essed 🗌
							Building on Stilts	s / Open Gr	ound Floor	∵Yes□/No		_
							Construction Dra	' awings Ava	ilable: Yes [/ No [_	
			-					0	-			
									риотосе			
							(0					
							(0		FIIOTOG		IDENS)	
Plan and E	levation S	cale.			. 2	()						
		ouic.										
Assembly	Govt	OCCUPA	NCY	(Number	of Persons	SOI	L TYPE (IS 1893	:2002)		FALLING	HAZARDS	
Assembly Commercial Emer.Service	Govt. Historic Industria	OCCUPA Office Resident	NCY Max ial 0 – 101	k. Number (10 – 1000	of Persons 11 – 100 1000+	SOI Type I Hard So	L TYPE (IS 1893 Type II iil Medium Soil	:2002) Type III Soft Soil	Chimneys	FALLING Parapets	HAZARDS	Dther:
Assembly Commercial Emer.Service	Govt. Historic Industria	OCCUPA Office Resident I School	NCY Max ial 0 – 101	k. Number (10 – 1000 BASI	of Persons 11 – 100 1000+ IC SCORE,	SOI Type I Hard Sc MODIFIE	L TYPE (IS 1893 Type II ii Medium Soil ERS, AND FINAL	:2002) Type III Soft Soil	Chimneys	FALLING Parapets	HAZARDS	D Other:
Assembly Commercial Emer.Service	Govt. Historic Industria	OCCUPA Office Resident I School	NCY ial 0 – 101	<. Number (10 – 1000 BASI S1 RAME)	of Persons 11 – 100 1000+ IC SCORE, S2	SOI Type I Hard Sc MODIFIE	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL	:2002) Type III Soft Soil SCORE, S	Chimneys	FALLING Parapets	HAZARDS	Other:
Assembly Commercial Emer.Service BUILDING Basic Score	Govt. Historic Industria	OCCUPA Office Resident I School Wood	NCY ial 0 – 101	<. Number (10 – 1000 BASI S1 (AME) 2.8	of Persons 11 – 100 1000+ IC SCORE, S2 (LM) 3.2	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8	:2002) Type III Soft Soil C3 (INF) (2.6	Chimneys Chimneys URM1 BAND+RD) 2.8	FALLING Parapets	HAZARDS	Other: URM4
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to	Govt. Historic Industria G TYPE 7 stories)	OCCUPA Office Resident I School Wood 3.8 N/A	NCY Max 101 101	(. Number (10 – 1000 BAS S1 tAME) 2.8 0.2	of Persons 11 – 100 1000+ C SCORE, S2 (LM) 3.2 N/A	SOI Type I Hard Sc MODIFIE (MRF) 2.5 +0.4	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4	:2002) Type III Soft Soil SCORE, S (INF) ((2.6 +0.2	Chimneys Chi	FALLING Parapets URM2 (BAND+FD) 2.8 +0.4	HAZARDS	URM4
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irrequ	Govt. Historic Industria G TYPE 7 stories) stories) larity	OCCUPA Office Resident I School Wood 3.8 N/A N/A N/A -2 0	NCY ial 0- 101	c. Number (10 – 1000 BASI S1 AME) 2.8 -0.2 -0.6 1.0	of Persons 11 – 100 1000+ IC SCORE, S2 (LM) 3.2 N/A N/A N/A N/A	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1 5	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -10	:2002) Type III Soft Soil SCORE, S C3 (INF) (2.6 +0.2 +0.3 -1 0	Chimneys Chimneys URM1 BAND+RD) 2.8 +0.4 N/A -1 0	FALLING Parapets URM2 (BAND+FD) 2.8 +0.4 N/A -10	HAZARDS Cladding URM3 1.8 -0.2 N/A -1 0	URM4
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregulari	Govt. Historic Industria G TYPE 7 stories) stories) larity ty	OCCUPA Office Resident I School Wood 3.8 N/A N/A -2.0 -0.5	NCY Max 0 - 101	K. Number (10 – 1000 BAS S1 KAME) 2.8 -0.2 -0.6 1.0 0.5	of Persons 11 – 100 1000+ C SCORE, S2 (LM) 3.2 N/A N/A N/A N/A -0.5	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5	:2002) Type III Soft Soil SCORE, \$ C3 (INF) ((2.6 +0.2 +0.3 -1.0 -0.5	Chimneys Chimneys URM1 BAND+RD) 2.8 +0.4 N/A -1.0 -0.5	URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5	HAZARDS Cladding URM3 URM3 -0.2 N/A -1.0 -0.5	URM4 0.4 -1.0 -0.5
