SEISMIC VULNERABILITY ASSESSMENT OF RESIDENTIAL BUILDINGS AT DHAKA CITY, BANGLADESH USING FEMA 154

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A thesis submitted to the Department of Civil Engineering in partial fulfillment for the degree of Bachelor of Science in Civil Engineering



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BOARD OF EXAMINERS

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DECLARATION

It is hereby declared that this thesis/project or any part of it has not been submitted elsewhere for the award of any degree or diploma.

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Dedicated

to "OUR PARENTS"

ACKNOWLEDGEMENTS

First, we want to express our gratitude to ALLAH, through Whom all good deeds are accomplished and let us through all the difficulties.

We'd want to use this opportunity to express our heartfelt gratitude to our thesis advisor Md. Rakib Hossain, Lecturer & Assistant Coordinator, Department of Civil Engineering, Sonargaon University (SU), for his consistent encouragement and prompt responses throughout the research. His insightful advice and active supervision were invaluable during our research. Working under his assistance provided us the opportunity to learn and experience a wealth of knowledge in the respective field.

We would like to thank my family for supporting me spiritually throughout my life. Our sincere thanks also go to our friends for their constant support and understanding while undertaking the research.

Indebted to our thesis mates for the outstanding team companionship.

ABSTRACT

The seismic performance of private residential buildings is of high importance because of their exceptional occupancy and their significant role after any natural disaster. Bangladesh is highly vulnerable to earthquakes because of its proximity to the boundary of tectonic plates and fault lines. Dhaka is a major leading city and business capital of Bangladesh which is positioned in the south-eastern part of the country and falls in the moderate seismic zone according to Bangladesh building code (BNBC, 2015 draft) with a seismic zone coefficient of 0.28 g based on 2% probability in 50 years. In this city, most of the private residential buildings were built before the implementation of the seismic code. Therefore, it is necessary to investigate the seismic performance of existing buildings in private residential buildings in Dhaka City. In the present study, a structural record of existing private residential building buildings in the Dhaka City Corporation area has been developed. The seismic vulnerability of these buildings has been evaluated by using FEMA 154. The result of the study shows that a total 30 buildings of private residential buildings in Dhaka City Corporation are safe against probable earthquakes and 216 buildings require more specified analysis to evaluate the level of actual risk.

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CHAPTER 1

INTRODUCTION

1.1 Background and Motivations

Bangladesh is one of the most seismically vulnerable countries in the world and continuously facing potential earthquake threats and damage (Alam et al, 2009). Earthquake is one of the most devastating natural hazards and in recent years it has become more frequent in Bangladesh. An earthquake of even medium magnitude on the Richter scale can produce a mass graveyard in major cities of the country because of rapid and unplanned urbanization with high population density and defiance of Building codes are also increasing the vulnerability against earthquakes. The earthquake risk of any place largely depends on its topography, population density, geology, building density construction quality, and finally the coping strategy of its people. Thus, to address these issues, vulnerability assessment against earthquakes is a unique approach.

1.2 Research Objectives and Overview

The Rapid Visual Screening has been thoroughly described in FEMA-154. This method is one of the quickest procedures to identify seismically vulnerable buildings without the use of any expensive detailed evaluation of any particular building. In Rapid Visual Screening a scoring system has been developed that enables the users to identify the primary lateral load resisting system of structure and the seismic performance of the structures. The observation of the building will take an average of 15 to 30 minutes. Moreover, the surveyors can categorize the buildings into two types using a cutoff score i.e., buildings safe against probable seismic events or buildings which are seismically hazardous.

The main objectives of this study are to develop a database of seismically vulnerable buildings in some parts of Dhaka city.

The specific objectives are

- (i) to classify buildings depending on the structural form
- (ii) to develop an inventory of existing buildings in the study area
- to assess the seismic vulnerability of buildings by the Rapid Visual Screening (RVS) method.

1.3 Thesis Summary

The FEMA P-154 Report, Rapid Visual Screening of Buildings for Potential Seismic Hazards: A Handbook, is the first of a two-volume publication on recommended methodology for rapid visual screening of buildings for potential seismic hazards. The technical basis for the methodology, including the scoring system and its development, is contained in the companion volume, FEMA P-155 report, Rapid Visual Screening of Buildings for Potential Seismic Hazards: Supporting Documentation (FEMA, 2015). Both this document and the companion document are third editions of similar documents first published by FEMA in 1988 and updated in 2002. Once the decision to conduct rapid visual screening for a community or group of buildings has been made, the screening effort can be expedited by pre-field planning, including the training of screeners, and careful overall management of the process.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Bangladesh is a highly populated and developing country in the world. It is a naturally disaster-prone country and the most affected region due to global climate change over the last decades (Kreft et al., 2014). Recently, the country affected by numerous disasters such as floods, cyclones, landslides, earthquakes, droughts, etc. As a result, each year the country faces thousands of casualties and lots of economic losses. Moreover, the proximity of the country to the edge of two energetic plates, i.e., one of the Indian plate and another is the Eurasian plate causes more vulnerability to earthquakes. Though there has been no evidence of great earthquakes happening in these faults for several years, repeatedly occurring small to medium earthquakes in this region make us conscious of the occurrence of serious earthquakes in the future Dhaka is a major city, and business principal consists of numerous important lifeline structures. This region falls in the moderate seismic zone according to the Bangladesh National Building Code (BNBC, 2015 draft) with a seismic zone coefficient is 0.28g based on a 2% probability in 50 years. Dhaka has extended evidence of earthquakes. The serviceability of lifeline facilities is of high importance for emergency response after natural disasters, especially earthquakes. This lifeline facility 4th International Conference on Advances in Civil Engineering 2018 (ICACE 2018) 19 –21 December 2018 BUET, Dhaka, Bangladesh www.buet.ac.bd includes school buildings, private residential buildings, hospital, fire service station, electrical power station, road network, bridges, gas lines, etc. The s private residential buildings are the most important structures and serious human concern and their safety needs to be ensured first. Any kind of slight collapse of any component of those buildings will cause the loss of many lives. So, it is necessary to investigate the seismic performance of existing private residential buildings. Though, some of the researchers conducted research on the evaluation of the seismic vulnerability of important buildings in Dhaka city (Sarraz et al., 2015, Mazumder et al., 2018), none of them focused on private residential buildings. The present study has been carried out to evaluate seismic safety assessment of private residential buildings in Dhaka City Corporation. In this study, the main objective is to prepare a seismic vulnerability database of

private residential buildings in Dhaka city. The result of this present study can be used for further seismic risk mitigation plans.

2.2 Content

The primary advantages of the RVS method are speed and the ability to use screeners who are not necessarily structural engineers. The procedure in this Handbook has been designed to minimize ambiguity and limit the need for judgment by the screeners. As noted above, it fills a unique niche in the spectrum of available seismic evaluation tools, as other tools require greater effort, expertise, and cost. Because screening can be done quickly, large portfolios of buildings can be evaluated in a cost-effective manner. The method has also been used by many different people and jurisdictions throughout the United States for over 25 years. As a result, it has had a long track record of actual use and opportunities for scrutiny and improvement, including both the second and third edition updates.

2.3 Summary

While the principal purpose of the RVS procedure is to identify potentially seismically hazardous buildings needing further evaluation, results from RVS surveys can also be used for other purposes. These include: (1) evaluating a community's or agency's seismic retrofitting needs; (2) designing seismic hazard mitigation programs for a community or agency; (3) developing inventories of buildings for use in monitoring buildings for earthquake impacts or for facilitating earthquake damage and loss assessments; (4) planning post-earthquake building safety evaluation efforts; and (5) developing building-specific seismic vulnerability information for purposes such as insurance rating, decision making during building ownership transfers, and possible triggering of remodeling requirements during the permitting process.

CHAPTER 3 METHODOLOGY

3.1 Introduction

At present, a number of evaluation procedures are available to assess the safety level of a structure during an earthquake. Rapid visual screening (RVS) is one kind of procedure used to identify record and class building structures that are potentially seismically hazardous during earthquakes (FEMA 154, 2002). FEMA 154 RVS methodology is encapsulated in a one-page format that joins an explanation of a building structure. This method is planned to be applied without performing any structural computations. Fig. 2 shows the score modifier for the assessment of the vulnerability of building structures according to FEMA 154.

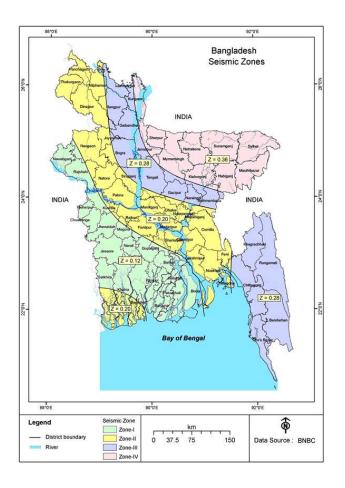


Figure. 3-1: Seismic zoning map of Bangladesh (BNBC, 2020 draft)

1.2 Methodology Overview

Rapid visual screening RVS method is based on a sidewalk survey from the street or inside a building in which a trained screener identifies the load-resisting system and captures some of the attributes that affect the seismic performance of a structure negatively or positively. These attributes include plan asymmetry, vertical irregularity, cracks, wall openings, building height, construction quality, etc. Nonlinear finite element analysis is the most accurate procedure to compute the seismic vulnerability of buildings of an area; however, it is not possible to analyze every building structurally to predict its seismic performance as it is technically complex, requires expertise in nonlinear modeling, computationally expensive, and time-consuming. To deal with a large stock of buildings, the RVS procedure, which does not require any structural calculations, provides a fast and effective alternative to assess seismic vulnerability. RVS has many applications in the fields of Disaster Management, Civil Engineering, and Urban Planning. The application of RVS in Disaster Management is that it gives an assessment of the vulnerability of the total building stock of an area and indicates a massive risk reduction.

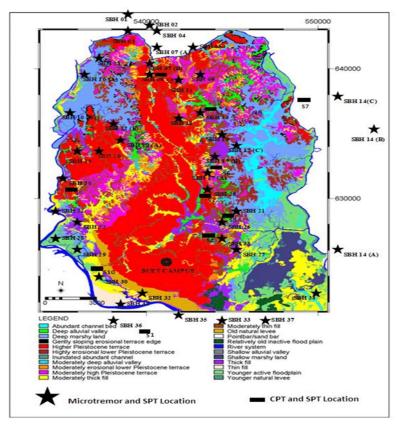


Figure. 3-2: Earthquake Risk Map in Dhaka City

Indicators of the RVS method affecting the seismic behavior of buildings Apart from the expected intensity of seismic hazard, seismic performance of buildings depends upon the lateral load resisting system, material type, plan symmetry, vertical regularity, soil condition, construction quality, cracks, wall openings, etc. Nonstructural elements vulnerability can be observed during the RVS; however, it cannot be quantified in the calculation of the final structural score as it depends on a myriad number of factors. However, factors considered in the RVS procedure of FEMA P-154 are explained briefly below.

Entity	Description	Examples	Qualifications	Responsibilities
RVS	Entity that has	State legislature, city	Has authority to	Sets the goals and objectives of the
Authorit y	decided to conduct an RVS program and will use the results.	council, school districts, and private building owners.	conduct an RVS program.	program and describe how the results will be used. Chooses the Program Manager and the Supervising Engineer. Approves the plan developed by the Program Manager.
Progra m	Entity that will	Building department,	Knowledgeable about	Defines the scope of the program
Manage r	Manage the RVS program on behalf of the RVS Authority.	qualified technical branch of government, an outside consultant.	RVS. Capable of managing the project.	and develops the budget. Oversees implementation of the screening program. Allocates screener resources to ensure efficient use of their time and minimize travel time. The program Manager likely

Table 3-1 Key Players in an RVS Program

Entity	Description	Examples	Qualifications	Responsibilities
Supervi	Individual who	Structural	Structural	has administrative staff to develop the record- keeping system, conduct the pre-field data collection, and perform data entry. Selects and modifies the
sing	will	engineer	engineer	Data
Enginee r	provide the technical expertise necessary to run the RVS program.	be the Program Manager).	with a background in seismic evaluation and risk assessments. Understand RVS methodology and its technical basis as described in FEMA P- 155.	Collection Form. Determines the key seismic code adoption dates and benchmark years. Determines cut- off score (with RVS Authority and Program Manager). May train the screeners. Available for screeners to consult with during field screening. Review completed forms. Assists in interpreting the results of the program.
Level 1	Individual who will	Civil or structural	Receives appropriate	
Screene r	conduct Level 1 screenings of buildings.	engineer, architect, design professional, building official, construction	FEMA P-154 training.	Performs Level 1 field screening.

Entity	Description	Examples	Qualifications	Responsibilities
		contractor,		
		facility		
		manager,		
		firefighter,		
		architectural or		
		engineering		
		student, or		
		another		
		individual with		
		a general		
		familiarity or		
		background in		
		building design		
		or construction.		

If the RVS program will be used to help establish a hazardous building mitigation program for a community, then the information obtained in the RVS should be as complete as possible. This would benefit the RVS Authority in establishing the scope and need of such a mitigation program and will lend a high degree of confidence that decisions are based on the best.

3.2.1 Building type

The seismic performance of a building primarily depends on its lateral load-resisting type [44]. Buildings constructed from non-engineered and semi-engineered materials without any engineering input are highly vulnerable; however, buildings constructed from engineered materials also become vulnerable if met with severe plan and vertical irregularities. Based on construction types and building materials, seventeen types of buildings are selected in FEMA P-154 [42]. Construction types include both properly designed constructions according to codes and regulations and non-engineered construction without following specifications. Unconfined masonry structures are assigned low basic scores because of their high vulnerability.

3.2.2 Building height

The height of a building can influence its seismic performance. Generally speaking, low-height buildings are considered seismically less vulnerable [45]. Two types of height ranges are considered in this latest RVS procedure of FEMA: 1–3 stories and more than 3 stories; however, the modification score for building height is applicable only if a building is located on soil type E. Building height does not greatly influence seismic performance, and therefore its score modifier is applicable only to soft soil (type E).

3.2.3 Plan irregularity

Buildings having a symmetrical plan are considered to exhibit good seismic performance in earthquakes. Buildings having plan irregularity like L, U, and + shape sustained significant damages in past earthquakes. Irregularity in the plan adversely affects the seismic performance of a building [46]. Due to an adverse effect of plan irregularity on the seismic behavior of a building, its corresponding score modifier for all types of buildings is negative. Plan irregularity has a less adverse effect on seismic performance as compared to vertical irregularity and therefore has a lower score modifier than vertical irregularity for all types of building.

3.2.4 Vertical irregularity

A building is termed as vertically irregular if there is any physical discontinuity in vertical configuration or lateral load-resisting system. In commercial buildings, people use the ground floor for car parking with no masonry infill walls, thus producing a soft story effect. The same is the case in residential buildings, where people use the ground story for commercial purposes like shops. Vertical irregularity in 2- and 3-story buildings can exist due to vertical setbacks, short column effect, and soft story effect on the ground floor. Due to the adverse effects of vertical irregularity on the seismic performance of buildings, its corresponding score modifier for all types of buildings is negative. This modifier due to its significant adverse effect has assigned the highest negative score modifier in the calculation of the final structural score. vertical irregularity on seismic performance of buildings is negative. This modifier due to its modifier due to its significant adverse effect has assigned the highest negative score modifier in the calculation of the final structural score. vertical irregularity on seismic performance of buildings, its corresponding score modifier due to its modifier due to its modifier due to its significant adverse effect has assigned the highest negative score modifier in the calculation of the final structural score. Vertical irregularity on seismic performance of buildings, its corresponding score modifier due to its modifier

significant adverse effect has assigned the highest negative score modifier in the calculation of the final structural score.

3.2.5 Building Construction Quality

Buildings having poor construction quality and workmanship exhibit poor seismic performance. Although judgment cannot be made about a building's construction quality, a trained observer can make an inference about the original quality of construction by looking at the present condition of the building cracks, damage, spalling of concrete, ground settlement, dampness, etc. This factor was included in FEMA 154 [49] but is removed in FEMA P-154 [42]

3.2.6 Soil condition

Underlying soil conditions in a particular area can amplify or dissipate the energy of seismic waves and can greatly influence the amplitude and duration of the shaking, affecting the seismic performance of structures significantly. Depending on soil type, its corresponding score modifier may be negative or positive. Soil types A and B do not amplify seismic wave's energy significantly and have therefore assigned a positive score modifier in the calculation of the final structural score.

Soil type	Name	Shear wave velocity V _{s30} (Ft/s)	
Hard rock	Type A	> 5000	
Soft rock	Type B	$2500 < V_{s30} \le 5000$	
Dense soil	Type C	$1200 < V_{s30} \le 2500$	
Stiff soil	Type D	$600 < V_{s30} \le 1200$	
Soft soil	Type E	vpe E ≤600	
Poor soil	Type F	Requires specific evaluation	

Table: 3-2: Soil type

3.2.7 Post-benchmark

. . .

