DAP NEDUET

Condition Assessment of Heritage Buildings - Karachi Declared as "Dangerous"

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Contents

1. Introduction

Karachi, a Cosmopolitan city, the most populous city in Pakistan and third most populous city in the world is home to numerous heritage buildings which date back to 19th century. The vast majority of these stone workmanship building structures were built during British Raj. Conditions of most of these buildings is very bad now a days due to decay over a period of time, lack of maintenance and neglect on part of building owners.

SBCA (Sindh Building Control Authority) has declared almost 52 of heritage buildings as "Dangerous". Any Building or structure whose strength, stability, serviceability, robustness and/or durability has been impaired due to any reason such as improper structural design and detailing, faulty and/or poor construction, decay, dilapidation, obsolescence, natural disasters or prompting deserting, due to all these reasons to a level, where it cannot be restored to its original status, classifies as Dangerous Building.

Culture/Heritage department thus initiated a study to assess if the existing heritage buildings can be restored by strengthening and repair. In this regard, M/S Sadaf Fatima was consulted by NED Architecture Department to inspect and survey the stability of these buildings from the aspect of being called "Dangerous", i.e. to see if the buildings can be restored to their original strength by strengthening.

Site visits were conducted during the period of 27 March'2018 to 10 April'2018. At the time of initiation of visits, 7 buildings out of 52 buildings were inexistent being either demolished or collapsed.

Almost all of the buildings visited, same structural system was observed, that is, 15 to 24-inch-thick stone masonry walls with original timber plank flooring in localized area. Most of the floor area is replaced with reinforced concrete slab or precast slab system. In almost all of the buildings, interventions were observed ranging from moderate to high degree. In some buildings, new rooms have been added on top of original roof causing additional load on stone walls. Replacement of original timber flooring with RCC and precast has also deteriorated and have caused damage to existing original structure. At many places, it is suspected that floor finishes have been added on top of original one thus causing additional loading.

2. Scope of Works

The scope of work includes;

- On-site Visual survey of the building.
- Compilation of technical Report regarding the condition assessment of Buildings on the aspect of being Dangerous or otherwise.
- Suggesting Basic strengthening techniques

It must be noted that As-Built plans of most of the buildings were not available. The buildings were inspected physically and pictures were taken. Existing structural condition was noted for façade, internal walls, floors etc. and recommendation are based on visual inspection only.

3. List of Dangerous Buildings of Karachi

1. Sherwala mandir
2. Kausar Baba Dargah
3. OT 5/103
4. OT 6/86
5. OT 7/4
6. Dharam Das Mandir
7. Antarya Building
8. Calcutta Building
9. Jahangeer Kothari
10. Jahangeer Mansion
11. Habib Bank Building
12. Farzana Mansion
13. Paracha Building
14. Fida Hussain
15. Khaliq un Nisa
16. Karachi Muslim Restaurant
17. Sarang Building-Demolished
18. Feroz Pur Wala Market-Demolished
19. Sheeba Manzil-Demolished
20. Tayabi Manzil-Demolished
21. Tharyamal Nayandas
22. Rehmani Mansion
23. Devi Bai Building
24. Haji Hashim
25. NP 1/5
26. Rohana Banash Building
27. Sonamal Chandimal Building
28. NP 10/27
29. Hajra Building
30. Jan Muhammad Building
31. Mukhi Mansion
32. Hussaini Building
33. Quetta Wala Building
34. Bhagwan Das Building
35. SR 3/14
36. Essaji Ibraheemji Building
37. Old Shahani Building
38. Ather Mansion
39. Saify Electric
40. Sami Chambers
41. Dost Manzil
42. Bhojraj Building
43. Jiha Building
44. Haque Building
45. Hassan Ali Building
46. SBQ 7/38
47. Rainbow House
48. Kanji Wasti Building
49. Nabi Manzil
50. United Bank Building
51. SBQ 3/67
52. Saifee Building

4. Building Detail

4.1. Sherwala Mandir

General Information

Building Name: Sherwala Mandir
Status: Partly Accessible
Address: OT-02/137, GAO GALI, ATMA RAM ROAD
Site visit Date: 10/4/2018
Time: 11.07 am
Building Number: 1
Original Stories: Ground + 2 story