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregulari Code Detailing	Govt. Historic Industria G TYPE 7 stories) stories) larity ty 9	OCCUPA Office Resident I School Wood 3.8 N/A N/A -2.0 -0.5 N/A	NCY ial 0 – 101	 c. Number (10 – 1000 BASI S1 RAME) 2.8 0.2 0.6 1.0 0.5 0.4 	of Persons 11 – 100 1000+ C SCORE, S2 (LM) 3.2 N/A N/A N/A N/A -0.5 N/A	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5 +1.4	2002) Type III Soft Soil SCORE, S C3 (INF) (2.6 +0.2 +0.3 -1.0 -0.5 +0.2	Chimneys Chimneys URM1 BAND+RD) 2.8 +0.4 N/A -1.0 -0.5 N/A	URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5 N/A	HAZARDS Cladding URM3 URM3 1.8 -0.2 N/A -1.0 -0.5 N/A	URM4 URM4 1.4 -0.4 N/A -1.0 -0.5 N/A
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregulari Code Detailing Soil Type II Soil Type II	Govt. Historic Industria G TYPE 7 stories) stories) larity ty 9	OCCUPA Office Resident I School Wood 3.8 N/A N/A -2.0 -0.5 N/A -0.4 -0.4 -0.8	NCY Max 0 - 101	c. Number (10 – 1000 BASI S1 XAME) 2.8 -0.2 -0.6 1.0 0.5 -0.4 0.4 0.6	of Persons 11 – 100 1000+ IC SCORE, S2 (LM) 3.2 N/A N/A N/A N/A N/A -0.5 N/A -0.4 -0.6	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2 -0.4 -0.6	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5 +1.4 -0.4 -0.4 -0.6	:2002) Type III Soft Soil SCORE, \$ C3 (INF) ((2.6 +0.2 +0.3 -1.0 -0.5 +0.2 -0.4 -0.4 -0.4	Chimneys Chimneys URM1 BAND+RD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.4 -0.4 -0.6	URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.4 -0.6	HAZARDS Cladding URM3 URM3 1.8 -0.2 N/A -1.0 -0.5 N/A -0.4 -0.4 -0.6	URM4 1.4 -0.4 N/A -1.0 -0.5 N/A -0.4 -0.4 -0.4 -0.4 -0.6
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregulari Code Detailing Soil Type II Soil Type II Soil Type III Liquifiable Soi	Govt. Historic Industria G TYPE 7 stories) stories) larity ty 9	OCCUPA Office Resident I School Wood 3.8 N/A N/A -2.0 -0.5 N/A -0.4 -0.8 -0.8	NCY ial 0 - 101	 c. Number (10 – 1000 BASI S1 C.8 O.2 O.6 1.0 O.5 O.4 O.6 1.2 	of Persons 11 – 100 1000+ C SCORE, S2 (LM) 3.2 N/A N/A N/A N/A -0.5 N/A -0.4 -0.6 -1.0	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2 -0.4 -0.6 -1.2	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5 +1.4 -0.4 -0.6 -0.8	Score (NF) 2.6 +0.2 +0.3 -1.0 -0.5 +0.2 -0.4 -0.4 -0.8 -0.8	Chimneys Chimneys URM1 BAND+RD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6	URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.6	HAZARDS Cladding URM3 URM3 URM3 -0.2 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8	URM4 1.4 -0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregulari Code Detailing Soil Type II Soil Type II Soil Type III Liquifiable Soi	Govt. Historic Industria G TYPE 7 stories) stories) larity ty 9 I DRE, S	OCCUPA Office Resident I School Wood 3.8 N/A N/A -2.0 -0.5 N/A -0.4 -0.8 -0.8	NCY ial 0 - 101	c. Number (10 – 1000 BAS S1 AME) 2.8 0.2 0.6 1.0 0.5 0.4 0.4 0.6 1.2	of Persons 11 – 100 1000+ IC SCORE, S2 (LM) 3.2 N/A N/A N/A -0.5 N/A -0.4 -0.6 -1.0	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2 -0.4 -0.6 -1.2	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5 +1.4 -0.4 -0.6 -0.8	:2002) Type III Soft Soil SCORE, S (INF) (1 2.6 +0.2 +0.3 -1.0 -0.5 +0.2 -0.4 -0.4 -0.4 -0.8	Chimneys Chimneys BAND+RD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6	URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.6	HAZARDS Cladding URM3 1.8 -0.2 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8	URM4 1.4 -0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregulari Code Detailing Soil Type II Soil Type II Soil Type III Liquifiable Soi FINAL SCO Result Inte	Govt. Historic Industria G TYPE 7 stories) stories) larity ty 9 I DRE, S erpretatio	OCCUPA Office Resident School Wood 3.8 N/A N/A -2.0 -0.5 N/A -0.4 -0.8 -0.8 -0.8	NCY Max 0 - 101 (FR + + - - - - - - - - - - - - -	(. Number (10 – 1000 BASI S1 TAME) 2.8 0.2 0.6 1.0 0.5 0.4 0.4 0.6 1.2 Derformal	of Persons 11 – 100 1000+ C SCORE, S2 (LM) 3.2 N/A N/A N/A -0.5 N/A -0.4 -0.6 -1.0	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2 -0.4 -0.6 -1.2	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5 +1.4 -0.4 -0.6 -0.8	:2002) Type III Soft Soil SCORE, S C3 (INF) ((2.6 +0.2 +0.3 -1.0 -0.5 +0.2 -0.4 -0.4 -0.8	Chimneys Chimneys BAND+RD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.6	URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6	HAZARDS Cladding URM3 URM3 URM3 -0.2 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8	URM4 1.4 -0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8 -0.8
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregulari Code Detailing Soil Type II Soil	Govt. Historic Industria G TYPE 7 stories) stories) larity ty g I DRE, S erpretatio 3	OCCUPA Office Resident School Wood 3.8 N/A N/A -2.0 -0.5 N/A -0.4 -0.8 -0.8 -0.8	NCY Maxial 0 - 101 (FF (FF + + + - - - - - - - - - - - - -	 c. Number (10) 1000 BASI S1 CAME) 2.8 0.2 0.6 1.0 0.5 0.4 0.6 1.2 	of Persons 11 – 100 1000+ IC SCORE, S2 (LM) 3.2 N/A N/A N/A -0.5 N/A -0.4 -0.6 -1.0 mce) ge; Very high ge; Very high	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2 -0.4 -0.6 -1.2	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5 +1.4 -0.4 -0.6 -0.8 -0.8 -0.8	:2002) Type III Soft Soil SCORE, S C3 (INF) (2.6 +0.2 +0.3 -1.0 -0.5 +0.2 -0.4 -0.4 -0.4 -0.8	Chimneys Chimneys URM1 BAND+RD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.6	URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6	HAZARDS Cladding URM3 URM3 1.8 -0.2 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8 -0.8 Fut Eval Recom	URM4 URM4 1.4 -0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8 -0.8 -0.8
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregulari Code Detailing Soil Type II Soil Type II Soil Type III Liquifiable Soi FINAL SCO Result Inte S < 0 0.3 < S < 0.7 < S <	Govt. Historic Industria G TYPE 7 stories) stories) larity ty 9 I DRE, S erpretatio 3 3 0.7 2.0	OCCUPA Office Resident School Wood 3.8 N/A N/A -2.0 -0.5 N/A -0.4 -0.8 -0.8 -0.8 -0.8	NCY Max 101 (FF + + + + - - - - - - - - - - - - - - -	c. Number (10 – 1000 BASI S1 RAME) 2.8 0.2 0.6 1.0 0.5 0.4 0.4 0.6 1.2 Derformal de 5 dama de 4 dama de 3 dama	of Persons 11 – 100 1000+ C SCORE, S2 (LM) 3.2 N/A N/A -0.5 N/A -0.6 -1.0 -0.4 -0.6 -1.0 -0.6 -1.0	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2 -0.4 -0.6 -1.2 probability c probability c probability c	L TYPE (IS 1893 Type II Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5 +1.4 -0.4 -0.6 -0.8 of Grade 4 damage of Grade 3 damage of Grade 2 damage	:2002) Type III Soft Soil SCORE, S C3 (INF) ((2.6 +0.2 +0.3 -1.0 -0.5 +0.2 -0.4 -0.4 -0.8	Chimneys Chimney Chimneys Chimney	URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6	HAZARDS Cladding URM3 URM3 URM3 -0.2 N/A -0.5 N/A -0.4 -0.6 -0.8 -0.8 -0.4 -0.6 -0.8 -0.8	Conter: Other: URM4 1.4 -0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8 -0.8 -0.4 -0.6 -0.8