The year in which building code adoption in an area is made mandatory by authorities is termed the benchmark year. This modifier is applicable to buildings constructed after the benchmark year. However, in the case study area, the building code adoption is still not made mandatory by concerned authorities, so this modifier is applicable only if the owners have adopted the building code. The code-compliant structure exhibits good performance in earthquakes and therefore has positive score modifiers. Buildings designed according to building codes are less vulnerable; therefore, the post-benchmark modifier is assigned a high positive score modifier.

3.2.8 Pre-code

In developing countries, there are still buildings that were constructed prior to the initial adoption and enforcement of seismic codes. Buildings constructed prior to seismic codes are expected to exhibit poor performance in earthquakes and therefore are highly vulnerable. If a building is constructed prior to the initial adoption of the building code for that particular FEMA building type, this modifier is applicable. This score modifier for all types of buildings is negative. A negative significant score is assigned to this modifier in the calculation of the final structural score.

3.3 Summary

This section presents some of the most important choices and describes the consequences of various decisions. Decisions generally vary based on the goals and objectives of individual programs and the resources available. If the RVS program is to be a public or community project, the local governing body and local building officials should formally approve the program plan and general procedure. Then, the public or the members of the community should be informed about the purpose of the screening process and how it will be carried out.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 General

Present study total of 30 buildings are analyzed to assess the seismic vulnerability by considering the rapid visual screening method of FEMA 154. There are mainly two types of structures that exist in the private residential buildings in Dhaka city, such as Unreinforced Masonry (URM) structures with rigid diaphragms and Concrete moment resisting frames (C1) structures with masonry infill. Fig. 4(a) represents the percentage of buildings according to Aftabnagar. Most residential buildings are high-rise; about 83% of buildings are 3 stories or less. Among the building stock, the highest building is five stories which is around 7%. Government primary school buildings can be categorized as a variety of three important phases of the development of the BNBC code. The study found that about 19% of buildings were built before the year 1993,51% were built from 1993 to 2006 and 30% were built after the year 2006. To assess the seismic vulnerability of primary school buildings in the CCC area, rapid visual screening of FEMA 154 is used. Information on every building structure is collected by walking around the building.

4.2 Study area

Dhaka City area covers 306.4 square kilometers and around 23,234 persons live per square kilometer. The survey areas of this research work are Aftabnagar and Banasree of Dhaka. A total of 20 and 10 residential buildings are located in Aftabnagar and Banasree respectively.

4.3 Description of observed case study buildings

Due to the poor economic conditions of the residents, houses made of mud bricks, mud, and straw are still in use. Adobe buildings have low earthquake resistance and have suffered severe damage in the past from earthquakes. Adobe buildings are still present in Dhaka, but are less in number as compared to other types of buildings which is a good sign as people nowadays prefer houses made of burnt bricks and engineering materials as compared to other locally available materials like block and stones believing that buildings made of bricks and cement performs well in earthquakes. Masonry structures are not only common in Bangladesh, but all over the world. Both confined brick masonry and unconfined brick masonry (UCM) buildings are more abundant in numbers than other types of buildings. Building heights generally varied from one to three stories. Most of the masonry buildings have reinforced concrete slabs as floor and roof material; however, slabs are not properly tied to the walls in the case of UCM buildings. One common and important observation among all masonry buildings was the English bond, which is heartening to see as this bond is stronger than other bonds. Brick masonry walls have been found to be 9 inches thick usually. Properties of materials like the initial absorption rate of bricks and compressive strength of mortar are poor and are different from those in other parts of the world. Brick masonry buildings constructed with mud or poor cement mortar are highly vulnerable.



Figure. 4-1: Aftabnagar area, Dhaka city

 Table 4-1: Scoring Matrix portion of the Level 1 Data Collection Form for High

 Seismicity.

BUILDING TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RCSW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C3 (URMINF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic Score	4.4	3.8	2.8	3.0	3.2	2.8	2.0	2.5	2.8	1.6	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (> 7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8	+0.8	+0.6	+0.8	+0.3	N/A	+0.4	N/A	+0.6	N/A
Vertical Irregularity	-2.5	-2.0	-1.0	-1.5	N/A	-1.0	-1.0	-1.5	-1.0	-1.0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irregularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Pre-Code	0.0	-1.0	-1.0	-0.8	-0.6	-0.8	-0.2	-1.2	-1.0	-0.2	-0.8	-0.8	-1.0	-0.8	-0.2
Post Benchmark	+2.4	+2.4	+1.4	+1.4	N/A	+1.6	N/A	+1.4	+2.4	N/A	+2.4	N/A	+2.8	+2.6	N/A
Soil Type C	0.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Soil Type D	0.0	-0.8	0.6	-0.6	-0.6	-0.6	-0.4	-0.6	-0.6	-0.4	-0.6	-0.6	-0.6	-0.6	-0.6
Soil Type E	0.0	-0.8	-1.2	-1.2	-1.0	-1.2	-0.8	-1.2	-0.8	-0.8	-0.4	-1.2	-0.4	-0.6	-0.8
FINAL SCORE, S															

In Tier 1, a total 30 numbers of private residential buildings have been evaluated using the Rapid Visual Screening (RVS) method. Considering Dhaka City as a moderate seismic risk zone, the cutoff value is taken as 2. 0. Buildings having a cutoff value of less than 2.0, need to be evaluated further in the Tier-2 phase. The following Table 4.2 shows the RVS scores of different private residential buildings.

Table 4-2: Final scores of RVS

Number of buildings	RVS Score	Detailed Evaluation Required
01	2.8	Yes
02	3.3	Yes
03	4.0	Yes
04	3.4	Yes
04	3.2	Yes
05	4.5	Yes
06	3.7	Yes
07	3.2	Yes
08	4.0	Yes
09	0.7	NO
10	4.0	Yes
11	4.0	Yes
12	4.0	Yes
13	4.0	Yes

Number of buildings	RVS Score	Detailed Evaluation Required
14	4.5	Yes
15	4.0	Yes
16	4.0	Yes
17	4.5	Yes
18	1.1	NO
19	4.0	Yes
20	4.0	Yes
21	3.2	Yes
22	4.0	Yes
23	3.4	Yes
24	0.3	NO
25	3.2	Yes
26	3.4	Yes
27	3.2	Yes
28	3.4	Yes
29	3.2	Yes
30	3.9	Yes

Tier-2 evaluation has been conducted using FEMA-310 guidelines. FEMA-310 guideline basically focuses on features like soft story, geometry, mass & and torsional irregularity, etc. In the following Table 4.3, the summary of the deficiency of the individual has been shown.

Table 4-3: Summary of the deficiency exist

Name of the building	RVS Score	Detailed Evaluation
		Required
9	0.7	NO
18	1.1	NO
24	0.3	NO

There are many private residential buildings in the Dhaka City. In the present study total of 30 buildings are analyzed to assess the seismic vulnerability by considering the rapid visual screening method of FEMA 154. There are mainly two types of structures that exist in the buildings in Dhaka City, such as, Reinforced Concrete frame (C3) and Concrete moment resisting frames (C1). Fig. 4-2 represents the percentage of buildings according to area. Most buildings are high rise about 60% of buildings are 9 stories or up. Midrise building is about 33.33%, Among the lowest building is three stories which is around 6.67%. Residential buildings can be categorized as a variety of three important phases of the development of the BNBC code. The study found that about 3.33% of buildings were built before the year of 1993, 73.33% were built from 1993 to 2015 and 23.23% were built after the year of 2015. To assess the seismic vulnerability of private residential buildings in the Afternagar, Banasree area, rapid visual screening of FEMA 154 is used. Information on every building structure is collected by walking around the building.

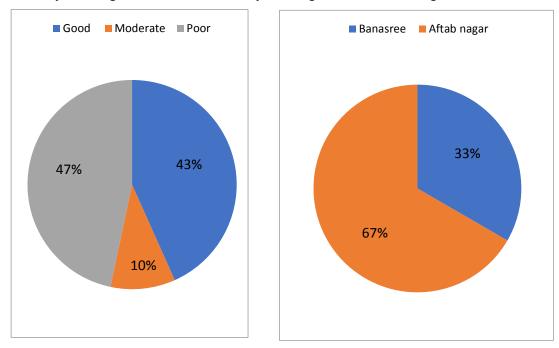


Figure. 4-2: Building quality Figure. 4-3: Building area Fig. 4-3 represents the existing physical visible condition of the buildings in percentile form. From the figure, it is found that about 47% of buildings are in poor condition and 10% and 43% of buildings are in moderate and good condition respectively.

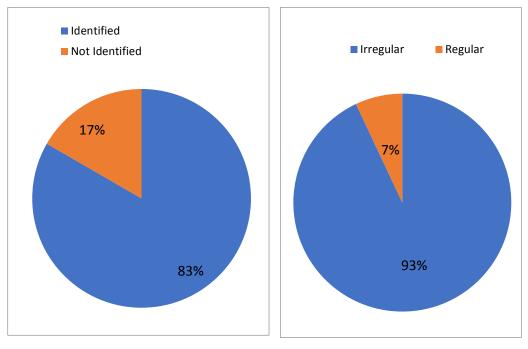
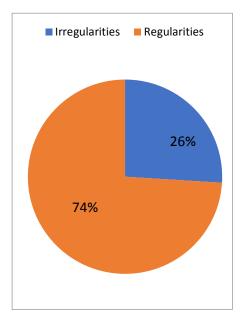


Figure. 4-4: Short column Figu

Figure. 4-5: Plan irregularities

Short columns carry shear force which is much higher than the shear carried by the lateral members. The short column can be described as the relation of the clear height of the column to the depth of the column and is less than 2. Fig. 4-4 represents the percentage of buildings having short column effects in the buildings in Dhaka city. It is observed that a total of 83% of buildings have a short column. Complex structural feature is another key parameter responsible for the poor seismic performance of residential buildings. These irregular features are identified among the studied buildings. A total of 25 buildings have no plan irregularity and 5 buildings have some irregularity, especially with the re-entrant corners. Fig. 4-5 shows the percentage of presence of plan irregularity in residential buildings. It is seen that a total of 7% of buildings are irregular in plan. Another type of irregular feature is vertical irregularity. Vertical irregularity is an important vulnerability factor attributed to buildings by adopting setbacks, soft stories, etc. The study found that a total of 2 buildings possess vertical irregularity which is around 26% (Fig. 4-6). The pounding effect of the building is considered due to the lack of enough space among the adjacent building structures which is a significant vulnerable factor during an earthquake. Fig. 4-7 shows that the pounding effect is identified among 15% buildings of residential buildings in Dhaka city.



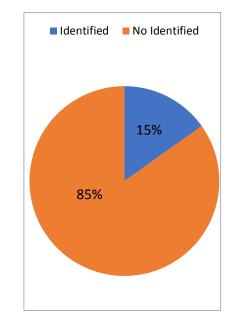
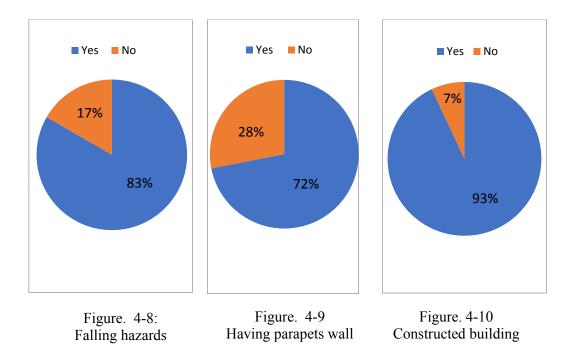


Figure. 4-6: Vertical irregularities Figure. 4-7: Pounding adjacency Non-structural masonry components of buildings such as parapets, chimneys, cladding, and other falling hazards are prone to fall in earthquakes. Parapet indicates any low wall along the roof of a building which is a defensive mini-wall made of bricks or other materials and ground shaking. Fig. 4-8, 4-9, and 4-10 show the percentage of the presence of falling hazards in the residential buildings in the studied area. It is seen that a total of 28 buildings contain parapets and 2 buildings constructed with other falling hazards which are around 83%, 28%, and 7% respectively



In the present study, the cutoff value of the final structural score is considered as 2.0 which indicates that below this score seismically hazardous and detailed seismic evaluation of the building is required. This study summarized that a total of 30 buildings have scored below cut-off score and the remaining 27 buildings have passed the score. It can be concluded that about 90% of buildings required more detailed investigation to decide the level of actual seismic risk (Fig. 4-11).

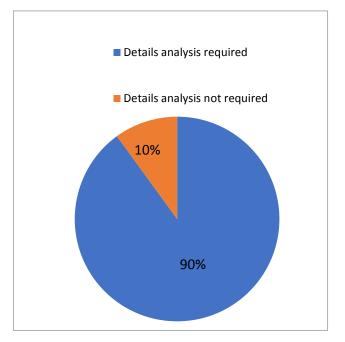


Figure. 4-11: Detailed Evaluation Required

4.4 Summary

In this study, vulnerability assessment of different use-type buildings was carried out using the latest FEMA methodology in an earthquake-prone Aftabnagar, Banasree in Dhaka city. No such studies were done in the past; despite being declared as a highearthquake-risk area by BNBC of Bangladesh. Future possible damages are depicted as a function of damage grades of the European Macro Seismic Scale. Structural damage assessment and seismogenic losses in economic terms disclose that Dhaka city may suffer enormously in future earthquakes.

CHAPTER 5

CONCLUSIONS AND FUTURE WORKS

5.1 Conclusions

In this study total of 30 buildings are analyzed to assess the seismic vulnerability of the building. The final structural scores (S) of residential buildings are determined by applying rapid visual screening suggested by FEMA 154.

- The parameters contributing to the scoring system are mainly, the height, irregularities of the buildings, type of the soil underneath, Pre-Code, and Post-Benchmark.
- From the results it can be concluded that a total of 3 buildings (around 10%) of residential buildings in Dhaka City are unsafe against probable earthquakes.
- On the other hand, the other 27 buildings (around 90%) are comparatively safer and require further detailed analysis to determine further risk assessment.

These results are expected to be useful for administrative bodies who are going to conduct pre-disaster.

5.2 Limitations and Recommendations for Future Works

- A performance score is calculated for each building which indicates whether the building strength is adequate to withstand earthquake forces.
- Level 1 evaluation process has been done by FEMA-154 which has the combined description of a building, its layout, occupancy, and a rapid evaluation of seismic hazard related to structural elements.
- Accurate results dependent on the experience of screener thoroughness of prefield activities.
- The study recommends that the concerned authorities must create awareness among people through various campaigns regarding safe construction practices, along with the strict implementation of building regulations in the area.
- As the vulnerability parameters exist at these three buildings, it can be said that 27 nos residential buildings require further detailed analysis to determine the actual seismic risk level.

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Appendix

Building no:- 01 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

PHOTOGRAPH										Address: Green Place, Bhuiya Bari, Merul Badda, Dhaka -1212 No. Stories: (G+9) Year Built: 2021 Screener :									
				F.		The second				uilding N otal Floor			288	80					
												-							
OCCUPANCY Number of SOII									SOIL T	YPE				<u>PLAN</u> FA	ALLING I	IAZAR	DS		
Assembly	Govt.	Of	fice		Persons		A B		C	D	Е	F							
Commercial	Historic	Resid	lential	0-10 11-100		100	Hard Avg.		Dense	Stiff	Soft	Poor Unrei		n-forced	Parapets	Cladding		Othe	
Emergency Service	Industrial	School 101-			1000 1000+		Rock Rock		Soil	Soil	Soil	Soil Chi		imneys				<u> </u>	
BUILDING TYPE		W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	54) RC	(CSW)	S5 (URMINF)				C3 PC1 RMINF) (TU)		PC2	RM1 (FD)	RM2 (RD)	URM	
Basic Score		4.4	3.8	2.8	3.0	3.2	1	2.8	2.0	2.5	2.8	1.	.6	2.6	2.4	2.8	2.8	1.8	
Mid Ris Stor		N/A	N/A	+0.2	+0.4	N/A	+0.4		+0.4	+0.4	+0.4	+0.2		N/A	+0.2	+0.4	+0.4	-0.4	
High Rise (> 7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8		+0.8	+0.6	+0.8	+0.3		N/A	+0.4	N/A	+0.6	N/A	
Vertical Irregularity		-2.5	-2.0	-1.0	-1.5	N/A	-	1.0	-1.0	-1.5	-1.0	-1.0		N/A	-1.0	-1.0	-1.0	-1.0	
Plan Irre	gularity	-0.5	-0.5	-0.5	-0.5	-0.5	-	0.5	-0.5	-0.5	-0.5	-0.5		-0.5	-0.5	-0.5	-0.5	-0.5	
Pre-Code		0.0	-1.0	-1.0	-0.8	-0.6	-0.8		-0.2	-1.2	-1.0	-0.2		-0.8	-0.8	-1.0	-0.8	-0.2	
Post Benchmark		+2.4	+2.4	+1.4	+1.4	N/A	+	1.6			+2.4	N/	N/A +2.4		N/A	+2.8	+2.6	N/A	
Soil Type C		0.0	-0.4	-0.4	-0.4	-0.4			-0.4	-0.4	-0.4	-0.4		-0.4	-0.4	-0.4	-0.4	-0.4	
Soil Type D		0.0	-0.8	0.6	-0.6	-0.6			-0.4	-0.6	-0.6	-0.4		-0.6	-0.6	-0.6	-0.6	-0.6	
Soil Type E		0.0	-0.8	-1.2	-1.2	-1.0	-	1.2	-0.8	-1.2	-0.8	-0	.8	-0.4	-1.2	-0.4	-0.6	-0.8	
FINAL S	CORE, S									2.8									
COMMEN	NTS :			1	1	<u>I</u>			1	1	1			Detaile	ed Evalua	_	-		
															Y	ES/N	10		
												I							
*=Fetin	nated sub	iective	or unre	liable F	R= Brac	ed Fre	ame	1	MRF= Mor	nent-reci	sting fre	ime	SW=	Shear w	all				
*=Estin data	nated, subj	jective	or unre		BR= Brac D= Flexi				MRF= Mor RC= Reinfo		-			Shear wa Tilt up	all				