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	1868
3.	**Approximate Age of Building:**	150 yrs
4.	**Intervention Status**	
	Ground floor	No intervention
	First floor	- RCC Bracket Beams floor in most of places - Steel Girders to support the existing slab - Partition wall were added in residential apartment
	Second floor	Fully constructed
	Third floor	Partially constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with band beam-structure
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – Yes Side –Yes
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus two stories and partial third story, whereas additional third story on rest of the area has been added sometime later. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at a few locations and cracks were noticed on the first floor.
- Wide cracks were visible on front facade.
- Load Bearing Stone wall is a typical construction type followed.
- In most of areas, reinforced concrete floor laid later on, was found in bad condition with concrete cover fallen off. Refer Plate-4, 5, 6 &7.
- In central courtyard, Reinforced concrete construction, which was done later-on, was found in bad shape. The rebar is exposed. (Refer Plate 8 and 9)
- The ground floor is partially occupied by shop keepers doing cloth dying works the effects of seepage and different colors and chemicals used were also evident.
- The building is spread over wide area.
- Two floors had been added on top roof.
- It was observed that from entrance the left portion is tilted on left side and right side is tilted towards right side.

Plate-1: Front Façade- loose stone masonry can be noted at few places. Additional floor on top is also visible

Plate-2: Wide cracks at the rear façade of building

Plate-3 Right side

Plate-4: Timber slab in bad condition.

Plate-5: Concrete construction done later on, in bad condition

Plate-6: Deformed timber slab resting on MS beams installed at later stage.

Plate-7: Bad condition of roof slab due to seepage.

Plate-8: Central court being turned into RCC construction

Plate-9: Bad condition of stone and RCC structure.

Conclusions and Recommendations

Based on the observations noted, it is concluded that;

- In existing condition, *building structure is not stable and is susceptible to failure/collapse*.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.2. Kausar Baba Dargah

General Information

Building Name: Cheti Bai Basarmal (Kausar Baba Dargah)
Status: Accessible
Address: OT-04/53, Rabia Basri (Thakur Dawara) Lane, V.I. Stramdas Sukhramadas Street
Site visit Date: 10/4/2018
Time: 10.50 am
Building Number: 2
Original Stories: Ground

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	1930
3.	**Approximate Age of Building:**	88 yrs
4.	**Intervention Status**	
	Ground floor	No intervention
	First floor	- Wall at periphery were added. - Temporary roof sheeting
5.	**Type of Building Construction:**	Original Load bearing stone wall
6.	**Typical Floor framing**	Periphery load bearing wall with column elements
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	No
	Wall	No
	Columns	No
	Beam/Girder	-
	Floors	-

Observations

It was observed that;

- The original building is single storied structure.
- Originally, building had ground plus one story which was removed later making story height approx. 24 feet. Refer Plate-1.
- On front façade and side, tiles have been placed with finish. No portion of original stone wall is visible. Refer Plate-2, 3 & 4.
- All the stone masonry is repaired with mortar and cladded with tiles. Refer Plate-5 & 6.
- Current finishes do not show any kind of distress.

Plate-1: Front Façade- proper tiling works

Plate-2: side view all stone is covered with tile works

Plate-3: Side View

Plate-4: During-Construction view

Plate-5: stone exposed during construction

Plate-6: Walls and Columns completely covered with tiles and false celling hides the temporary roof laying above

Conclusions and Recommendations

Based on the observations noted, it is concluded that;

- In existing condition, building structure appears to be in good condition.
- However, it is suspected that the mortar used for pointing and repair is cement mortar which is not good for stone integration in long run, hence it is recommended to guide the occupants/user of building to get the repair of building done with lime mortar.

4.3. OT 5/103

General Information

Building Name: OT-5/103
Status: Inaccessible
Address: OT-5/103, Adamjee Dawoodpota (Rampart) Road
Site visit Date: 10/4/2018
Time: 10.30 am
Building Number: 3
Original Stories: Ground + 1

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not available
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	vacant
	Roof	GI Sheets
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade (wooden jali and wall)	Front – yes Back – partial collapsed
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building used to be ground plus 3 stories, whereas additional roof was also in partial use. Refer Plate-1 for picture taken in 2007.
- The top floors were demolished by the residents recently. it appears that first floor is vacant. Refer Plate-2
- Building could be observed only from outside as it was inaccessible.
- Rear part of building appeared collapsed Refer Plate-3.
- From the back side of the building the stone seems to be loose and material has been filled in places to keep it intact. Refer Plate- 4.
- On front façade, loose stone masonry can be noticed at locations.