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregulari Code Detailing Soil Type II Soil Type II Soil Type II Soil Type III Liquifiable Soi FINAL SCO Result Inte S < 0 0.3 < S < 0.7 < S < 2.0 < S <	Govt. Historic Industria G TYPE 7 stories) stories) larity ty g I DRE, S erpretatio 3 : 0.7 : 2.0 : 3.0	OCCUPA Office Resident School Wood 3.8 N/A N/A -2.0 -0.5 N/A -0.4 -0.8 -0.4 -0.8 -0.8 -0.8	NCY Maxial 0 – 101 (FF + + + - - - - - - - - - - - - -	C. Number (10 – 1000 BASI SAME) 2.8 0.2 0.6 1.0 0.5 0.4 0.5 0.4 0.6 1.2 Derformal de 5 dama de 4 dama de 3 dama de 2 dama	of Persons 11 – 100 1000+ IC SCORE, (LM) 3.2 N/A N/A N/A -0.5 N/A -0.4 -0.6 -1.0 -0.4 -0.6 -1.0	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2 -0.4 -0.6 -1.2	L TYPE (IS 1893 Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5 +1.4 -0.4 -0.6 -0.8 -0.8 -0.6 -0.8	:2002) Type III Soft Soil . SCORE, S C3 (INF) (2.6 +0.2 +0.3 -1.0 -0.5 +0.2 -0.4 -0.4 -0.4 -0.8	Chimneys Chimneys URM1 BAND+RD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6	FALLING Parapets Parapets URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6 -0.6	HAZARDS Cladding URM3 URM3 URM3 -0.2 N/A -1.0 -0.5 N/A -0.6 -0.8 -0.8 -0.8 -0.4 -0.6 -0.8 -0.8	URM4 URM4 1.4 -0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8 -0.8 -0.8
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregulari Code Detailing Soil Type II Soil Type II Soil Type III Liquifiable Soi FINAL SCC Result Inte S < 0. 0.3 < S < 0.7 < S < 2.0 < S < 5 > 3.	Govt. Historic Industria G TYPE 7 stories) stories) larity ty 9 I DRE, S erpretatio 3 3 0.7 2.0 3.0 0	OCCUPA Office Resident I School Wood 3.8 N/A N/A -2.0 -0.5 N/A -0.4 -0.8 -0.8 -0.8 -0.8 -0.8 -0.8 -0.8	NCY Maxial 0 – 101 (FF + + - - - - - - - - - - - - - - - - -	C. Number (10 – 1000 BASI SAME) 2.8 0.2 0.6 1.0 0.5 0.4 0.4 0.6 1.2 Derformal de 5 dama de 4 dama de 2 dama damage	of Persons 11 – 100 1000+ IC SCORE, S2 (LM) 3.2 N/A N/A N/A -0.5 N/A -0.4 -0.6 -1.0 100 100 100 100 100 100 100	SOI Type I Hard Sci MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2 -0.4 -0.6 -1.2	L TYPE (IS 1893 Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.4 +0.8 -1.0 -0.5 +1.4 -0.4 -0.6 -0.8	:2002) Type III Soft Soil - SCORE, S C3 (INF) (2.6 +0.2 +0.3 -1.0 -0.5 +0.2 -0.4 -0.4 -0.4 -0.8	Chimneys URM1 BAND+RD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6	URM2 (BAND+FD) 2.8 +0.4 N/A -0.5 N/A -0.6 -0.6	HAZARDS Cladding URM3 URM3 URM3 -0.2 N/A -0.5 N/A -0.4 -0.6 -0.8 -0.4 -0.6 -0.8 -0.4 -0.6 -0.8 -0.4 -0.6 -0.8 -0.2 N/A -1.0 -0.5 N/A -1.0 -0.5 N/A -1.0 -0.5 N/A -1.0 -0.5 N/A -1.0 -0.5 N/A -1.0 -0.5 N/A -1.0 -0.5 N/A -1.0 -0.5 N/A -0.2 N/A -1.0 -0.5 N/A -0.2 N/A -1.0 -0.5 N/A -0.2 N/A -0.2 N/A -0.2 N/A -0.2 N/A -0.5 N/A -0.5 N/A -0.6 -0.8	URM4 1.4 -0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8 -0.8 -0.4 -0.6 -0.8 -0.8 -0.4 -0.6 -0.8