Building no:- 02 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

								A	Address: Jar	nnat Men	tion, Bh	uiya Ba	ri, Mei	ru Badda	, Dhaka-1	212			
		No. Stories: 03 Year Built: 2010																	
	1.2		See.	1.00					Screener :		at Mant								
· · · · · · · · · · · · · · · · · · ·									Building Name: Jannat Mention Total Floor Area (sq. ft): 2550										
													<u>PLA</u>	N					
OCCUPANCY				Number of			SOIL TYPE							FALLING HAZARDS					
Assembly	Assembly Govt. Office		Persons			А	В	С	D	Е	F								
Commercial			lential	0-10	11	-100	Hard A	vg.	Dense	Stiff	Soft	Poor	Unrei	n-forced	Parapets	Cla	dding	Other	
Emergency Service Industrial School		101-1000 1000+		+000	Rock R	lock	Soil	Soil	Soil	Soil	Chi	mneys							
BUILDING TYPE W1 W2		<u>\$1</u>	S2	S3	S4		85	CI	C2	C		PC1	PC2	RM1	RM2	URM			
Basic S	core	4.4	3.8	(MRF) 2.8	(BR) 3.0	(LM) 3.2	(RCSV 2.8	w) (URMINF) 2.0	(MRF) 2.5	(SW) 2.8		IINF) .6	(TU) 2.6	2.4	(FD) 2.8	(RD) 2.8	1.8	
Mid Rise (4 to 7 Stories)		N/A	N/A	+0.2	+0.4	N/A	+0.4		+0.4	+0.4	+0.4	+0		N/A	+0.2	+0.4	+0.4	-0.4	
High Rise (> 7 Stories)		N/A	N/A	+0.6	+0.8	N/A	+0.8		+0.8	+0.6	+0.8	+0	.3	N/A	+0.4	N/A	+0.6	N/A	
Vertical Irregularity		-2.5	-2.0	-1.0	-1.5	N/A	-1.0		-1.0	-1.5	-1.0	-1	.0	N/A	-1.0	-1.0	-1.0	-1.0	
Plan Irregularity		-0.5	-0.5	-0.5	-0.5	-0.5	-0.5		-0.5	-0.5	-0.5	-0	.5	-0.5	-0.5	-0.5	-0.5	-0.5	
Pre-Code		0.0	-1.0	-1.0	-0.8	-0.6	-0.8		-0.2	-1.2	-1.0	-0	.2	-0.8	-0.8	-1.0	-0.8	-0.2	
Post Benchmark		+2.4	+2.4	+1.4	+1.4	N/A	+1.6		N/A	+1.4	+2.4	N	'A	+2.4	N/A	+2.8	+2.6	N/A	
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-0.4		-0.4	-0.4	-0.4	-0	.4	-0.4	-0.4	-0.4	-0.4	-0.4	
Soil Ty	pe D	0.0	-0.8	0.6	-0.6	-0.6	-0.6		-0.4	-0.6	-0.6	-0	.4	-0.6	-0.6	-0.6	-0.6	-0.6	
Soil Type E		0.0	-0.8	-1.2	-1.2	-1.0	-1.2		-0.8	-1.2	-0.8	-0	.8	-0.4	-1.2	-0.4	-0.6	-0.8	
FINAL SC										3.3									
COMMENT	S :													Detaile	d Evalua Y	tion Re			
*=Estimated	l, subjectiv	ve or u	nreliab	le B	R= Brac	ced Fra	me		MRF= M	loment-1	esisting	g frame	;	SW= S	hear wa	1			

RD= Rigid diaphragm

DNK = Do Not Know

LM= Light metal

URM INF= Un-reinforced

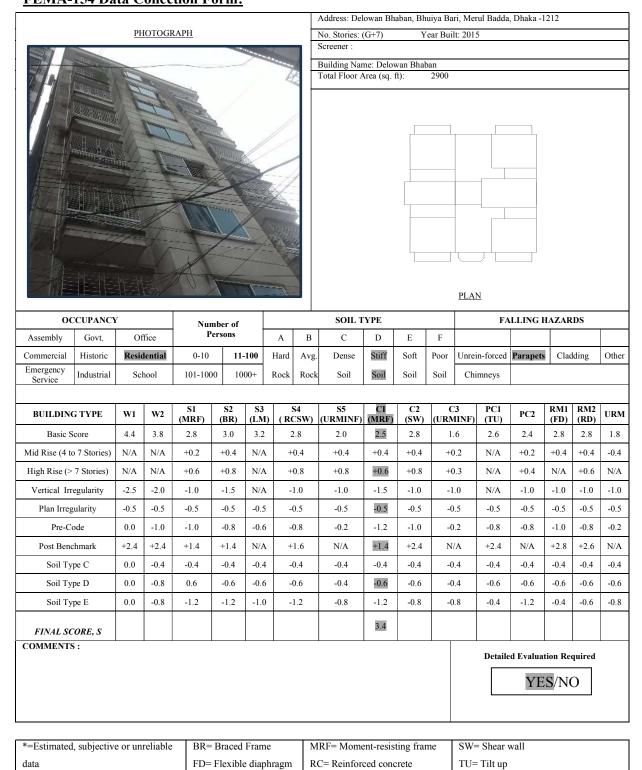
masonry infill

Building no:-03 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

								Address: Ar	ando Vh	bon Bh	uiva Be	ri Moi	a Marul	Radda D	haka 1	212	
		PH	IOTOGE	RAPH				No. Stories:	(G+8)	-	Built: 2		e, Merui	Bauua, L	/IIaka-1.	212	
								Screener :	(0.0)	Teur	Dunt: 2	010					
		_						Building Na									
	A			81		- AL AL		Total Floor	Area (sq.	ft):	2800						
													~_ (]		
00	CUPANCY	1		Num	ther of			SOIL	TYPE			PLAN		LLING F	IAZAR	RDS .	
Assembly	Govt.	Of	fice		ersons		A B	C	D	Е	F						
Commercial	Historic	Resid	lential	0-10	11-	-100	Hard Av	g. Dense	Stiff	Soft	Poor	Unrei	n-forced	Parapets	Clac	lding	Other
Emergency Service	Industrial	Scl	hool	101-100	0 10	00+	Rock Roc	k Soil	Soil	Soil	Soil	Chi	mneys				
BUILDING	G ТҮРЕ	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RCSW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM		PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8							-						
	core	4.4		2.0	3.0	3.2	2.8	2.0	2.5	2.8	1	.6	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to		4.4 N/A	N/A	+0.2	3.0 +0.4	3.2 N/A	2.8 +0.4	2.0 +0.4	2.5 +0.4	2.8 +0.4	+0		2.6 N/A	2.4 +0.2	2.8 +0.4	2.8 +0.4	1.8 -0.4
Mid Rise (4 to High Rise (>	o 7 Stories)											.2					
	o 7 Stories) 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0	.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	o 7 Stories) 7 Stories) egularity	N/A N/A	N/A N/A	+0.2 +0.6	+0.4 +0.8	N/A N/A	+0.4 +0.8	+0.4 +0.8	+0.4	+0.4	+0	0.2 0.3 .0	N/A N/A	+0.2 +0.4	+0.4 N/A	+0.4	-0.4 N/A
High Rise (> Vertical Irr	o 7 Stories) 7 Stories) egularity gularity	N/A N/A -2.5	N/A N/A -2.0	+0.2 +0.6 -1.0	+0.4 +0.8 -1.5	N/A N/A N/A	+0.4 +0.8 -1.0	+0.4 +0.8 -1.0	+0.4 +0.6 -1.5	+0.4 +0.8 -1.0	+0	0.2 0.3 .0 .5	N/A N/A N/A	+0.2 +0.4 -1.0	+0.4 N/A -1.0	+0.4 +0.6 -1.0	-0.4 N/A -1.0
High Rise (> Vertical Irr Plan Irreg	7 Stories) 7 Stories) egularity gularity ode	N/A N/A -2.5 -0.5	N/A N/A -2.0 -0.5	+0.2 +0.6 -1.0 -0.5	+0.4 +0.8 -1.5 -0.5	N/A N/A N/A -0.5	+0.4 +0.8 -1.0 -0.5	+0.4 +0.8 -1.0 -0.5	+0.4 +0.6 -1.5 -0.5	+0.4 +0.8 -1.0 -0.5	+0 +0 -1 -0	0.2 0.3 0.0 0.5 0.2	N/A N/A N/A -0.5	+0.2 +0.4 -1.0 -0.5	+0.4 N/A -1.0 -0.5	+0.4 +0.6 -1.0 -0.5	-0.4 N/A -1.0 -0.5
High Rise (> Vertical Irr Plan Irreg Pre-Co	o 7 Stories) 7 Stories) egularity gularity ode	N/A N/A -2.5 -0.5 0.0	N/A N/A -2.0 -0.5 -1.0	+0.2 +0.6 -1.0 -0.5 -1.0	+0.4 +0.8 -1.5 -0.5 -0.8	N/A N/A N/A -0.5 -0.6	+0.4 +0.8 -1.0 -0.5 -0.8	+0.4 +0.8 -1.0 -0.5 -0.2	+0.4 +0.6 -1.5 -0.5 -1.2	+0.4 +0.8 -1.0 -0.5 -1.0	+0 +0 -1 -0 -0	0.2 0.3 0.0 0.5 0.2 (A	N/A N/A N/A -0.5 -0.8	+0.2 +0.4 -1.0 -0.5 -0.8	+0.4 N/A -1.0 -0.5 -1.0	+0.4 +0.6 -1.0 -0.5 -0.8	-0.4 N/A -1.0 -0.5 -0.2
High Rise (> Vertical Irr Plan Irreg Pre-Co Post Benc	o 7 Stories) 7 Stories) egularity gularity ode chmark pe C	N/A N/A -2.5 -0.5 0.0 +2.4	N/A N/A -2.0 -0.5 -1.0 +2.4	+0.2 +0.6 -1.0 -0.5 -1.0 +1.4	+0.4 +0.8 -1.5 -0.5 -0.8 +1.4	N/A N/A -0.5 -0.6 N/A	+0.4 +0.8 -1.0 -0.5 -0.8 +1.6	+0.4 +0.8 -1.0 -0.5 -0.2 N/A	+0.4 +0.6 -1.5 -0.5 -1.2 +1.4	+0.4 +0.8 -1.0 -0.5 -1.0 +2.4	+0 +0 -1 -0 -0 N/	0.2 0.3 0.0 0.5 0.5 0.2 (A 0.4	N/A N/A N/A -0.5 -0.8 +2.4	+0.2 +0.4 -1.0 -0.5 -0.8 N/A	+0.4 N/A -1.0 -0.5 -1.0 +2.8	+0.4 +0.6 -1.0 -0.5 -0.8 +2.6	-0.4 N/A -1.0 -0.5 -0.2 N/A
High Rise (> Vertical Irr Plan Irreg Pre-Ce Post Benc Soil Ty	o 7 Stories) 7 Stories) egularity gularity ode chmark pe C pe D	N/A N/A -2.5 -0.5 0.0 +2.4 0.0	N/A N/A -2.0 -0.5 -1.0 +2.4 -0.4	+0.2 +0.6 -1.0 -0.5 -1.0 +1.4 -0.4	+0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4	N/A N/A -0.5 -0.6 N/A -0.4	+0.4 +0.8 -1.0 -0.5 -0.8 +1.6 -0.4	+0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4	+0.4 +0.6 -1.5 -0.5 -1.2 +1.4 -0.4	+0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4	+0 +0 -1 -0 -0 N/ -0	0.2 0.3 0.0 0.5 0.5 0.2 (A 0.4 0.4	N/A N/A -0.5 -0.8 +2.4 -0.4	+0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4	+0.4 N/A -1.0 -0.5 -1.0 +2.8 -0.4	+0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4	-0.4 N/A -1.0 -0.5 -0.2 N/A -0.4
High Rise (> Vertical Irr Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty	o 7 Stories) 7 Stories) egularity pularity ode chmark pe C pe D pe E	N/A N/A -2.5 -0.5 0.0 +2.4 0.0 0.0	N/A N/A -2.0 -0.5 -1.0 +2.4 -0.4 -0.8	+0.2 +0.6 -1.0 -0.5 -1.0 +1.4 -0.4 0.6	+0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4 -0.6	N/A N/A -0.5 -0.6 N/A -0.4 -0.6	+0.4 +0.8 -1.0 -0.5 -0.8 +1.6 -0.4 -0.6	+0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4 -0.4 -0.4	+0.4 +0.6 -1.5 -0.5 -1.2 +1.4 -0.4 -0.6	+0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4 -0.6	+0 +0 -1 -0 -0 N/ -0 -0 -0	0.2 0.3 0.0 0.5 0.5 0.2 (A 0.4 0.4	N/A N/A -0.5 -0.8 +2.4 -0.4 -0.6	+0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4 -0.6	+0.4 N/A -1.0 -0.5 -1.0 +2.8 -0.4 -0.6	+0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4 -0.6	-0.4 N/A -1.0 -0.5 -0.2 N/A -0.4 -0.6
High Rise (> Vertical Irr Plan Irreg Pre-Co Post Beno Soil Ty Soil Ty	o 7 Stories) 7 Stories) egularity pularity ode chmark pe C pe D pe E SORE, S	N/A N/A -2.5 -0.5 0.0 +2.4 0.0 0.0	N/A N/A -2.0 -0.5 -1.0 +2.4 -0.4 -0.8	+0.2 +0.6 -1.0 -0.5 -1.0 +1.4 -0.4 0.6	+0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4 -0.6	N/A N/A -0.5 -0.6 N/A -0.4 -0.6	+0.4 +0.8 -1.0 -0.5 -0.8 +1.6 -0.4 -0.6	+0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4 -0.4 -0.4	+0.4 +0.6 -1.5 -0.5 -1.2 +1.4 -0.4 -0.6 -1.2	+0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4 -0.6	+0 +0 -1 -0 -0 N/ -0 -0 -0	0.2 0.3 0.0 0.5 0.5 0.2 (A 0.4 0.4	N/A N/A -0.5 -0.8 +2.4 -0.4 -0.6	+0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4 -0.6	+0.4 N/A -1.0 -0.5 -1.0 +2.8 -0.4 -0.6	+0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4 -0.6	-0.4 N/A -1.0 -0.5 -0.2 N/A -0.4 -0.6
High Rise (> Vertical Irr Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty FINAL SC	o 7 Stories) 7 Stories) egularity pularity ode chmark pe C pe D pe E SORE, S	N/A N/A -2.5 -0.5 0.0 +2.4 0.0 0.0	N/A N/A -2.0 -0.5 -1.0 +2.4 -0.4 -0.8	+0.2 +0.6 -1.0 -0.5 -1.0 +1.4 -0.4 0.6	+0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4 -0.6	N/A N/A -0.5 -0.6 N/A -0.4 -0.6	+0.4 +0.8 -1.0 -0.5 -0.8 +1.6 -0.4 -0.6	+0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4 -0.4 -0.4	+0.4 +0.6 -1.5 -0.5 -1.2 +1.4 -0.4 -0.6 -1.2	+0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4 -0.6	+0 +0 -1 -0 -0 N/ -0 -0 -0	0.2 0.3 0.0 0.5 0.5 0.2 (A 0.4 0.4	N/A N/A -0.5 -0.8 +2.4 -0.4 -0.6 -0.4	+0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4 -0.6	+0.4 N/A -1.0 -0.5 -1.0 +2.8 -0.4 -0.6 -0.4	+0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4 -0.6 -0.6	-0.4 N/A -1.0 -0.5 -0.2 N/A -0.4 -0.6
High Rise (> Vertical Irr Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty FINAL SC	o 7 Stories) 7 Stories) egularity pularity ode chmark pe C pe D pe E SORE, S	N/A N/A -2.5 -0.5 0.0 +2.4 0.0 0.0	N/A N/A -2.0 -0.5 -1.0 +2.4 -0.4 -0.8	+0.2 +0.6 -1.0 -0.5 -1.0 +1.4 -0.4 0.6	+0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4 -0.6	N/A N/A -0.5 -0.6 N/A -0.4 -0.6	+0.4 +0.8 -1.0 -0.5 -0.8 +1.6 -0.4 -0.6	+0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4 -0.4 -0.4	+0.4 +0.6 -1.5 -0.5 -1.2 +1.4 -0.4 -0.6 -1.2	+0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4 -0.6	+0 +0 -1 -0 -0 N/ -0 -0 -0	0.2 0.3 0.0 0.5 0.5 0.2 (A 0.4 0.4	N/A N/A -0.5 -0.8 +2.4 -0.4 -0.6 -0.4	+0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4 -0.6 -1.2 d Evaluat	+0.4 N/A -1.0 -0.5 -1.0 +2.8 -0.4 -0.6 -0.4	+0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4 -0.6 -0.6 quired	-0.4 N/A -1.0 -0.5 -0.2 N/A -0.4 -0.6
High Rise (> Vertical Irr Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty Soil Ty FINAL SC COMMENT:	o 7 Stories) 7 Stories) egularity gularity dode chmark pe C pe D pe E SORE, S S :	N/A N/A -2.5 -0.5 -0.5 -0.0 +2.4 0.0 0.0 0.0	N/A N/A -2.0 -0.5 -1.0 +2.4 -0.4 -0.8 -0.8	+0.2 +0.6 -1.0 -0.5 -1.0 +1.4 -0.4 0.6 -1.2	+0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4 -0.6 -1.2	N/A N/A -0.5 -0.6 N/A -0.4 -0.6 -1.0	+0.4 +0.8 -1.0 -0.5 -0.8 +1.6 -0.4 -0.6 -1.2	+0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4 -0.4 -0.8	+0.4 +0.6 -1.5 -0.5 -1.2 +1.4 -0.4 -0.6 -1.2 4.0	+0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4 -0.6 -0.8	+0 +0 -0 -0 -0 -0 -0 -0 -0 -0	1.2 1.3 0 0 5 5 2 7 A 4 4 4 8	N/A N/A -0.5 -0.8 +2.4 -0.4 -0.4 -0.4 Detaile	+0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4 -0.6 -1.2 d Evaluat	+0.4 N/A -1.0 -0.5 -1.0 +2.8 -0.4 -0.6 -0.4	+0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4 -0.6 -0.6 quired	-0.4 N/A -1.0 -0.5 -0.2 N/A -0.4 -0.6
High Rise (> Vertical Irr Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty FINAL SC	o 7 Stories) 7 Stories) egularity gularity dode chmark pe C pe D pe E SORE, S S :	N/A N/A -2.5 -0.5 -0.5 -0.0 +2.4 0.0 0.0 0.0	N/A N/A -2.0 -0.5 -1.0 +2.4 -0.4 -0.8 -0.8	+0.2 +0.6 -1.0 -0.5 -1.0 +1.4 -0.4 0.6 -1.2 e BR=	+0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4 -1.2 = Brace	N/A N/A -0.5 -0.6 N/A -0.4 -0.6 -1.0	+0.4 +0.8 -1.0 -0.5 -0.8 +1.6 -0.4 -0.6 -1.2	+0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4 -0.4 -0.8 MRF= Mo	+0.4 +0.6 -1.5 -0.5 -1.2 +1.4 -0.4 -0.6 -1.2 4.0	+0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4 -0.6 -0.8	+0 +0 -0 -0 -0 -0 -0 -0 -0 -0	.2 .3 .0 .5 .2 (A .4 .4 .8	N/A N/A -0.5 -0.8 +2.4 -0.4 -0.6 -0.4 Detaile	+0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4 -0.6 -1.2 d Evaluat	+0.4 N/A -1.0 -0.5 -1.0 +2.8 -0.4 -0.6 -0.4	+0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4 -0.6 -0.6 quired	-0.4 N/A -1.0 -0.5 -0.2 N/A -0.4 -0.6
High Rise (> Vertical Irr Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty Soil Ty FINAL SC	o 7 Stories) 7 Stories) egularity pularity ode chmark pe C pe D pe E CORE, S S :	N/A N/A -2.5 -0.5 0.0 +2.4 0.0 0.0 0.0	N/A N/A -2.0 -0.5 -1.0 +2.4 -0.4 -0.8 -0.8	+0.2 +0.6 -1.0 -0.5 -1.0 +1.4 -0.4 0.6 -1.2 e BR= FD=	+0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4 -1.2 = Brace	N/A N/A -0.5 -0.6 N/A -0.4 -0.6 -1.0	+0.4 +0.8 -1.0 -0.5 -0.8 +1.6 -0.4 -0.6 -1.2	+0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4 -0.4 -0.8	+0.4 +0.6 -1.5 -0.5 -1.2 +1.4 -0.4 -0.6 -1.2 4.0	+0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4 -0.6 -0.8	+0 +0 -0 -0 -0 -0 -0 -0 -0 -0	.2 .3 .0 .5 .2 .2 .4 .4 .4 .4 .8 .8 .5 .7 .7 .7 .7	N/A N/A -0.5 -0.8 +2.4 -0.4 -0.4 -0.4 Detaile	+0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4 -0.6 -1.2 d Evaluat	+0.4 N/A -1.0 -0.5 -1.0 +2.8 -0.4 -0.4 -0.4 -0.4	+0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4 -0.6 -0.6 -0.6 -0.6	-0.4 N/A -1.0 -0.5 -0.2 N/A -0.4 -0.6 -0.8