- First floor balcony is made of wood. The front projection seems to be deflected and the edges are broken. The brackets of projection are as per original construction but due to lack of maintenance they are in bad condition. Refer Plate-5 & 6
- Intervention appears to be limited to ground floor shops.

Plate-1: Front Façade- before demolition

Plate-2: Front Façade- after demolition

Plate-3: rare view shows apparent demolition

Plate-4: rare entrance

Plate-5: original wooden façade

Plate-6: cracks observed

Conclusions and Recommendations

Based on the observations noted, it is concluded that;

- In existing condition, partially collapsed building structure appears in non-workable condition.
- Moderate strengthening might be enough to make structure safe and workable for ground plus one story.
- Building could not be observed from inside, hence strengthening level suggested is based on visual inspection of façade only.
- Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions if present inside, should be removed
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.4. OT 6/86

General Information

Building Name: OT-6/86
Status: Inaccessible
Address: OT-6/86, JAI RAM DAS BAKOMAL ROAD, FAROOQ-E-AZAM LANE

Site visit Date: 10/4/2018
Time: 10.40 am
Building Number: 4
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	None
	Roof	None
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure
6.	**Typical Floor framing**	Could not be observed
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front –no Side – vertical crack at joint with other building
	Wall	yes
	Columns	No
	Beam/Girder	No
	Floors	No

Observations
It was observed that;

- The original building is ground plus two stories, no intervention at roof level was observed. Refer Plate-1.
- On front façade, horizontal cracks at top roof were observed in beam at lintel level and the slab projection. The stone wall seems to be intact. Refer Plate-1 & 4.
- Side elevation has a vertical crack generating from bottom and extending to the top story. Crack is at the joint of two adjacent buildings.
- The crack is almost 1” wide separating the building from its neighboring structure.

- Building is slender and appears to have tilted outwards creating gap with adjacent building.
- Shops are being made on ground.
- The building was inaccessible from inside and could be observed from outside only.

Plate-1: Front Façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: Vertical separation cracks at the right-side façade of building observed at rear side

Plate-3: Separation of Building

Plate-4: reinforced concrete slab in bad condition.

Plate-5: reinforced concrete slab in bad condition.

Conclusions and Recommendations

Based on the observations noted, it is concluded that;

- In existing condition, building structure appears stable.
- However, since it could not be observed from inside, no comment can be made on the stability of internal structure.

4.5. OT 7/4

General Information

Building Name: OT-7/4
Status: Façade only- inaccessible
Address: OT-7/4, Khooshal Rai Lane
Site visit Date: 10/4/2018
Time: 12.00 pm
Building Number: 5
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	--
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6	**Approximate Damage Observed in Percentage**	85%
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – yes Back – yes
	Wall	yes
	Beam/Girder	collapsed
	Floors	collapsed

Observations

It was observed that;

- The original building was ground + 3 stories. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at many locations.
- Most floors have been collapsed leaving façade wall only.
- Few areas appeared to have been affected by fire.
- Termite infestation was also noticed a few places.
- In staircase area, which had collapsed, original timber construction for flooring was observed. Refer Plate-4.
- In central courtyard, Reinforced concrete construction could be noticed.

Plate-1: Front Façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: reinforced concrete column seen from outside

Plate-3: left side close up view of front façade

Plate-4: right side close up view of front

Conclusions and Recommendations

Based on the observations noted, it is concluded that;

- In existing condition, building facade is not stable and is susceptible to failure/collapse.
- Extensive strengthening is required to make the façade stable.
- New Building structure inside will have to be constructed to join façade and make it stable.

4.6. Dharam Das Mandir

General Information

Building Name: Dharam Das Mandir
Status: Partially collapsed
Address: OT-9/93, Sukhdam Lane (Shah Abdullah Aleem Siddique Lane), Qazi Noor Mohammad Lane
Site visit Date: 10/4/2018
Time: 10.57 am
Building Number: 6
Original Stories: Ground + 1

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	vacant
	Roof	Temporary structure constructed with sheeting roof
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – partial collapsed Side – Yes
	Wall	yes
	Slab	RCC, original Wooden
	Staircase	RCC

Observations

It was observed that;

- The original building is ground + 1 story with partial intervention on roof. Refer Plate-1.
- The ground floor is of 16ft clear height.
- Remains of arches are present where now shop shutters are being made.
- On front façade, stone masonry seems intact. Localized lintel shows sign of distress.
- Mortar of stone is being repaired in few locations.