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregularii Code Detailing Soil Type II Soil Type II Soil Type II Soil Type III Liquifiable Soi FINAL SCO Result Inte S < 0.7 0.3 < S < 0.7 < S < 2.0 < S < 2.0 < S < 5 > 3.1 * = Estimated, DNK = Do Not	Govt. Historic Industria G TYPE 7 stories) stories) larity ty g I DRE, S erpretatio 3 6 0.7 2.0 3 3.0 0 subjective, t Know	OCCUPA Office Resident School Wood 3.8 N/A N/A -2.0 -0.5 N/A -0.4 -0.8 -0.4 -0.8 -0.8 -0.8 -0.8	NCY Maxial 0 – 101 (FF + + + + - - - - - - - - - - - - - - -	 k. Number (10) 1000 BASI S1 KAME) 2.8 0.2 0.6 1.0 0.5 0.4 0.6 1.2 Derformal de 5 dama de 4 dama de 3 dama de 4 dama de 2 dama de 4 dama de 2 dama damage 	of Persons 11 – 100 1000+ IC SCORE, (LM) 3.2 N/A N/A N/A -0.5 N/A -0.4 -0.6 -1.0 -0.4 -0.6 -1.0 -0.4 -0.6 ge; Very high ge; Very high	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.4 -0.6 -1.2 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5	L TYPE (IS 1893 Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5 +1.4 -0.4 -0.6 -0.8 of Grade 4 damage of Grade 3 damage of Grade 2 damage of Grade 1 damage SW = S nry Infill Wall LM = Li	:2002) Type III Soft Soil SCORE, S C3 (INF) (2.6 +0.2 +0.3 -1.0 -0.5 +0.2 -0.4 -0.4 -0.4 -0.4 -0.8 Shear Wall ght Metal	Chimneys Chimney Chimneys Chimney Chimneys Chimney Chim	URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6 -0.6 urg 2.8 +0.4 N/A -1.0 -0.5 N/A	HAZARDS Cladding URM3 URM3 1.8 -0.2 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8 -0.8 Fun Eval Recom YES reinforced burn one masonry (c	URM4 URM4 1.4 -0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8 -0.8 -0.8 -0.8 -0.8 -0.4 -0.6 -0.8 -0.8 -0.4 -0.6 -0.8 -0.8 -0.4 -0.6 -0.8 -0.8 -0.4 -0.6 -0.8 -0.4 -0.6 -0.8 -0.8 -0.4 -0.6 -0.8 -0.
Assembly Commercial Emer.Service BUILDING Basic Score Mid Rise (4 to High Rise (>7 Vertical Irregu Plan Irregulari Code Detailing Soil Type II Soil Type II Soil Type III Liquifiable Soi FINAL SCO Result Inte S < 0.: 0.3 < S < 0.7 < S < 2.0 < S < 5 > 3.1 * = Estimated, DNK = Do Not	Govt. Historic Industria G TYPE 7 stories) stories) larity ty 9 I DRE, S erpretatio 3 6 0.7 2.0 3 0 subjective, t Know	OCCUPA Office Resident I School Wood 3.8 N/A N/A -2.0 -0.5 N/A -0.4 -0.8 -0.8 -0.8 -0.8 -0.8 -0.8	NCY Maxial 0 – 101 (FF + + + - - - - - - - - - - - - - - - -	c. Number (10 – 1000 BASI Stame) 2.8 0.2 0.6 1.0 0.5 0.4 0.6 1.2 Defformal de 5 dama de 4 dama de 3 dama de 2 dama damage	of Persons 11 – 100 1000+ IC SCORE, S2 (LM) 3.2 N/A N/A -0.5 N/A -0.4 -0.6 -1.0 <i>OCE</i>) ge; Very high ge; Very high	SOI Type I Hard Sc MODIFIE C1 (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 +0.2 -0.4 -0.6 -1.2 probability c probability c probability c probability c probability c	L TYPE (IS 1893 Medium Soil ERS, AND FINAL C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5 +1.4 -0.4 -0.6 -0.8 of Grade 4 damage of Grade 3 damage of Grade 2 damage of Grade 1 damage SW = S nry Infill Wall LM = Li ng Frame BAND m URM4	:2002) Type III Soft Soil SCORE, S C3 (INF) ((2.6 +0.2 +0.3 -1.0 -0.5 +0.2 -0.4 -0.4 -0.4 -0.4 -0.8 Shear Wall ight Metal = Seismic Ban = Unreinforcec	Chimneys Chimneys CHIMNE BAND+RD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6 -0.6 -0.6 -0.6	URM2 (BAND+FD) 2.8 +0.4 N/A -1.0 -0.5 N/A -0.6 -0.6 WRM3 = Un or stc RD = Rigid one mortar)	HAZARDS Cladding URM3 URM3 1.8 -0.2 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8 URM3 Eval Recom YES reinforced burn one masonry (c	URM4 1.4 -0.4 N/A -1.0 -0.5 N/A -0.4 -0.6 -0.8 -0.8 -0.4 -0.6 -0.8 -0.4 -0.6 -0.8 -0.4 -0.6 -0.8 -0.4 -0.6 -0.8 -0.4 -0.6 -0.8 -0.4 -0.6 -0.8 -0.4 -0.4 -0.4 -0.4 -0.4 -0.5 N/A -0.4 -0.5 N/A -0.5 N/A -0.6 -0.8 -