infill

Building no:-04 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:



RD= Rigid diaphragm

DNK = Do Not Know

LM= Light metal

infill

URM INF= Un-reinforced masonry

Building no:-05

Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity.

FEMA-154 Data Collection Form:

								Address: Ho	que Villa	, Masjid	Road, A	ftabnogo	or, M	erul Badda	a, Dhak	a -1212	
		PH	IOTOGI	RAPH			E	No. Stories:	1		-	lt: 2012					
				4				Screener :									
		TE	-	1		mu	man	Building Na Total Floor			3600						
		Y-I		454-5		No A	and a	10141110012	nica (sy.	n).	5000						
00	CUPANCY	на н. 7		Nur	nber of			SOIL T	TYPE			<u>PLAN</u>	FA	ALLING I	IAZAF	RDS	
Assembly	Govt.		fice	+	ersons		A B	С	D	Е	F						
Commercial	Historic	Resid	lential	0-10	11	-100	Hard Avg	. Dense	Stiff	Soft	Poor	Unrein-fo	orced	Parapets	Cla	lding	Other
Emergency Service	Industrial	Scl	hool	101-100	00 10	00+	Rock Rocl	c Soil	Soil	Soil	Soil	Chimne	eys				·
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RCSW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C. (URM		PC1 TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2.8	2.0	2.5	2.8	1.0	5 2	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0.	2 N	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8	+0.8	+0.6	+0.8	+0.	3 N	√/A	+0.4	N/A	+0.6	N/A
Vertical Irr	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1.0	-1.0	-1.5	-1.0	-1.	0 N	√A/N	-1.0	-1.0	-1.0	-1.0
Plan Irreg	gularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.	5 -	0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-0.8	-0.2	-1.2	-1.0	-0.	2 -	0.8	-0.8	-1.0	-0.8	-0.2
Post Bend	chmark	+2.4	+2.4	+1.4	+1.4	N/A	+1.6	N/A	+1.4	+2.4	N/.	4 +	-2.4	N/A	+2.8	+2.6	N/A
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.	4 -	0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty	pe D	0.0	-0.8	0.6	-0.6	-0.6	-0.6	-0.4	-0.6	-0.6	-0.	4 -	0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-1.2	-0.8	-1.2	-0.8	-0.	8 -	0.4	-1.2	-0.4	-0.6	-0.8
FINAL SC	CORE, S								3.2								
												D	etaile	ed Evalua	tion Re	quired	
														Y	ES/N	0]
*=Estimated	l, subjectiv	ve or u	nreliabl	e BR	= Brac	ed Fran	ne	MRF= Mc	oment-re	esisting f	frame	SW	= Sh	ear wall			
data				FD	= Flexi	ble dia	ohragm	RC= Rein	forced c	oncrete		TU	= Til	t up			

 *=Estimated, subjective or unreliable
 BR= Braced Frame
 MRF= Moment-resisting frame
 SW= Shear wall

 data
 FD= Flexible diaphragm
 RC= Reinforced concrete
 TU= Tilt up

 DNK = Do Not Know
 LM= Light metal
 RD= Rigid diaphragm
 URM INF= Un-reinforced masonry infill

Building no:-06 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

					_		Address: Sa	geant To	wer, Bhu	uiya Bari, ,	Merul Bad	lda, Dhaka	-1212		
	PH	OTOGI	RAPH				No. Stories:	-		Year Built:					
			-				Screener :								
							Building Na								
		TRACET					Total Floor	Area (sq.	ft):	7000					
		L AND	Citro Trus	1											
	MATATA		and I	1 annib	the West	THE COURSE									
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					1 33	and the second		Į		_			5		
	ALSTON														
		TR		1	-	Ser.			_						
Figh		國家	20										1		
THEFT - REAL	California C					1 and the									
			KI-TI		TET										
					-					PL.	AN				
OCCUPANCY	ľ		Nur	nber of		I	SOIL T	YPE			FA	LLING H	IAZAI	RDS	
Assembly Govt.	Of	fice	Р	ersons		A B	C	D	Е	F					
Commercial Historic	Resid	lential	0-10	11-	100	Hard Avg.	Dense	Stiff	Soft	Poor Uni	ein-forced	Parapets	Cla	dding	Other
Emergency Service Industrial	Sch	nool	101-100	00 10	00+	Rock Rock	Soil	Soil	Soil	Soil C	himneys				
Service							I								
BUILDING TYPE	W1	W2	S1	S2	S3	S4	S5	CI	C2	C3	PC1	PC2	RM1	RM2	URM
Basic Score	4.4	3.8	(MRF) 2.8	(BR) 3.0	(LM) 3.2	(RCSW) 2.8	(URMINF) 2.0	(MRF) 2.5	(SW) 2.8	(URMINI 1.6	T) (TU) 2.6	2.4	(FD) 2.8	(RD) 2.8	1.8
Mid Rise (4 to 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (> 7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8	+0.8	+0.6	+0.8	+0.3	N/A	+0.4	N/A	+0.6	N/A
Vertical Irregularity	-2.5	-2.0	-1.0	-1.5	N/A	-1.0	-1.0	-1.5	-1.0	-1.0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irregularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Pre-Code	0.0	-1.0	-1.0	-0.8	-0.6	-0.8	-0.2	-1.2	-1.0	-0.2	-0.8	-0.8	-1.0	-0.8	-0.2
Post Benchmark	+2.4	+2.4	+1.4	+1.4	-0.0 N/A	+1.6	-0.2 N/A	+1.4	+2.4	-0.2 N/A	+2.4	-0.8 N/A	+2.8	+2.6	-0.2 N/A
Soil Type C	+2.4 0.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Soil Type D	0.0	-0.4	0.6	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Soil Type E	0.0	-0.8	-1.2	-0.6	-0.6	-0.6	-0.4	-0.6	-0.8	-0.4	-0.6	-0.6	-0.6	-0.6	-0.8
Son Type E	0.0	-0.0	-1.2	-1.2	-1.0	-1.2	-0.0		-0.0	-0.0	-0.4	-1.2	-0.4	-0.0	-0.0
FINAL SCORE, S								4.5							
COMMENTS :					1	1	1		1						1
											Detaile	d Evaluat	ion Re	quired	-
												YES	'NO		
												1 20	1.0		J
L															

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced
			masonry infill

Building no:-07

Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity.

FEMA-154 Data Collection Form:



*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced
			masonry infill

Building no:- 08

Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity.

FEMA-154 Data Collection Form:

									Address [.] Raf	ĩa Mantie	on Bhuy	a Bari 1	Merul Badda,	Dhaka -121	2		
		PH	IOTOGE	RAPH				1	No. Stories: (ear Bui	-				
		~ ~	/			_	100	۲ ا	Screener :								
	1		1	TI			13		Building Nar Total Floor A			n 1800					
		Sect											PLAN				
	CUPANCY		~		nber of ersons		.		SOIL T				F	ALLING H	IAZAF	RDS	1
Assembly	Govt.		fice		-	100	A	В	C	D	E	F				1.1.	0.1
Commercial Emergency	Historic		lential	0-10				Avg.	Dense	Stiff	Soft	Poor	Unrein-force	1 Parapets	Cla	lding	Other
Service	Industrial	Sci	hool	101-100	0 10	00+	Rock I	Rock	Soil	Soil	Soil	Soil	Chimneys				
BUILDIN	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RCS		S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM		PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2.8		2.0	2.5	2.8	1.	6 2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4	4	+0.4	+0.4	+0.4	+0	.2 N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8	8	+0.8	+0.6	+0.8	+0	.3 N/A	+0.4	N/A	+0.6	N/A
Vertical Irr	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1.0)	-1.0	-1.5	-1.0	-1.	0 N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	gularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	5	-0.5	-0.5	-0.5	-0.	.5 -0.5	-0.5	-0.5	-0.5	-0.5
Pre-C	ode	0.0	-1.0	-1.0	-0.8	-0.6	-0.8	3	-0.2	-1.2	-1.0	-0.	.2 -0.8	-0.8	-1.0	-0.8	-0.2
Post Bend	chmark	+2.4	+2.4	+1.4	+1.4	N/A	+1.0	5	N/A	+1.4	+2.4	N/	A +2.4	N/A	+2.8	+2.6	N/A
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-0.4	1	-0.4	-0.4	-0.4	-0.	.4 -0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty	pe D	0.0	-0.8	0.6	-0.6	-0.6	-0.6	5	-0.4	-0.6	-0.6	-0.	.4 -0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-1.2	2	-0.8	-1.2	-0.8	-0.	8 -0.4	-1.2	-0.4	-0.6	-0.8
FINAL SC	CORE, S									3.2							
COMMENTS			1	I		1	1		1	I	1	-1	Detai	ed Evalua	ion Re	quired	1
														YE	S/N	C	
*=Estimated	l, subjectiv	e or un	reliable	e BR=	Braced	l Fram	e	Ν	/IRF= Mon	nent-resi	sting fra	ame	SW= She	ar wall			
				1				1					1				

Building no:- 09 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

										51	D · · ·						
		DU	OTOCI				-	Address: Ba		-			da, Dł	naka -1212			
		PH	OTOGI	<u>KAPH</u>			_	No. Stories: Screener :	3	Year	Built: 19	90					
			X			Far 10		Building Na	me [.] Basa	r House							
1946				and the second	1	138		Total Floor			2880						
			-	-		143											
	A	and and			1	1											
			- Link			1	24										
11-				and the second second	Constant of the												
		-				1											
H					RAZ												
				A STREET	1	10.00											
		and a	10-														
Ten y						10-10	10 gr										
	TT	4			The second												
			5	al al al al													
				COMPANY OF THE OWNER		NO PERSONAL PROPERTY AND INCOME.											
												<u>PLAN</u>					
00	CUPANCY	7						SOIL T	VDF				FA	LLING H	14745	2DS	
Assembly	Govt.		fice		nber of ersons	H	A B	C	D	Е	F		ГA			105	
Commercial	Historic		lential	0-10	11	-100	Hard Avg		Stiff	Soft		Unrein-f	orced	Parapets	Clay	dding	Other
Emergency	Industrial		nool	101-100		000+	Rock Roc		Soil	Soil	Soil	Chimn		i arapets	Ciav	ading	Oulei
Service	muusunan	301	1001	101-100		00+	KOCK KOC	к 5011	5011	3011	3011	Cillin	eys				
				S1	S2	S 3	S4	85	CI	C2	C	3 F	PC1		RM1	RM2	1
BUILDING	G TYPE	W1	W2	(MRF)	(BR)	(LM)			(MRF)	(SW)	(URM		TU)	PC2	(FD)	(RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2.8	2.0	2.5	2.8	1.6	5 .	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0.	2 1	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8	+0.8	+0.6	+0.8	+0.	3 N	N/A	+0.4	N/A	+0.6	N/A
Vertical Irr	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1.0	-1.0	-1.5	-1.0	-1.	1 0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	gularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.	5 -	0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-0.8	-0.2	-1.2	-1.0	-0.1	2 -	-0.8	-0.8	-1.0	-0.8	-0.2
Post Bend	chmark	+2.4	+2.4	+1.4	+1.4	N/A	+1.6	N/A	+1.4	+2.4	N/2	A +	-2.4	N/A	+2.8	+2.6	N/A
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	4 -	0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty	pe D	0.0	-0.8	0.6	-0.6	-0.6	-0.6	-0.4	-0.6	-0.6	-0.4	4 -	-0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-1.2	-0.8	-1.2	-0.8	-0.	8 -	0.4	-1.2	-0.4	-0.6	-0.8
									0.7								
FINAL SC											<u> </u>						
COMMENTS	3.											D	etaile	d Evaluat	ion Re	quired	
											Г		v	ES/NC)		
											L		I		,		
*=Estimated	l, subjectiv	e or ur	nreliabl	e BR	= Brace	ed Frar	ne	MRF= Mo	ment-re	sisting f	frame	SW	= She	ear wall			
data				FD	= Flexi	ble dia	phragm	RC= Reint	forced c	oncrete		TU=	= Tilt	up			