- Right side elevation has a long diagonal crack.
- Rear part of building is collapsed. Refer Plate-3.
- Vertical cracks from side can be seen. The resident from neighbor claim that the debris is still falling off.

Plate-1: Front Façade- loose stone masonry can be noted at places. Additional floor on top is also visible

Plate-2& 3: side façade of the building collapsed

Plate-4: projection and bracket in original condition

Plate-5: vertical cracks on both floors in façade

Plate-6: Cracks around the arch

Plate-7: Inside view

Plate-8: Cracks at location of collapse

Conclusions and Recommendations

Based on the observations noted, it is concluded that;

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Building was inaccessible and could be observed from outside only.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;

a. Pointing of mortar in existing stone masonry joints,
b. Application of mesh plaster.

4.7. Antarya Building

General Information

Building Name: Antarya Building
Status: Façade only-inaccessible
Address: W-02/40 NAJAMUDIN ROAD CHAND BIBI ROAD (PRINSESS STREET)

Site visit Date: 28/3/2018
Time: 10.35 am
Building Number: 7
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	Non
	Second floor	Non
	Third floor	Fully constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front –No Back – Yes Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Collapsed

Observations

It was observed that;

- The original building is ground plus two stories with partial third story intervention. Refer Plate-1.
- On front façade, stone masonry seems to be crumbling at places.
- Rear part of building has deteriorated extensively.

- Building could be observed from outside only.
- Internal floors have been collapsed. Refer Plate-3.
- Timber beam and wooden slab is in bad condition. Refer Plate-1 to 4.

Plate-1: Front Façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: Wide cracks at the façade of building

Plate-3: Rear side

Plate-4: slab in bad condition,

Plate-5: Concrete construction, in bad condition

Plate-6: broken projections

Conclusions and Recommendations

Based on the observations noted, it is concluded that;

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.8. Calcutta Building

General Information

Building Name: Calcutta Building/Wadhumal Odhram Quarter
Status: Partially collapsed
Address: W-02/04 CHAND BIBI ROAD (PRINCESS STREET)
Site visit Date: 28/3/2018
Time: 10.00 am
Building Number: 8
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	No intervention
	First floor	- RCC Pre-cast and steel girder floor in most of places - Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Second floor	- Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Third floor	Fully constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – partial collapsed Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus two stories with partial third story, whereas additional third story on rest of the area has been added sometime later. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at many locations.
- Rear part of building was collapsed showing interventions at floor levels of building from first floor and onwards. Refer Plate-3.
- Comparison of Plate-2 and 3 clearly demonstrates the failure pattern of rear side. Wide cracks were visible (Refer Plate-2) along which failure happened later on.
- Load Bearing Stone wall is a typical construction of double-Wythe stone wall with small rubble stone in middle.
- In staircase area, which had collapsed, original timber construction for flooring was found. Refer Plate-3.
- In most of areas, reinforced concrete floor laid later on, was found in bad condition with concrete cover fallen off. Refer Plate-4, 5, 6 &7.
- In central courtyard, Reinforced concrete construction, which was done later-on, was found in bad shape. (Refer Plate 8 and 9)

Plate-1: Front Façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: Wide cracks at the rear façade of building before collapse

Plate-3: After collapse of rear side

Plate-4: reinforced concrete slab in bad condition, concrete cover has fallen off.

Plate-5: Concrete construction done later on, in bad condition

Plate-6: Loose stone masonry is visible

Plate-7: Bad condition of roof slab due to punctures and seepage from plumbing lines

Plate-8: Central court being turned into RCC construction

Plate-9: Bad condition of reinforced concrete construction of central court

Plate-10: Bad condition of original timber flooring and walls at ground floor

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.9. Jahangeer kothari

General Information

Building Name: Jahangeer Kothari
Status: Accessible
Address: W-07/18 M.A. Jinnah (Bunder Road) Shahrah e Altaf Hussain (Napier Road)

Site visit Date: 28/3/2018
Time: 10.10am
Building Number: 9
Original Stories: Ground +1+Clock tower

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Schematic plans
2.	**Year of Construction:**	1804
3.	**Approximate Age of Building:**	214
4.	**Intervention Status**	
	Ground floor	No intervention
	First floor	- Columns and beams were added in courtyard - Partition wall were added
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girders
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – partial collapsed Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes
	Slab	RCC, original Wooden
	Staircase	Original Wooden, RCC additional

Observations

It was observed that;

- Building appears to be in good condition. Refer Plate-1, 2
- Termite infestation was observed at a few locations. Refer Plate-6
- Floor decking is also in good condition.

- At few places, concrete cover is fallen off from RC projections. Refer Plate-8
- Staircase RCC beam has cracks in soffit. Refer Plate-9

Plate-1: Front Façade

Plate-2: Other view of Front Façade

Plate-3: Left side façade

Plate-4: Projection inside the court yard

Plate-5: Original projection still intact in place

Plate-6: Termite infestation near main entrance.

Plate-7: Stone masonry being punctured for various reasons

Plate-8: Concrete cover fallen off

Plate-9: Bad condition of Beam above stair

Plate-10: Central court

Plate-11: Façade Masonry

Plate-12: condition of original roof

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure appears in good and stable condition.
- Minor repair work can restore the original building structure to its former glory.

4.10. Jahangeer Mansion

General Information

Building Name: Jahangeer Mansion
Status: Rear Block accessible
Address: W-06/57 M.A. Jinnah (Bunder Road) Shivdas Chandumal Road

Site visit Date: 27/3/2018
Time: 11.21 am
Building Number: 10
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Schematic
2.	**Year of Construction:**	1922
3.	**Approximate Age of Building:**	96
4.	**Intervention Status**	
	Ground floor	Banks
	First floor	- In Balconies
	Second floor	
	Third floor	
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard building in 2 blocks
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Back – Yes Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The main building is in two blocks and is connected from side via Façade frame structure.
- Front Block is G+3 Story with partial 4th story, and is in good condition. Refer Plate-1 and 2.
- Rear Block 2 G+3 Story with full 4th story intervention and is partially collapsed Refer Plate-3
- Rear Block entrance shows sign of distress with broken stair case and other collapsed story structural elements. Refer Plate-4
- In most of areas, where original slab is been encountered, is in bad condition.
- In most places the reinforced concrete floor is being laid later on. Refer Plate-6 & 9

Plate-1: Front Façade- in good condition

Plate-2: Wide cracks at the rear façade of building before collapse

Plate-3: After collapse of rear side

Plate-4: reinforced concrete slab in bad condition, concrete cover has fallen off.

Plate-5: Concrete construction done later on, in bad condition

Plate-6: Loose stone masonry is visible

Plate-7: Bad condition of roof slab due to punctures and seepage from plumbing lines

Plate-8: Central court being turned into RCC construction

Plate-9: Bad condition of reinforced concrete construction of central court

Plate-10: Bad condition of original timber flooring and walls at ground floor

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Front Block of Building structure appears in good condition and localized repairs might be required.
- Rear block building structure is partially collapsed, whereas, the rest of area require moderate level strengthening to make structure stable.
- Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions, if any, should be removed.
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Localized internal MS Angle frame

4.11. Habib Bank Building

General Information

Building Name: Habib Bank Building
Status: Demolished

4.12. Farzana Mansion

General Information

Building Name: Farzana Mansion
Status: Partially Collapsed
Address: MR-1/79, Kucchi Wada Lane No. 3
Site visit Date: 28/3/2018
Time: 11.57 am
Building Number: 12
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	Non
	Second floor	Non
	Third floor	Partially constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – No Side – partial collapsed
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes
	Wall	Stone
	Beam	In part RCC & in part original wooden rafters
	Slab	RCC, original Wooden
	Staircase	Original Wooden

Observations

It was observed that;

- The original building is ground plus two stories with partial intervention at roof is being observed.
- All the projections from the front have been collapsed. Steel sheets are being used in the roof as a repair measure.
- The mortar in stone masonry is been corroded.
- In top story intervention is observed where the temporary roof is being supported by steel girder.
- The original wooden slab and timber beams are deflecting at various places.
- The concrete cover has been corroded in various places.
- On front façade, crack was observed from lintel to sill level on first floor to second floor. loose stone masonry can be noticed at many locations.
- In most of areas, reinforced concrete floor laid later on, was found in bad condition with concrete cover fallen off.