RD= Rigid diaphragm

DNK = Do Not Know

LM= Light metal

infill

URM INF= Un-reinforced masonry

Building no:-10 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

									Address: Pro						Badda, Dł	naka -12	.12	
		<u>PH</u>	IOTOGI	RAPH					No. Stories: Screener :	(G+8)	Y	'ear Bu	ilt: 20	12				
			a l		1 interior	and the second			Building Na	me: Prof	essons Co	omplex						
1		j.	Aller"	E					Total Floor			4800						
1/2					F	TE -												
		F																
	N	X		108			-1			C			PLA	<u> </u>				
00	CUPANCY	7		N					SOIL T	YPE				FA	LLING	HAZAI	RDS	
Assembly	Govt.		fice		nber of ersons		А	В	C	D	Е	F						1
Commercial	Historic	Resid	lential	0-10	1	1-100	Hard	Avg.	Dense	Stiff	Soft	Poor	Unrei	n-forced	Parapet	s Cla	dding	Other
Emergency Service	Industrial	Scl	hool	101-100	00 1	1000+	Rock	Rock	Soil	Soil	Soil	Soil	Chi	mneys				
BUILDIN	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	83 (LM		84 CSW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM		PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	Score	4.4	3.8	2.8	3.0	3.2	2	2.8	2.0	2.5	2.8	1.	6	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	. +	0.4	+0.4	+0.4	+0.4	+0	.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	. +	0.8	+0.8	+0.6	+0.8	+0	.3	N/A	+0.4	N/A	+0.6	N/A
Vertical Irr	regularity	-2.5	-2.0	-1.0	-1.5	N/A	:	1.0	-1.0	-1.5	-1.0	-1	.0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	gularity	-0.5	-0.5	-0.5	-0.5	-0.5	-(0.5	-0.5	-0.5	-0.5	-0	.5	-0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	- (0.8	-0.2	-1.2	-1.0	-0	.2	-0.8	-0.8	-1.0	-0.8	-0.2
Post Bend	chmark	+2.4	+2.4	+1.4	+1.4	N/A	. +	1.6	N/A	+1.4	+2.4	N/	A	+2.4	N/A	+2.8	+2.6	N/A
Soil Ty	-	0.0	-0.4	-0.4	-0.4	-0.4	-	0.4	-0.4	-0.4	-0.4	-0		-0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty	-	0.0	-0.8	0.6	-0.6	-0.6	-	0.6	-0.4	-0.6	-0.6	-0		-0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-	1.2	-0.8	-1.2	-0.8	-0	.8	-0.4	-1.2	-0.4	-0.6	-0.8
FINAL SC										4.0								
COMMENT	5:													Detaile	d Evalua	tion Re	quired	
													[YE	S/N	0]
													•					
*=Estimated	d. subiectiv	e or u	nreliab	le BF	R= Bra	ced Fra	ame		MRF= M	oment-r	esisting	frame		SW= Sł	near wal	1		

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced
			masonry infill

Building no:-11 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. <u>FEMA-154 Data Collection Form:</u>

		PHO	DTOG	RAPH			Ē	Address: 1 No. Storie Screener : Building <u>1</u> Total Floc	es: (G+9 Name: E) Dolon C	Chapa	Built: 20]		
OCC Assembly Commercial I Emergency Service		Of Resid	fice lential			-100	A B Hard Avg Rock Rocl		D Stiff Soil	E Soft Soil	Poor fc	FAL nrein- orced	LING Parape s		ARDS	Other
BUILDING	G ТҮРЕ	W1	W2	S1 (MRF)	S2 (BR)	83 (LM)	S4 (RCSW)	S5 (URMIN F)		C2 (SW)	C3 (URMIN F)	PC 1 (TU)	PC2	(FD)	RM2 (RD)	
Basic Sc Mid Rise (4.4	3.8	2.8	3.0	3.2	2.8	2.0	2.5	2.8	1.6	2.6	2.4	2.8	2.8	1.8
Storie High Rise		N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0.2	N/A	+0.2	+0.4	+0.4	
Storie Vertical Irre	s)	N/A -2.5	N/A	+0.6	+0.8	N/A N/A	+0.8	+0.8	+0.6	+0.8	+0.3	N/A N/A	+0.4	N/A	+0.6	N/A
Plan Irregu		-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	
Pre-Co	de	0.0	-1.0	-1.0	-0.8	-0.6	-0.8	-0.2	-1.2	-1.0	-0.2	-0.8	-0.8	-1.0	-0.8	-0.2
Post Bencl	hmark	+2.4	+2.4	+1.4	+1.4	N/A	+1.6	N/A	+1.4	+2.4	N/A	+2. 4	N/A	+2.8	+2.6	
Soil Typ Soil Typ		0.0	-0.4 -0.8	-0.4 0.6	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Soil Typ		0.0	-0.8	-1.2	-1.2	-1.0	-1.2	-0.4	-1.2	-0.8	-0.4	-0.4	-1.2	-0.4	-0.6	
FINAL SC	ORE. S								4.0							
COMMEN			1		1	1	1	1	1	1	D	Detailed	Evalua YE	ntion F	-	ed
*=Estimated data DNK = Do 1			unrelia	F d	BR= Bra D= Fle: iaphrag M= Lig	xible m		MRF= RC= Re RD= Ri	einforce	d conci		TU= URM	= Shear Tilt up 1 INF= onry infi	Un-rei	nforce	d

Building no:-12 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

								-	A 11		4.0.1	D	1.1	1212				
		DLI	OTOGF	ADU					Address: Jan			-						
		<u>rn</u>	0100	AFI					No. Stories: Screener :	(G+8)	1	ear Bu	11t: 201	8				
				(1000)	-		-		Building Na	ne: Janna	ıt Villa							
							Atta		Total Floor A			2500						
00	CUPANCY	7		Num	abox of				SOIL T	YPE			PLA1		LLING F	IAZAF	DS	
Assembly	Govt.		fice		iber of ersons	F	А	в	C SOIL I	D	Е	F	-	- / •				
Commercial	Historic		ential	0-10	11-	-100		vg.	Dense	Stiff	Soft	Poor	Unrei	n-forced	Parapets	Clao	lding	Other
Emergency Service	Industrial	Sch	nool	101-100	0 10	00+		ock	Soil	Soil	Soil	Soil	Chi	mneys				
Bervice					_								I					
BUILDIN	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RCSV	V)	S5 (URMINF)	CI (MRF)	C2 (SW)		C3 AINF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2.8		2.0	2.5	2.8	1	.6	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4		+0.4	+0.4	+0.4	+	0.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8		+0.8	+0.6	+0.8	+	0.3	N/A	+0.4	N/A	+0.6	N/A
Vertical Irr	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1.0		-1.0	-1.5	-1.0	-1	.0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	gularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5		-0.5	-0.5	-0.5	-().5	-0.5	-0.5	-0.5	-0.5	-0.5
Pre-C	ode	0.0	-1.0	-1.0	-0.8	-0.6	-0.8		-0.2	-1.2	-1.0	-().2	-0.8	-0.8	-1.0	-0.8	-0.2
Post Ben	hmark	+2.4	+2.4	+1.4	+1.4	N/A	+1.6		N/A	+1.4	+2.4	N	/A	+2.4	N/A	+2.8	+2.6	N/A
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-0.4		-0.4	-0.4	-0.4	-().4	-0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty	pe D	0.0	-0.8	0.6	-0.6	-0.6	-0.6		-0.4	-0.6	-0.6	-().4	-0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-1.2		-0.8	-1.2	-0.8	-().8	-0.4	-1.2	-0.4	-0.6	-0.8
FINAL SC										4.0								
COMMENT	· •													Detaile	d Evaluat	ion Re	quired	
															YES	S/NC)	ן ן
													L					
			reliable	DD	- Braced	1.5			MRF= Mon		atin a fa		CU	V= Shea				

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced masonry
			infill

Building no:-13 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

								Address: Doy	el onchi	d Garden,	Aftabn	ogor, l	Dhaka -1	212			
		PH	IOTOGR	<u>RAPH</u>				No. Stories: (ear Buil	-					
								Screener : Building Nan Total Floor A			Garden 2300						
												PLAN					
00	CUPANCY	7		Num	ber of			SOIL T	YPE				FA	LLING H	IAZAR	DS	
Assembly	Banaan					Α	B C	D	Е	F							
Commercial	Historic	Resid	lential	0-10				vg. Dense	Stiff	Soft	Poor	Unreir	n-forced	Parapets	Clac	lding	Other
Emergency Service	Industrial	Sch	hool	101-1000	100	00+	Rock R	.ock Soil	Soil	Soil	Soil	Chir	nneys				
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RCSV	S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM		PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2.8	2.0	2.5	2.8	1.	6	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0	.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8	+0.8	+0.6	+0.8	+0	.3	N/A	+0.4	N/A	+0.6	N/A
	,										-						
Vertical Irr		-2.5	-2.0	-1.0	-1.5	N/A	-1.0	-1.0	-1.5	-1.0	-1	.0	N/A	-1.0	-1.0	-1.0	-1.0
Vertical Irr Plan Irreg	egularity		-2.0 -0.5	-1.0	-1.5 -0.5	N/A -0.5	-1.0 -0.5	-1.0	-1.5 -0.5	-1.0 -0.5	-1.		N/A -0.5	-1.0 -0.5	-1.0 -0.5	-1.0 -0.5	-1.0 -0.5
	egularity ularity	-2.5							-0.5 -1.2		-	.5				-	
Plan Irreg	egularity ularity ode	-2.5 -0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0	.5	-0.5	-0.5	-0.5	-0.5	-0.5
Plan Irreg Pre-Co	egularity ularity ode chmark	-2.5 -0.5 0.0	-0.5 -1.0	-0.5	-0.5 -0.8	-0.5 -0.6	-0.5	-0.5	-0.5 -1.2	-0.5 -1.0	-0.	.5 .2 A	-0.5 -0.8	-0.5 -0.8	-0.5 -1.0	-0.5 -0.8	-0.5 -0.2
Plan Irreg Pre-Co Post Benc	egularity ularity ode hmark pe C	-2.5 -0.5 0.0 +2.4	-0.5 -1.0 +2.4	-0.5 -1.0 +1.4	-0.5 -0.8 +1.4	-0.5 -0.6 N/A	-0.5 -0.8 +1.6	-0.5 -0.2 N/A	-0.5 -1.2 +1.4	-0.5 -1.0 +2.4	-0.	.5 .2 .4	-0.5 -0.8 +2.4	-0.5 -0.8 N/A	-0.5 -1.0 +2.8	-0.5 -0.8 +2.6	-0.5 -0.2 N/A
Plan Irreg Pre-Co Post Benc Soil Ty	egularity ularity ode hmark pe C pe D	-2.5 -0.5 0.0 +2.4 0.0	-0.5 -1.0 +2.4 -0.4	-0.5 -1.0 +1.4 -0.4	-0.5 -0.8 +1.4 -0.4	-0.5 -0.6 N/A -0.4	-0.5 -0.8 +1.6 -0.4	-0.5 -0.2 N/A -0.4	-0.5 -1.2 +1.4 -0.4	-0.5 -1.0 +2.4 -0.4	-0 -0. N/	5 2 A 4 4	-0.5 -0.8 +2.4 -0.4	-0.5 -0.8 N/A -0.4	-0.5 -1.0 +2.8 -0.4	-0.5 -0.8 +2.6 -0.4	-0.5 -0.2 N/A -0.4
Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty FINAL SC	egularity ularity ode chmark pe C pe D pe E core, s	-2.5 -0.5 0.0 +2.4 0.0 0.0	-0.5 -1.0 +2.4 -0.4 -0.8	-0.5 -1.0 +1.4 -0.4 0.6	-0.5 -0.8 +1.4 -0.4 -0.6	-0.5 -0.6 N/A -0.4 -0.6	-0.5 -0.8 +1.6 -0.4 -0.6	-0.5 -0.2 N/A -0.4 -0.4	-0.5 -1.2 +1.4 -0.4 -0.6	-0.5 -1.0 +2.4 -0.4 -0.6	-0 -0. N/ -0.	5 2 A 4 4	-0.5 -0.8 +2.4 -0.4 -0.6	-0.5 -0.8 N/A -0.4 -0.6	-0.5 -1.0 +2.8 -0.4 -0.6	-0.5 -0.8 +2.6 -0.4 -0.6	-0.5 -0.2 N/A -0.4 -0.6
Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty	egularity ularity ode chmark pe C pe D pe E core, s	-2.5 -0.5 0.0 +2.4 0.0 0.0	-0.5 -1.0 +2.4 -0.4 -0.8	-0.5 -1.0 +1.4 -0.4 0.6	-0.5 -0.8 +1.4 -0.4 -0.6	-0.5 -0.6 N/A -0.4 -0.6	-0.5 -0.8 +1.6 -0.4 -0.6	-0.5 -0.2 N/A -0.4 -0.4	-0.5 -1.2 +1.4 -0.4 -0.6 -1.2	-0.5 -1.0 +2.4 -0.4 -0.6	-0 -0. N/ -0.	5 2 A 4 4	-0.5 -0.8 +2.4 -0.4 -0.6 -0.4	-0.5 -0.8 N/A -0.4 -0.6	-0.5 -1.0 +2.8 -0.4 -0.6 -0.4	-0.5 -0.8 +2.6 -0.4 -0.6 -0.6	-0.5 -0.2 N/A -0.4 -0.6
Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty FINAL SC	egularity ularity ode chmark pe C pe D pe E core, s	-2.5 -0.5 0.0 +2.4 0.0 0.0	-0.5 -1.0 +2.4 -0.4 -0.8	-0.5 -1.0 +1.4 -0.4 0.6	-0.5 -0.8 +1.4 -0.4 -0.6	-0.5 -0.6 N/A -0.4 -0.6	-0.5 -0.8 +1.6 -0.4 -0.6	-0.5 -0.2 N/A -0.4 -0.4	-0.5 -1.2 +1.4 -0.4 -0.6 -1.2	-0.5 -1.0 +2.4 -0.4 -0.6	-0 -0. N/ -0.	5 2 A 4 4	-0.5 -0.8 +2.4 -0.4 -0.6 -0.4	-0.5 -0.8 N/A -0.4 -0.6 -1.2	-0.5 -1.0 +2.8 -0.4 -0.6 -0.4	-0.5 -0.8 +2.6 -0.4 -0.6 -0.6 quired	-0.5 -0.2 N/A -0.4 -0.6
Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty FINAL SC	egularity ularity ode chmark pe C pe D pe E core, s	-2.5 -0.5 0.0 +2.4 0.0 0.0	-0.5 -1.0 +2.4 -0.4 -0.8	-0.5 -1.0 +1.4 -0.4 0.6	-0.5 -0.8 +1.4 -0.4 -0.6	-0.5 -0.6 N/A -0.4 -0.6	-0.5 -0.8 +1.6 -0.4 -0.6	-0.5 -0.2 N/A -0.4 -0.4	-0.5 -1.2 +1.4 -0.4 -0.6 -1.2	-0.5 -1.0 +2.4 -0.4 -0.6	-0 -0. N/ -0.	5 2 A 4 4	-0.5 -0.8 +2.4 -0.4 -0.6 -0.4	-0.5 -0.8 N/A -0.4 -0.6 -1.2 d Evaluat	-0.5 -1.0 +2.8 -0.4 -0.6 -0.4	-0.5 -0.8 +2.6 -0.4 -0.6 -0.6 quired	-0.5 -0.2 N/A -0.4 -0.6
Plan Irreg Pre-Co Post Benc Soil Ty Soil Ty Soil Ty FINAL SC	egularity ularity ode chmark pe C pe D pe E core, s	-2.5 -0.5 0.0 +2.4 0.0 0.0 0.0	-0.5 -1.0 +2.4 -0.4 -0.8 -0.8	-0.5 -1.0 +1.4 -0.4 0.6 -1.2	-0.5 -0.8 +1.4 -0.4 -0.6	-0.5 -0.6 N/A -0.4 -0.6 -1.0	-0.5 -0.8 +1.6 -0.4 -0.6 -1.2	-0.5 -0.2 N/A -0.4 -0.4	-0.5 -1.2 +1.4 -0.4 -0.6 -1.2 4.0	-0.5 -1.0 +2.4 -0.4 -0.6 -0.8	-0 -0 N// -0 -0 -0	5 2 A 4 4 4 8	-0.5 -0.8 +2.4 -0.4 -0.6 -0.4	-0.5 -0.8 N/A -0.4 -0.6 -1.2 d Evaluat	-0.5 -1.0 +2.8 -0.4 -0.6 -0.4	-0.5 -0.8 +2.6 -0.4 -0.6 -0.6 quired	-0.5 -0.2 N/A -0.4 -0.6

RD= Rigid diaphragm

DNK = Do Not Know

LM= Light metal

infill

URM INF= Un-reinforced masonry

Building no:-14 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

									Address: Red	lion Bhw	iya Kano	n, Aftal	nogor	, Dhaka ·	-1212			
		PH	IOTOGE	RAPH					No. Stories: (Screener :	(G+9)	Y	ear Bui	t: 2012	2				
		illand							Screener : Building Nan	ne: Redic	n Bhwiy	a Kano						
	ARCENE.					Terres -	-		Total Floor A			3800						
													PLA1	N				
00	CUPANCY			•	ber of				SOIL T					FA	LLING H	IAZAR	DS	
Assembly	Govt.		fice		Persons A B				С	D	E	F						
Commercial Emergency	Historic		lential	0-10				Avg.	Dense	Stiff	Soft	Poor			Parapets	Clac	lding	Other
Service	Industrial	Scl	nool	101-1000	10	00+	Rock	Rock	Soil	Soil	Soil	Soil	Chi	mneys				
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RCS		S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM		PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2.8	8	2.0	2.5	2.8	1	6	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.	.4	+0.4	+0.4	+0.4	+(.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.	.8	+0.8	+0.6	+0.8	+(.3	N/A	+0.4	N/A	+0.6	N/A
Vertical Irre	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1.0	0	-1.0	-1.5	-1.0	-1	.0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	ularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.:	5	-0.5	-0.5	-0.5	-0	.5	-0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-0.3	8	-0.2	-1.2	-1.0	-0	.2	-0.8	-0.8	-1.0	-0.8	-0.2
Post Benc	hmark	+2.4	+2.4	+1.4	+1.4	N/A	+1.	.6	N/A	+1.4	+2.4	N	A	+2.4	N/A	+2.8	+2.6	N/A
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-0.4	4	-0.4	-0.4	-0.4	-0	.4	-0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty		0.0	-0.8	0.6	-0.6	-0.6	-0.0		-0.4	-0.6	-0.6	-0		-0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-1.1	2	-0.8	-1.2	-0.8	-0	.8	-0.4	-1.2	-0.4	-0.6	-0.8
FINAL SC	ORE, S									4.5								
COMMENTS	5:		II			1	1		I I	I	1			Detaile	d Evaluat	ion Re	quired	1
															YES/N	NO		
*=Estimated	, subjective	e or uni	reliable	BR=	Braced	Frame		М	RF= Mome	ent-resis	ting frar	ne	SW=	= Shear v	wall			

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced masonry
			infill

Building no:-15 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

			IOTOGI				A A		Address: Saf No. Stories: (Screener : Building Nar Total Floor A	(G+8) ne: Safiy	Y a Bhaban	ear Buil						
000	CCUPANCY			Num	ber of				SOIL T	YPE			PLAN			IAZAR	DS	
Assembly	Govt.	Of	fice		sons	F	А	В	С	D	Е	F						
Commercial	Historic	Resid	lential	0-10	11-	-100	Hard	Avg.	Dense	Stiff	Soft	Poor	Unrein	-forced	Parapets	Clac	lding	Other
Emergency Service	Industrial	Sch	nool	101-1000	10	00+	Rock	Rock	Soil	Soil	Soil	Soil	Chin	nneys				
BUILDING		W1	W2	S1 (MRF)	S2 (BR)	83 (LM) (R		S5 (URMINF)	CI (MRF)	C2 (SW)	1	IINF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S		4.4	3.8	2.8	3.0	3.2	-	2.8	2.0	2.5	2.8	1.		2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+	0.4	+0.4	+0.4	+0.4	+0	.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+	0.8	+0.8	+0.6	+0.8	+0	.3	N/A	+0.4	N/A	+0.6	N/A
Vertical Irre	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-	1.0	-1.0	-1.5	-1.0	-1	.0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	ularity	-0.5	-0.5	-0.5	-0.5	-0.5	-	0.5	-0.5	-0.5	-0.5	-0	.5	-0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-	0.8	-0.2	-1.2	-1.0	-0	.2	-0.8	-0.8	-1.0	-0.8	-0.2
Post Benc	hmark	+2.4	+2.4	+1.4	+1.4	N/A	+	1.6	N/A	+1.4	+2.4	N/	A	+2.4	N/A	+2.8	+2.6	N/A
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	_	0.4	-0.4	-0.4	-0.4	-0	.4	-0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty	pe D	0.0	-0.8	0.6	-0.6	-0.6	-	0.6	-0.4	-0.6	-0.6	-0.	.4	-0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-	1.2	-0.8	-1.2	-0.8	-0	.8	-0.4	-1.2	-0.4	-0.6	-0.8
FINAL SC COMMENTS										4.0				Detaile	ed Evaluat	ion Re	quired	
*=Fstimated									RF= Mome						ES/N	0		

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced masonry
			infill

Building no:-16 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

		РН	IOTOGE	RAPH					Address: Pin	-		-	Dhaka -1212 ilt: 2010				
		<u></u>	0100	<u>u II II</u>					Screener :	(0+7)		i cai Du	III. 2010				
	-	11 70	1-	-11	Mall Hall				Building: Pir								
	St. Har		-	- Kuk	المد السعل				Total Floor A	Area (sq.	ft):	2900					
						-X							PLAN				
	OCCUPANCY Number of ssembly Govt. Office						D	SOIL T		F	г	F.	ALLING F	IAZAR	RDS	1	
Assembly Commercial	Govt. Historic		fice lential	0-10		100	A Hard	B Avg.	C Dense	D Stiff	E Soft	F Poor	Unrein-forced	Davanata	Clas	lding	Other
Emergency Service	Industrial		nool	101-100			Rock	Rock	Soil	Soil	Soil	Soil	Chimneys	Tarapets	Ciac	lang	Ouler
						1											1
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)		54 CSW)	S5 (URMINF)	CI (MRF) C2 (SW) (URN	C3 PC1 MINF) (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic Se	core	4.4	3.8	2.8	3.0	3.2	2	2.8	2.0	2.5	2.8	1	.6 2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+	0.4	+0.4	+0.4	+0.4	+ +	0.2 N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+	0.8	+0.8	+0.6	+0.8	3 +	0.3 N/A	+0.4	N/A	+0.6	N/A
Vertical Irre	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1	1.0	-1.0	-1.5	-1.0	-1	1.0 N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	ularity	-0.5	-0.5	-0.5	-0.5	-0.5	-().5	-0.5	-0.5	-0.5	-(0.5 -0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-(0.8	-0.2	-1.2	-1.0	-(0.2 -0.8	-0.8	-1.0	-0.8	-0.2
Post Benc	hmark	+2.4	+2.4	+1.4	+1.4	N/A	+	1.6	N/A	+1.4	+2.4	I N	/A +2.4	N/A	+2.8	+2.6	N/A
Soil Typ	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-(0.4	-0.4	-0.4	-0.4	-().4 -0.4	-0.4	-0.4	-0.4	-0.4
Soil Typ	pe D	0.0	-0.8	0.6	-0.6	-0.6	-(0.6	-0.4	-0.6	-0.6	-(0.4 -0.6	-0.6	-0.6	-0.6	-0.6
Soil Typ	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-1	1.2	-0.8	-1.2	-0.8	-(0.8 -0.4	-1.2	-0.4	-0.6	-0.8
										4.0							
FINAL SC										4.0							
													Detail	ed Evaluat	tion Re	quired	
													Y	ES/NG)		

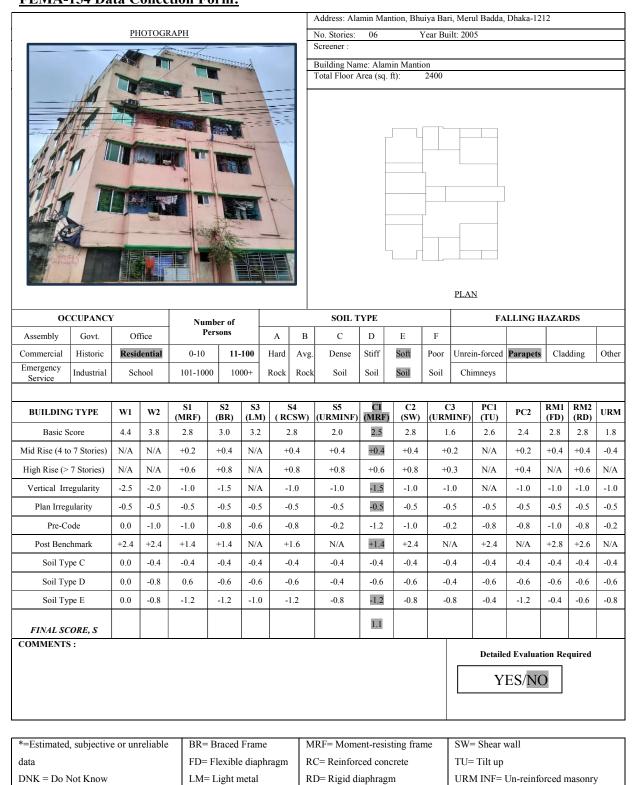
*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced masonry
			infill

Building no:-17 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

									Address: Tar	nanna M	antion, A	ftabnog	or, Dhaka -12	212			
		PH	OTOGI	RAPH					No. Stories:	(G+7)	Y	ear Bui	lt: 2010				
		- Bar						٦Ľ	Screener :								
			1						Building: Ta			2000					
									Total Floor 4	Area (sq.	ft):	2900					
-													<u>PLAN</u>				
00	OCCUPANCY Number of								SOIL T	YPE			FA	ALLING H	IAZAR	RDS	1
Assembly	Govt.	Of	fice	Р	ersons		Α	В	С	D	Е	F					<u> </u>
Commercial Emergency	Historic Industrial		lential	0-10		- 100 00+	Hard Rock	Avg. Rock	Dense Soil	Stiff Soil	Soft Soil	Poor Soil	Unrein-forced Chimneys	Parapets	Clao	lding	Other
Service	Industrial	301	1001	101-100	10	00+	NUCK	NUCK	3011	3011	3011	3011	Chinineys				
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)		54 CSW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM		PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2		.8	2.0	2.5	2.8	1.	6 2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+(0.4	+0.4	+0.4	+0.4	+0	.2 N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+(0.8	+0.8	+0.6	+0.8	+0	.3 N/A	+0.4	N/A	+0.6	N/A
Vertical Irr	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1	.0	-1.0	-1.5	-1.0	-1	.0 N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	ularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0).5	-0.5	-0.5	-0.5	-0	.5 -0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-0).8	-0.2	-1.2	-1.0	-0	.2 -0.8	-0.8	-1.0	-0.8	-0.2
Post Benc	hmark	+2.4	+2.4	+1.4	+1.4	N/A	+]	1.6	N/A	+1.4	+2.4	N/	A +2.4	N/A	+2.8	+2.6	N/A
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-0).4	-0.4	-0.4	-0.4	-0	.4 -0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty	pe D	0.0	-0.8	0.6	-0.6	-0.6	-0).6	-0.4	-0.6	-0.6	-0	.4 -0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-1	.2	-0.8	-1.2	-0.8	-0	.8 -0.4	-1.2	-0.4	-0.6	-0.8
FINAL SC										4.5							
COMMENTS	S :												Detail	ed Evaluat	ion Re	quired	
														ES/NC		- '	
	subjectiv				- Braca				MRF= Mor				SW= She				

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced masonry
			infill

Building no:-18 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:



infill

Building no:-19 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

							Address: Jos	him Tow	ver, Aftal	onogor,	Dhaka -1212						
		PH	OTOGI	<u>RAPH</u>					No. Stories:	(G+6)	Y	Year Bu	uilt: 2018				
					and the second				Screener :								
	y h	1.3.16			N-11-1	-			Building: Jos Total Floor A			2200					
													PLAN				
	The one and		- - i														
	CUPANCY		· · · ·		nber of ersons	_		D	SOIL T	- 1	г	F	F/	ALLING H	AZAF	RDS	
Assembly Commercial	Govt. Historic		fice lential	0-10		-100	A Hard	B Avg.	C Dense	D Stiff	E Soft	r Poor	Unrein-forced	Davanata	Clar	ding	Other
Emergency Service	Industrial		nool	101-100			Rock	Rock		Soil	Soil	Soil	Chimneys		Cia	uning	Ouler
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)		S4 CSW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM		PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2	2.8	2.0	2.5	2.8	1.	6 2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+	0.4	+0.4	+0.4	+0.4	+0	.2 N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+	0.8	+0.8	+0.6	+0.8	+0	.3 N/A	+0.4	N/A	+0.6	N/A
Vertical Irr		-2.5	-2.0	-1.0	-1.5	N/A	-	1.0	-1.0	-1.5	-1.0	-1.		-1.0	-1.0	-1.0	-1.0
Plan Irreg		-0.5	-0.5	-0.5	-0.5	-0.5	-	0.5	-0.5	-0.5	-0.5	-0		-0.5	-0.5	-0.5	-0.5
Pre-Co		0.0	-1.0	-1.0	-0.8	-0.6		0.8	-0.2	-1.2	-1.0	-0.		-0.8	-1.0	-0.8	-0.2
Post Bend		+2.4	+2.4	+1.4	+1.4	N/A	-	1.6	N/A	+1.4	+2.4	N/		N/A	+2.8	+2.6	N/A
Soil Ty	-	0.0	-0.4	-0.4	-0.4	-0.4	-	0.4	-0.4	-0.4	-0.4	-0		-0.4	-0.4	-0.4	-0.4
Soil Ty Soil Ty		0.0	-0.8	0.6	-0.6	-0.6 -1.0		0.6	-0.4	-0.6	-0.6	-0.		-0.6	-0.6	-0.6	-0.6 -0.8
	Soil Type E 0.0 -0.8 -1.2 -1.2				-1.0	-	1.4	-0.0		-0.8	-0.	.0 -0.4	-1.2	-0.4	-0.0	-0.8	
FINAL SC										4.0							
COMMENT	S :												Detail	ed Evaluat	ion Re	quired	
												Ī	Y	ES/NC)		
												F					
*=Estimated		ve or		BR=Brac					= Moment-1	-			V= Shear wa	ıll			
unreliable d	eliable data FD= Flexible diaphragm RC= R										e	Τt	J= Tilt up				

RD= Rigid diaphragm

LM= Light metal

DNK = Do Not Know

URM INF= Un-reinforced masonry infill

Building no:-20 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

								1	A	ah Marat			Dhaha 1212				
		рц	OTOGE	ADU								-	Dhaka -1212				
		<u>rn</u>	0100	AFI					No. Stories: Screener:	(G+8)	1	r ear Bu	ilt: 2018				
		-	A	A					Building: Af Total Floor A			4000					
													PLAN				
		Court Office Persons					_	SOIL T				FA	LLING F	IAZAR 	RDS		
Assembly	Govt.		fice		-		Α	В	С	D	E	F					
Commercial Emergency Service	Historic Industrial		l ential 1001	0-10 101-100	-	- 100 00+	Hard Rock	Avg. Rock	Dense Soil	Stiff Soil	Soft Soil	Poor Soil	Unrein-forced Chimneys	Parapets	Clac	lding	Other
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)		S4 CSW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM		PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2	2.8	2.0	2.5	2.8	1.	6 2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+	0.4	+0.4	+0.4	+0.4	+0	.2 N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+	0.8	+0.8	+0.6	+0.8	+0	.3 N/A	+0.4	N/A	+0.6	N/A
Vertical Irr	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-	1.0	-1.0	-1.5	-1.0	-1	.0 N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	ularity	-0.5	-0.5	-0.5	-0.5	-0.5	-(0.5	-0.5	-0.5	-0.5	-0	.5 -0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-(0.8	-0.2	-1.2	-1.0	-0	.2 -0.8	-0.8	-1.0	-0.8	-0.2
Post Benc	hmark	+2.4	+2.4	+1.4	+1.4	N/A	+	1.6	N/A	+1.4	+2.4	N/	A +2.4	N/A	+2.8	+2.6	N/A
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	- (0.4	-0.4	-0.4	-0.4	-0	.4 -0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty	pe D	0.0	-0.8	0.6	-0.6	-0.6	-(0.6	-0.4	-0.6	-0.6	-0	.4 -0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-	1.2	-0.8	-1.2	-0.8	-0	.8 -0.4	-1.2	-0.4	-0.6	-0.8
FINAL SC	ORE. S									4.0							
COMMENTS			<u> </u>			<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>			d Evaluat (ES/N		quired	<u> </u>
*=Estimated	subjectiv	e or ur	reliabl	e BR:	= Brace	d Frar	ne		MRF= Mo	ment-re	sisting f	rame	SW= She	ear wall			