Plate-1: side Façade- Partially Collapsed

Plate-2: original wooden structural elements in deteriorated condition

Plate-3: Front Façade

Plate-4: Timber slab in bad condition

Plate-5: Concrete construction done later on, in bad condition, concrete cover has fallen off.

Plate-6: Exposed rebar's subject to rusting

Plate-7: Bad condition of roof slab due to seepage from plumbing lines

Plate-8: Projection plaster being fallen off

Plate-9: Stair in Bad condition

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.13. Paracha Building

General Information

Building Name: Paracha Building
Status: Accessible
Address: MR-1/91, Kucchi Wada Lane No. 3
Site visit Date: 28/3/2018
Time: 12.00 pm
Building Number: 13
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	- RCC Pre-cast and steel girder floor in most of places - Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Second floor	- Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Third floor	Fully constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Side – Yes
	Wall	Yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus two stories with third story addition sometime later. Refer Plate-1.
- On front façade, no loose stone masonry can be noticed at many locations.
- The over-all condition of the building is very good. Few locations need repair works.
- The stair case is of wood and need minor repair work.

Plate-1: Front Façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: Side View

Plate-3: Front View

Plate-4: Condition of wooden deck

Plate-5: Original condition of wooden roof

Plate-6: Staircase in bad condition

Plate-7: Bad condition of roof slab due to punctures and seepage from plumbing lines

Plate-8: wooden deck condition inside

Plate-9: Bad condition wooden flooring

Plate-10: Bad condition of original timber flooring

Conclusions and Recommendations

Based on the observations, it is concluded that;

- The over-all condition of the building appears stable as condition of stone masonry is ok. However, at few locations, such as staircase and wooden floor, repair works are needed.
- The stair case is of wood and need minor repair work.
- Top roof slab made in RCC need extensive repair.

4.14. Fida Hussain

General Information

Building Name: Fida Hussain
Status: Inaccessible
Address: MR-1/151, M. A. Jinnah (Bundar) Road, Marriot Road
Site visit Date: 28/3/2018
Time: 12.21 pm
Building Number: 14
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	- Advertisement board
	Second floor	- None
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Back –No
	Wall	No
	Columns	No
	Beam/Girder	No
	Floors	No

Observations

It was observed that;

- The original building is ground plus two stories. Refer Plate-1.
- On front façade, no sign of distress was observed. However, a big advertisement board can be observed hanging from the façade. Refer Plate-2.
- Rear part of building also seems in better condition except from the parapet which is partly damaged. Refer Plate-3.
- The original wooden slab seems to be in good condition. Refer Plate-4
- The staircase is also sound. Refer Plate-5.
- In roof slab projection concrete cover is been fallen off from places. Refer Plate-6.
- Inside condition also look in quite good condition. Refer Plate 7

Plate-1: Front Façade

Plate-2: façade of building

Plate-3: rear side

Plate-4: slab condition,

Plate-5: Stair case in original condition

Plate-6: slab projection in bad condition

Plate-7: Inside condition

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Building appears to be in stable condition.
- Minor repair work is needed at few locations.

4.15. Khaliq Un Nisa

General Information

Building Name: Khaliq un Nisa
Status: Inaccessible from inside
Address: MR-2/4, Marriott Road, Fakhr Matri (Newnham) Road
Site visit Date: 28/3/2018
Time: 12.42 am
Building Number: 15
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	- Steel Girders have been added
	Second floor	- Steel Girders have been added
	Third floor	Fully constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	-
7.	**Visible Structural cracks/deterioration in following framing elements**	NO

Observations

It was observed that;

- The original building is ground plus three stories with fourth floor addition having temporary roof top. Refer Plate-1, 2 & 5.
- On front façade, no sign of distress was observed. Refer Plate-2.
- Rear part of building also seems in better condition except shops intervention on ground floor. Refer Plate-3.
- The staircase is also in good condition. Refer Plate-4.
- Loose stone masonry due to MS girder (for floors) intervention observed in side wall. Refer Plate-5.