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced masonry
			infill

Building no:-21 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

								Address: Bl	ock-M R	oad-12	Plot-5 I	Banasree, Dhal	(9			
		PH	IOTOGI	RAPH			-	No. Stories:	7			ilt: 2015				
			1.4					Screener :	,		I cui Du					
					-			Building Na			Vabon					
								Total Floor	Area (sq.	ft): 2	000					
	ER.				EF											
										-						
					22%											
		less			and the second second											
					Parses		40									
							4 2									
		timoniant					- Martin									
							and a									
	加新						1 AL									
			1	CONTRACTOR OF	and the	1					l					
		-				-										
	and the second					1										
	1000 - 10 AL	124										<u>PLAN</u>				
OC	CUPANCY	ł		Nur	nber of		1	SOIL T	YPE			FA	ALLING I	IAZAF	RDS	
Assembly	Govt.	Of	fice		ersons		A B	С	D	Е	F					
Commercial	Historic	Resid	lential	0-10	11-	100	Hard Avg	. Dense	Stiff	Soft	Poor	Unrein-forced	Parapets	Cla	dding	Other
Emergency Service	Industrial	Scl	hool	101-100	00 10	00+	Rock Roc	k Soil	Soil	Soil	Soil	Chimneys				
Service	I			I				1								
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RCSW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM	3 PC1 IINF) (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2.8	2.0	2.5	2.8	1.	.6 2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0	0.2 N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8	+0.8	+0.6	+0.8	+0	.3 N/A	+0.4	N/A	+0.6	N/A
Vertical Irre	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1.0	-1.0	-1.5	-1.0	-1	.0 N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	ularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0	.5 -0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-0.8	-0.2	-1.2	-1.0	-0	.2 -0.8	-0.8	-1.0	-0.8	-0.2
Post Benc	hmark	+2.4	+2.4	+1.4	+1.4	N/A	+1.6	N/A	+1.4	+2.4	N	A +2.4	N/A	+2.8	+2.6	N/A
Soil Ty		0.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0		-0.4	-0.4	-0.4	-0.4
Soil Ty		0.0	-0.8	0.6	-0.6	-0.6	-0.6	-0.4	-0.6	-0.6	-0		-0.6	-0.6	-0.6	-0.6
Soil Ty	-	0.0	-0.8	-1.2	-1.2	-1.0	-1.2	-0.8	-1.2	-0.8	_	.8 -0.4	-1.2	-0.4	-0.6	-0.8
	•						-		-							
FINAL SC									3.2							
COMMENTS	S :											Dotail	ed Evalua	tion Re	anired	
															quircu	
												Y	ES/NO) C		
*=Estimated	1 1		1. 11	DD		1.0		MRF= Mo			<u> </u>	SW= Sh				

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced masonry
			infill

Building no:-22 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. <u>FEMA-154 Data Collection Form:</u>

							_	Address: H							ı.		
		<u>PH0</u>	OTOG	RAPH			-	No. Storie Screener :	s: 8		Y	ear Bu	uilt: 20	15			
		A							, ,								
		2						Building N Total Floo				0					
							-	101011100	i i iicu (5q. n).	100	0					
000	CUPANC	ΣY		Nur	nber of			SOIL	TYPE			PLA		LLING	HAZA	RDS	
Assembly	Govt.	Of	fice	P	ersons		A B	С	D	Е	F						
Commercial	Historic	Resid	lential	0-10	11	-100	Hard Avg	. Dense	Stiff	Soft	Poor		rein- rced	Parape s	t Cla g	ıddin	Other
Emergency Service	Industrial	Sch	nool	101-10	00 10	00+	Rock Roc	Soil	Soil	Soil	Soil	Chii	nneys				
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	83 (LM	S4 (RCSW)	S5 (URMIN F)	CI (MRF)	C2 (SW)	C (UR F	MIN	PC1 (TU)	PC2		RM2 (RD)	URM
Basic S	Score	4.4	3.8	2.8	3.0	3.2	2.8	2.0	2.5	2.8	1.	<i>,</i>	2.6	2.4	2.8	2.8	1.8
Mid Rise		N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0	2	N/A	+0.2	+0.4	+0.4	-0.4
Storie High Ris Storie	se (> 7	N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0		N/A	+0.2	N/A	+0.4	
Vertical Irr	,	-2.5	-2.0	-1.0	-1.5	N/A	-1.0	-1.0	-1.5	-1.0	-1	.0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg		-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0		-0.5	-0.5	-0.5	-0.5	-0.5
Pran meg		0.0	-0.5	-0.5	-0.5	-0.5	-0.3	-0.3	-0.5	-0.5	-0		-0.3	-0.3	-0.5	-0.3	-0.3
Post Bend		+2.4	+2.4	+1.4	-0.8 +1.4	-0.0 N/A	+1.6	-0.2 N/A	+1.4	+2.4	-0		+2.4	-0.8 N/A	+2.8	+2.6	
									-		-				+2.8	-0.4	-0.4
Soil Ty		0.0	-0.4	-0.4	-0.4	-0.4	-	-0.4	-0.4	-0.4	-0		-0.4	-0.4			
Soil Ty Soil Ty	-	0.0	-0.8 -0.8	0.6 -1.2	-0.6 -1.2	-0.6	-0.6	-0.4	-0.6	-0.6 -0.8	-0		-0.6 -0.4	-0.6	-0.6 -0.4	-0.6	-0.6 -0.8
FINAL SC COMMEN	CORE, S								4.0			л П	otoilod	l Evalua	tion		
														ES/N]	<i>.</i> u
*=Estimate	ed, subject	tive or	unrelia	ble BF	R= Brac	ed Fra	me	MRF= Mo	oment-re	esisting	frame	S	W= She	ear wall			
data										-							
									RC= Reinforced concrete TU= Tilt up RD= Rigid diaphragm URM INF= Un-reinforced mase				sonry				
DINK - DO									a utapili	ugiii			fill	i – Uli-l		.cu ma	50111 y

Building no:-23 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:



OCCUPANCY

Govt.

Historic

Industrial

W1

44

N/A

N/A

-2.5

-0.5

0.0

+2.4

0.0

0.0

0.0

Assembly

Commercial

Emergency

Service

BUILDING TYPE

Basic Score

Mid Rise (4 to 7 Stories)

High Rise (> 7 Stories)

Vertical Irregularity

Plan Irregularity

Pre-Code

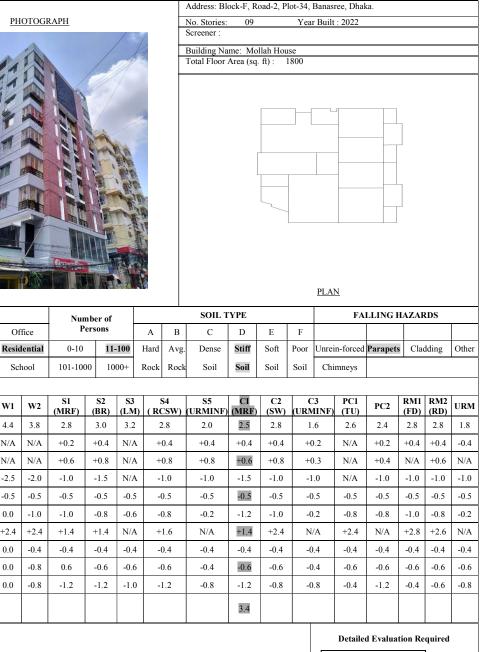
Post Benchmark

Soil Type C

Soil Type D

Soil Type E

FINAL SCORE, S COMMENTS :



*=Estimated, subjective or unreliable BR= Braced Frame MRF= Moment-resisting frame SW= Shear wall FD= Flexible diaphragm RC= Reinforced concrete TU= Tilt up data DNK = Do Not Know LM= Light metal RD= Rigid diaphragm URM INF= Un-reinforced masonry infill

YES/NO

Building no:-24 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

									Address: Blo	ock-H, R	oad-1, Pl	ot-1, Ba	anasre	e, Dhaka				
		PH	OTOGI	RAPH					No. Stories:	4		Year B	uilt: 20	008				
57			18			0			Screener :									
MA				40					Building Na Total Floor A			Nursing 300	g Colle	ege				
1.1	Y					m		-	10141110017	nica (sq.	n). 2	500						
				1									PLAN					
	CUPANCY				nber of ersons	-			SOIL T					FA	LLING I	HAZAF	RDS	1
Assembly	Govt.		fice			100	A	В	C	D	E	F						
Commercial Emergency	Historic		lential	0-10			Hard	Avg.	Dense	Stiff	Soft	Poor			Parapets	Cla	lding	Other
Service	Industrial	Scl	hool	101-100	0 10	+00	Rock	Rock	Soil	Soil	Soil	Soil	Chi	mneys				
			1	61	63	63			65		63		2	DC1		DMI	DM2	
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)		54 CSW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM		PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2	.8	2.0	2.5	2.8	1.	.6	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+().4	+0.4	+0.4	+0.4	+0	.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0).8	+0.8	+0.6	+0.8	+0	.3	N/A	+0.4	N/A	+0.6	N/A
Vertical Irre	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1	.0	-1.0	-1.5	-1.0	-1	.0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	ularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0).5	-0.5	-0.5	-0.5	-0	.5	-0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-0).8	-0.2	-1.2	-1.0	-0	.2	-0.8	-0.8	-1.0	-0.8	-0.2
Post Benc	hmark	+2.4	+2.4	+1.4	+1.4	N/A	+1	1.6	N/A	+1.4	+2.4	N/	A	+2.4	N/A	+2.8	+2.6	N/A
Soil Typ	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-0).4	-0.4	-0.4	-0.4	-0	.4	-0.4	-0.4	-0.4	-0.4	-0.4
Soil Typ	pe D	0.0	-0.8	0.6	-0.6	-0.6	-0).6	-0.4	-0.6	-0.6	-0	.4	-0.6	-0.6	-0.6	-0.6	-0.6
Soil Tyj	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-1	.2	-0.8	-1.2	-0.8	-0	.8	-0.4	-1.2	-0.4	-0.6	-0.8
FINAL SC			0.3															
COMMENTS	5:													Detaile	d Evalua	tion Re	quired	
														YI	ES/NG	C		
					P									CWV CI				

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced
			masonry infill

Building no:-25 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:



Office

Residential

School

W2

3.8

N/A

N/A

-2.0

-0.5

-1.0

+2.4

-0.4

-0.8

-0.8

W1

4.4

N/A

N/A

-2.5

-0.5

0.0

+2.4

0.0

0.0

0.0

OCCUPANCY

Assembly

Commercial

Emergency

Service

BUILDING TYPE

Basic Score

Mid Rise (4 to 7 Stories)

High Rise (> 7 Stories)

Vertical Irregularity

Plan Irregularity

Pre-Code

Post Benchmark

Soil Type C

Soil Type D

Soil Type E

FINAL SCORE, S

Govt.

Historic

Industrial

PH					Address: Blo	CK-IVI RC		1111-14						
				-	No. Stories:	6		lot-25, I			1.			
<u></u>					Screener :	U	1	i cai Bul	nt . 20	10				
		-			Building Nan	ne: Hami	m House							
					Fotal Floor A			00						
									-					
I P		-							PLA	N				
					SOIL T	VDE				EA	LUNCH		DC	
Numb Per	er of sons		Δ	в	SOIL T		F	F		FA	LLING H	IAZAR	DS	
		100	A Hard	B Avg.	SOIL T C Dense	YPE D Stiff	E Soft	F Poor	Unrei		LLING H Parapets		a DS Iding	Other
Per 0-10	sons		Hard	Avg.	C Dense	D Stiff	Soft	Poor		n-forced				Other
Per	sons	100 00+			С	D								Other
Per 0-10	sons		Hard Rock	Avg.	C Dense	D Stiff	Soft	Poor Soil		n-forced	Parapets	Clac	lding	
Per 0-10 101-1000 S1 MRF)	sons 11- 100 S2 (BR)	00+ S3 (LM	Hard Rock	Avg. Rock S4 CSW)	C Dense Soil S5 (URMINF)	D Stiff Soil	Soft Soil C2 (SW)	Poor Soil	Chi	PC1 (TU)	Parapets PC2	Clac RM1 (FD)	lding RM2 (RD)	URM
Per 0-10 101-1000 S1	sons 11- 100 S2)0+ S3	Hard Rock	Avg. Rock	C Dense Soil S5	D Stiff Soil	Soft Soil C2	Poor Soil (URM	Chi	n-forced mneys PC1	Parapets	Clac RM1	lding RM2	
Per 0-10 101-1000 S1 MRF) 2.8	sons 11- 100 S2 (BR)	00+ S3 (LM	Hard Rock	Avg. Rock S4 CSW)	C Dense Soil S5 (URMINF)	D Stiff Soil	Soft Soil C2 (SW)	Poor Soil (URM 1.	Chi 3 11NF)	PC1 (TU)	Parapets PC2	Clac RM1 (FD)	lding RM2 (RD)	URM
S1 Annu Control 2.8 40.2	sons 11- 100 S2 (BR) 3.0	00+ S3 (LM 3.2	Hard Rock	Avg. Rock 54 CSW) 2.8	C Dense Soil S5 (URMINF) 2.0	D Stiff Soil CI (MRF) 2.5	Soft Soil C2 (SW) 2.8	Poor Soil (URM 1.	Chi 3 11NF) .6	PC1 (TU) 2.6	Parapets PC2 2.4	Clac RM1 (FD) 2.8	RM2 (RD) 2.8	URM 1.8
S1	sons 11- 100 S2 (BR) 3.0 +0.4	00+ S3 (LM 3.2 N/A	Hard Rock	Avg. Rock 54 CSW) 2.8 0.4	C Dense Soil (URMINF) 2.0 +0.4	D Stiff Soil CI (MRF) 2.5 +0.4	Soft Soil (SW) 2.8 +0.4	Poor Soil (URM 1. +0	Chi 3 11NF) .6 0.2 0.3	PC1 (TU) 2.6 N/A	Parapets PC2 2.4 +0.2	RM1 (FD) 2.8 +0.4	RM2 (RD) 2.8 +0.4	URM 1.8 -0.4
S1	sons 11- 100 S2 (BR) 3.0 +0.4 +0.8	00+ S3 (LM 3.2 N/A N/A	Hard Rock	Avg. Rock 54 2.8 0.4 0.8	C Dense Soil (URMINF) 2.0 +0.4 +0.8	D Stiff Soil 2.5 +0.4	Soft Soil (SW) 2.8 +0.4 +0.8	Poor Soil (URM 1. +0 +0 -1	Chi 3 11NF) .6 0.2 0.3	PC1 (TU) 2.6 N/A N/A	Parapets PC2 2.4 +0.2 +0.4	RM1 (FD) 2.8 +0.4 N/A	RM2 (RD) 2.8 +0.4 +0.6	URM 1.8 -0.4 N/A
SI	S2 (BR) 3.0 +0.4 +0.8 -1.5 -0.5	00+ S3 (LM 3.2 N/A N/A N/A -0.5	Hard Rock	Avg. Rock 54 CSW) 2.8 0.4 0.8 1.0 0.5	C Dense Soil 35 (URMINF) 2.0 +0.4 +0.8 -1.0 -0.5	D Stiff Soil CI (MRF) 2.5 +0.4 +0.6 -1.5	Soft Soil C2 (SW) 2.8 +0.4 +0.8 -1.0 -0.5	Poor Soil (URM 1. +0 +0 -1 -0	Chi 11NF) .6 0.2 0.3 .0 1.5	PC1 (TU) 2.6 N/A N/A N/A -0.5	Parapets PC2 2.4 +0.2 +0.4 -1.0 -0.5	RM1 (FD) 2.8 +0.4 N/A -1.0 -0.5	RM2 (RD) 2.8 +0.4 +0.6 -1.0 -0.5	URM 1.8 -0.4 N/A -1.0 -0.5
Per 0-10 101-1000 2.8 +0.2 +0.6 -1.0 -1.0 -1.0	Sons 11- 100 S2 (BR) 3.0 +0.4 +0.8 -1.5 -0.5 -0.8	00+ S3 (LM 3.2 N/A N/A -0.5 -0.6	Hard Rock	Avg. Rock S4 CSW) 2.8 0.4 0.8 1.0 0.5 0.8	C Dense Soil S5 (URMINF) 2.0 +0.4 +0.8 -1.0 -0.5 -0.2	D Stiff Soil CI (MRF) 2.5 +0.4 +0.6 -1.5 -0.5 -1.2	Soft Soil 2.8 +0.4 +0.8 -1.0 -0.5 -1.0	Poor Soil (URM 1. +0 +0 -1 -0 -0	Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi	PC1 (TU) 2.6 N/A N/A N/A -0.5 -0.8	Parapets PC2 2.4 +0.2 +0.4 -1.0 -0.5 -0.8	RM1 (FD) 2.8 +0.4 N/A -1.0 -0.5 -1.0	RM2 (RD) 2.8 +0.4 +0.6 -1.0 -0.5 -0.8	URM 1.8 -0.4 N/A -1.0 -0.5 -0.2
SI 0.10 101-1000 2.8 +0.2 +0.6 -1.0 -0.5 -1.0 +1.4	S2 (BR) 3.0 +0.4 +0.8 -1.5 -0.5 -0.8 +1.4	83 (LM 3.2 N/A N/A -0.5 -0.6 N/A	Hard Rock (RC 2 4 ++ 4 5 5 4 ++	Avg. Rock 54 CSW) 2.8 0.4 0.8 1.0 0.5 0.8 1.6	C Dense Soil (URMINF) 2.0 +0.4 +0.8 -1.0 -0.5 -0.2 N/A	D Stiff Soil CI (MRF) 2.5 +0.4 +0.6 -1.5 0.5 -1.2 +1.4	Soft Soil 2.8 +0.4 +0.8 -1.0 -0.5 -1.0 +2.4	Poor Soil (URM +0 -1 -0 -0 N/	Chi 3 11NF) .6 0.2 0.3 .0 0.5 0.2 /A	PC1 (TU) 2.6 N/A N/A N/A -0.5 -0.8 +2.4	Parapets PC2 2.4 +0.2 +0.4 -1.0 -0.5 -0.8 N/A	RM1 (FD) 2.8 +0.4 N/A -1.0 -0.5 -1.0 +2.8	RM2 (RD) 2.8 +0.4 +0.6 -1.0 -0.5 -0.8 +2.6	URM 1.8 -0.4 N/A -1.0 -0.5 -0.2 N/A
SI	sons 11- 100 S2 (BR) 3.0 +0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4	83 (LM 3.2 N/A N/A N/A -0.5 -0.6 N/A -0.4	Hard Rock	Avg. Rock 54 CSW) 2.8 0.4 0.8 1.0 0.5 0.8 1.6 0.4	C Dense Soil 35 (URMINF) 2.0 +0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4	D Soil Soil CI (MRF) 2.5 40.6 1.5 0.5 0.5 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Soft Soil 2.8 +0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4	Poor Soil (URM 1. +0 +0 -1 -0 0 0 N/ N/ -0	Chi 3 11NF) 6 0.2 0.3 0.0 1.5 1.2 //A .4	PC1 (TU) 2.6 N/A N/A N/A -0.5 -0.8 +2.4 -0.4	Parapets PC2 2.4 +0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4	RM1 (FD) 2.8 +0.4 -1.0 -0.5 -1.0 +2.8 -0.4	RM2 (RD) 2.8 +0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4	URM 1.8 -0.4 -1.0 -0.5 -0.2 N/A -0.4
SI	sons 11- 100 S2 (BR) 3.0 +0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4 -0.6	S3 (LM 3.2 N/A N/A -0.5 -0.6 N/A -0.4 -0.4	Hard Rock (R (R (+ + + + + + + + + + + + + + + +	Avg. Rock CSW) 2.8 0.4 0.8 1.0 0.5 0.8 1.6 0.4 0.6	C Dense Soil 35 (URMINF) 2.0 +0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4 -0.4	D Stiff Soil 2.5 +0.4 +0.6 -1.5 -1.2 +1.4 -0.4 -0.4	Soft Soil 2.8 +0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4 -0.6	Poor Soil CC (URM +0 -0 -0 -0 -0 NM -0 -0 -0 -0	Chi 3 IINF) 6 0.2 0.3 .0 1.5 1.2 //A 4	PC1 (TU) 2.6 N/A N/A N/A -0.5 -0.8 +2.4 -0.4 -0.6	Parapets PC2 2.4 +0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4 -0.6	RM1 (FD) 2.8 +0.4 N/A -1.0 -0.5 -1.0 +2.8 -0.4 -0.4 -0.6	RM2 (RD) 2.8 +0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4 -0.6	URM 1.8 -0.4 N/A -1.0 -0.5 -0.2 N/A -0.4 -0.6
SI	sons 11- 100 S2 (BR) 3.0 +0.4 +0.8 -1.5 -0.5 -0.8 +1.4 -0.4	83 (LM 3.2 N/A N/A N/A -0.5 -0.6 N/A -0.4	Hard Rock (R (R (+ + + + + + + + + + + + + + + +	Avg. Rock 54 CSW) 2.8 0.4 0.8 1.0 0.5 0.8 1.6 0.4	C Dense Soil 35 (URMINF) 2.0 +0.4 +0.8 -1.0 -0.5 -0.2 N/A -0.4	D Soil Soil CI (MRF) 2.5 40.6 1.5 0.5 0.5 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Soft Soil 2.8 +0.4 +0.8 -1.0 -0.5 -1.0 +2.4 -0.4	Poor Soil CC (URM +0 -0 -0 -0 -0 NM -0 -0 -0 -0	Chi 3 11NF) 6 0.2 0.3 0.0 1.5 1.2 //A .4	PC1 (TU) 2.6 N/A N/A N/A -0.5 -0.8 +2.4 -0.4	Parapets PC2 2.4 +0.2 +0.4 -1.0 -0.5 -0.8 N/A -0.4	RM1 (FD) 2.8 +0.4 -1.0 -0.5 -1.0 +2.8 -0.4	RM2 (RD) 2.8 +0.4 +0.6 -1.0 -0.5 -0.8 +2.6 -0.4	URM 1.8 -0.4 -1.0 -0.5 -0.2 N/A -0.4

COMMENTS :

Detailed Evaluation Required

YES/NO

*=Estimated, subjective or unreliable BR= Braced Frame MRF= Moment-resisting frame SW= Shear wall FD= Flexible diaphragm TU= Tilt up data RC= Reinforced concrete URM INF= Un-reinforced masonry LM= Light metal RD= Rigid diaphragm DNK = Do Not Know infill

Building no:-26 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

Address: Block-H, Road-01, Plot-11, Banasree, Dhaka. PHOTOGRAPH No. Stories: 8 Year Built : 2019 Screener Building Name: Arma Asma Garden Total Floor Area (sq. ft) : 1900 PLAN SOIL TYPE FALLING HAZARDS OCCUPANCY Number of Persons В Assembly Govt. Office Α С D Е F Unrein-forced Parapets Cladding Other Commercial Historic Residential 0-10 11-100 Hard Avg Dense Stiff Soft Poor Emergency Soil Chimneys Industrial 101-1000 1000 +Rock Soil Soil School Rock Soil Service RM1 RM2 **S1 S2 S**3 **S4** \$5 CI C2 C3 PC1 BUILDING TYPE W1 W2 PC2 URM URMINF MRF) (MRF) (BR) (LM) RCSW) (SW) URMINF (TU) (FD) (RD) Basic Score 4.4 3.8 2.8 3.0 3.2 2.8 2.0 2.5 2.8 1.6 2.4 2.8 2.8 1.8 2.6 Mid Rise (4 to 7 Stories) N/A +0.2+0.4N/A +0.4+0.4+0.4+0.4+0.2+0.2+0.4+0.4-0.4 N/A N/A High Rise (> 7 Stories) N/A +0.6+0.8N/A +0.8+0.8+0.6+0.8+0.3N/A +0.4N/A +0.6N/AN/A Vertical Irregularity -2.0 -1.0 N/A -1.0 -1.0 -1.0 -1.0 -1.0 -1.5 -1.5 N/A -1.0 -1.0 -1.0 -2.5 Plan Irregularity -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 Pre-Code 0.0 -1.0 -1.0 -0.8 -0.6 -0.8 -0.2 -1.2 -1.0 -0.2 -1.0 -0.8 -0.2 -0.8 -0.8 Post Benchmark +2.4+2.4+1.4+1.4N/A +1.6N/A +1.4+2.4N/A +2.4N/A +2.8+2.6N/A Soil Type C -0.4 -0.4 0.0 -0.4 -0.4 -0.4 -0.4 -0.4 -0.4 -0.4 -0.4 -0.4 -0.4 -0.4 -0.4 -0.6 Soil Type D 0.0 -0.8 0.6 -0.6 -0.6 -0.6 -0.4 -0.6 -0.4 -0.6 -0.6 -0.6 -0.6 -0.6 Soil Type E 0.0 -0.8 -1.2 -1.2 -1.0 -1.2 -0.8 -1.2 -0.8 -0.8 -0.4 -1.2 -0.4 -0.6 -0.8 3.4 FINAL SCORE, S COMMENTS : **Detailed Evaluation Required** YES/NO

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced
			masonry infill

Building no:-27 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

Persons

S2

(BR)

3.0

+0.4

+0.8

-1.5

-0.5

-0.8

+1.4

-0.4

-0.6

-1.2

11-100

1000 +

S3

(LM)

3.2

N/A

N/A

N/A

-0.5

-0.6

N/A

-0.4

-0.6

-1.0

0-10

101-1000

S1

(MRF)

2.8

+0.2

+0.6

-1.0

-0.5

-1.0

+1.4

-0.4

0.6

-1.2

А



Office

Residential

School

W2

3.8

N/A

N/A

-2.0

-0.5

-1.0

+2.4

-0.4

-0.8

-0.8

W1

4.4

N/A

N/A

-2.5

-0.5

0.0

+2.4

0.0

0.0

0.0

Assembly

Commercial

Emergency

Service

BUILDING TYPE

Basic Score

Mid Rise (4 to 7 Stories)

High Rise (> 7 Stories)

Vertical Irregularity

Plan Irregularity

Pre-Code

Post Benchmark

Soil Type C

Soil Type D

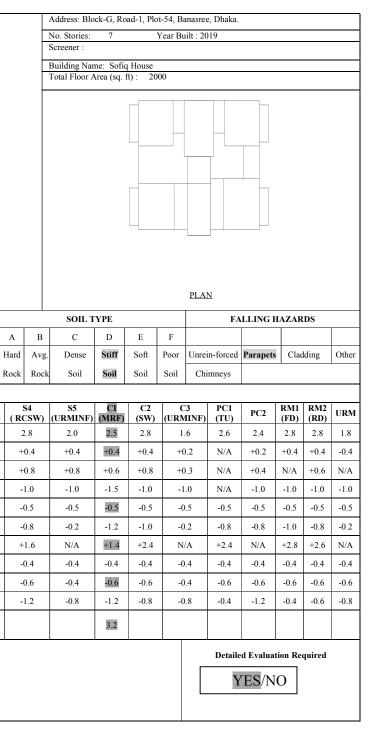
Soil Type E

FINAL SCORE. S COMMENTS :

Govt.

Historic

Industrial



*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced masonry
			infill

Building no:-28 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

									Address: Blo	ock-M, I	Road-8, P	lot-25,	Banası	ree, Dha	ka.			
		PH	OTOGI	RAPH					No. Stories:	8		Year B	uilt : 2	020				
							1		Screener :									
	NI	A	Y and			X			Building Na Total Floor			th Vila 100						
	and a star	X	A MARCE				4	-										
		7			*	THE HE			5011.7	N/DE			<u>PLAN</u>			1 4 77 4 1	DC	
	CUPANCY		Y		nber of ersons	-	•	р	SOIL T		Б	F		FA	LLING I	1AZAI	CDS .	1
Assembly Commercial	Govt. Historic		fice lential	0-10		-100	A Hard	B Avg.	C Dense	D Stiff	E Soft	г Poor	Unrair	forced	Parapets	Cla	dding	Other
Emergency Service	Industrial		hool	101-100		00+		Rock		Soil	Soil	Soil		nneys	i ai apeta		aung	
BUILDING	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	83 (LM)	S (RC	4 SW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C (URM	3 IINF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2.	8	2.0	2.5	2.8	1.	.6	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0	.4	+0.4	+0.4	+0.4	+0	.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0	.8	+0.8	+0.6	+0.8	+0	0.3	N/A	+0.4	N/A	+0.6	N/A
Vertical Irr	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1	.0	-1.0	-1.5	-1.0	-1	.0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	gularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0	.5	-0.5	-0.5	-0.5	-0	.5	-0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-0	.8	-0.2	-1.2	-1.0	-0	.2	-0.8	-0.8	-1.0	-0.8	-0.2
Post Benc	chmark	+2.4	+2.4	+1.4	+1.4	N/A	+1	.6	N/A	+1.4	+2.4	N	'A	+2.4	N/A	+2.8	+2.6	N/A
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-0	.4	-0.4	-0.4	-0.4	-0	.4	-0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty	pe D	0.0	-0.8	0.6	-0.6	-0.6	-0	.6	-0.4	-0.6	-0.6	-0	.4	-0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty	pe E	0.0	-0.8	-1.2	-1.2	-1.0	-1	.2	-0.8	-1.2	-0.8	-0	.8	-0.4	-1.2	-0.4	-0.6	-0.8
										3.4								
FINAL SC										5.4		<u> </u>						
COMMENT	5:													Detaile	d Evalua	tion Re	quired	
														Ŋ	YES/N	10		
*=Estimated	d, subjectiv	ve or u	nreliab	ole Bl	R= Brac	ed Fra	ame		MRF= M	Ioment-	resisting	g fram	e	SW= S	Shear wa	11		

*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced
			masonry infill

Building no:-29 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:



Office

Residential

School

W2

3.8

N/A

N/A

-2.0

-0.5

-1.0

+2.4

-0.4

-0.8

-0.8

W1

4.4

N/A

N/A

-2.5

-0.5

0.0

+2.4

0.0

0.0

0.0

Number of

Persons

S2

(BR)

3.0

+0.4

+0.8

-1.5

-0.5

-0.8

+1.4

-0.4

-0.6

-1.2

0-10

101-1000

S1

(MRF)

2.8

+0.2

+0.6

-1.0

-0.5

-1.0

+1.4

-0.4

0.6

-1.2

11-100

1000+

OCCUPANCY

Govt.

Historic

Industrial

Assembly

Commercial

Emergency

Service

BUILDING TYPE

Basic Score

Mid Rise (4 to 7 Stories)

High Rise (> 7 Stories)

Vertical Irregularity

Plan Irregularity

Pre-Code

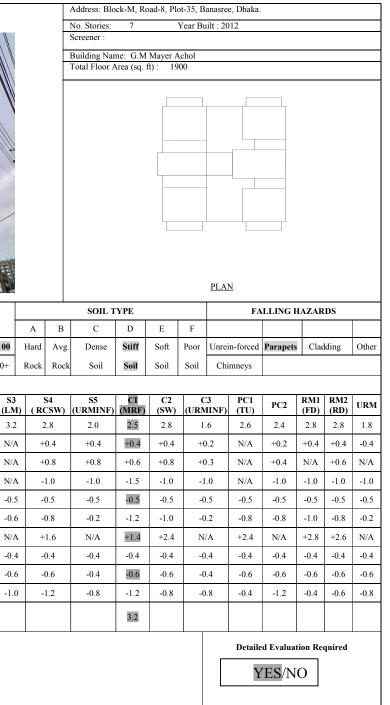
Post Benchmark

Soil Type C

Soil Type D

Soil Type E

FINAL SCORE, S COMMENTS :



*=Estimated, subjective or unreliable	BR= Braced Frame	MRF= Moment-resisting frame	SW= Shear wall
data	FD= Flexible diaphragm	RC= Reinforced concrete	TU= Tilt up
DNK = Do Not Know	LM= Light metal	RD= Rigid diaphragm	URM INF= Un-reinforced masonry
			infill

Building no:-30 Rapid Visual Screening of Buildings for Potential Seismic Hazards HIGH Seismicity. FEMA-154 Data Collection Form:

								Address: Blo	ock-M R	oad-6 P	lot-11 Ba	asree Dhal	ka.			
		PH	OTOGI	RAPH			-	No. Stories:	8		Year Built					
	20		NO.		\		F	Screener :								
	14	11				/	_	Building Na								
	AL	11		NO.	1			Total Floor	Area (sq.	ft): 1	900					
				1							<u>P</u>]	LAN				
	CUPANCY				nber of ersons			SOIL T			_	FA	LLING I	HAZAF	RDS	
Assembly	Govt.	_	fice			_	A B	С	D	E	F			-		
Commercial Emergency Service	Historic Industrial		lential hool	0-10 101-100			Hard Avg Rock Roc		Stiff Soil	Soft Soil		rrein-forced Chimneys	Parapet	s Clao	lding	Other
			1	61		63		0.5	CT.	60	63	DCI	-	DM	DMA	
BUILDIN	G TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RCSW)	S5 (URMINF)	CI (MRF)	C2 (SW)	C3 (URMIN	PC1 (F) (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic S	core	4.4	3.8	2.8	3.0	3.2	2.8	2.0	2.5	2.8	1.6	2.6	2.4	2.8	2.8	1.8
Mid Rise (4 to	o 7 Stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0.2	N/A	+0.2	+0.4	+0.4	-0.4
High Rise (>	7 Stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8	+0.8	+0.6	+0.8	+0.3	N/A	+0.4	N/A	+0.6	N/A
Vertical Irr	egularity	-2.5	-2.0	-1.0	-1.5	N/A	-1.0	-1.0	-1.5	-1.0	-1.0	N/A	-1.0	-1.0	-1.0	-1.0
Plan Irreg	gularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Pre-Co	ode	0.0	-1.0	-1.0	-0.8	-0.6	-0.8	-0.2	-1.2	-1.0	-0.2	-0.8	-0.8	-1.0	-0.8	-0.2
Post Bend	chmark	+2.4	+2.4	+1.4	+1.4	N/A	+1.6	N/A	+1.4	+2.4	N/A	+2.4	N/A	+2.8	+2.6	N/A
Soil Ty	pe C	0.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Soil Ty	-	0.0	-0.8	0.6	-0.6	-0.6	-0.6	-0.4	-0.6	-0.6	-0.4	-0.6	-0.6	-0.6	-0.6	-0.6
Soil Ty		0.0	-0.8	-1.2	-1.2	-1.0	-1.2	-0.8	-1.2	-0.8	-0.8	-0.4	-1.2	-0.4	-0.6	-0.8
FINAL SC	CORE, S								3.9							
COMMENT	S :		1		ı	1	1		1	1	<u> </u>	Detaile	ed Evalua	tion Re	quired	·
													YES	S/NC)]
*=Estimated, subjective or unreliable BR= Braced Frame MRF= Mon											frame		hear wal	1		
data				FD)= Flexi	ble dia	phragm	RC= Rein	forced c	concrete	e	TU= Ti	ilt up			
				1								1				

RD= Rigid diaphragm

DNK = Do Not Know

LM= Light metal

URM INF= Un-reinforced

masonry infill