Plate-1: back side Façade

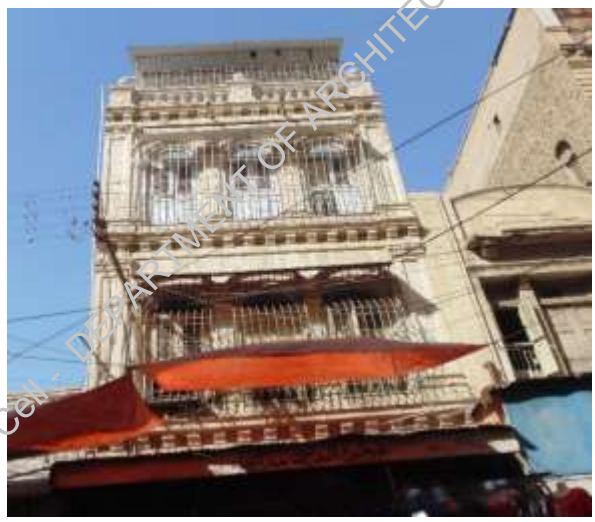

Plate-2: front façade of building

Plate-3: rear side

Plate-4: stair

Plate-5: left side elevation

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Building appears to be in good condition.
- Minor repair work is needed at few locations.

4.16. Karachi Muslim Restaurant

General Information

Building Name: Karachi Muslim Restaurant
Status: Accessible
Address: MR-2/31, Abdul Majid Sindhi Road, Daulat Ram Road
Site visit Date: 28/3/2018
Time: 12.35 pm
Building Number: 16
Original Stories: Ground + 1

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Restaurant
	First floor	- Sheeting temporary structure on partial roof
5	**Type of Building Construction:**	Original Load bearing stone wall
6.	**Typical Floor framing**	RCC Slab
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Back – No Side – No
	Wall	No
	Columns	No
	Beam/Girder	Yes
	Floors	No

Observations

It was observed that;

- The original building is ground plus 1 story with partial mezzanine and intervention at roof. Refer Plate-1.
- On front façade, no loose stone masonry can be noticed at any locations except for very minor cracks in the RCC projection. Refer Plate-2.
- Slab of first floor seems in good condition, proper repair works are evident. Refer Plate-3.
- Partial intervention at roof top was observed with temporary sheeting roof. Refer Plate-4.
- Horizontal cracks were observed a few places on roof RCC beams. Refer Plate-5 & 6.

Plate-1: Front Façade-

Plate-2: minor cracks in slab projection

Plate-3: reinforced concrete slab condition,

Plate-4: Temporary roof above

Plate-5: horizontal cracks in roof beams

Plate-6: horizontal crack in the RCC element

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Minor repair works are needed, especially in reinforced concrete projections and floor beams.

4.17. Sarang Building-Demolished

4.18. Feroz Pur Wala Market- Demolished

4.19. Sheeba Manzil-Demolished

4.20. Tayabi Manzil- Demolished

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4.21. Tharyamal Nayandas

General Information

Building Name: Pana Chand (Tharyamal Nayandas), Dasandash Nayandas
Status: Partially Collapsed
Address: MAC-2/19, Moosa Street Off Rehmat Ullah Street, Eisa St.
Site visit Date: 28/3/2018
Time: 02.53 pm
Building Number: 21
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Concept Sketch
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	
	Second floor	
	Third floor	Remains of structure above roof
5.	**Type of Building Construction:**	Original Load bearing stone wall
6.	**Typical Floor framing**	Original wooden slab and RCC at corridor area
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back –collapsed Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	collapsed

Observations

It was observed that;

- The original building is ground plus 3 story with partial fourth story intervention. Refer Plate-1.
- On front façade, no loose stone masonry can be noticed however at few locations vertical cracks have been observed at 3 locations from lintel to sill. Refer Plate-2 and 3.
- The ground floor is in better condition.
- Part of Floor inside have been collapsed and traces of fire were also observed at one location.

Plate-1: Front Façade

Plate-2: Vertical Cracks at few location

Plate-3: Front façade masonry intact

Plate-4: slab condition at ground

Plate-5: Original timber beam intact

Plate-6: Concrete cover fallen off at places

Plate-7: Bad condition of slab due to punctures and seepage from plumbing lines

Plate-8: Slab deflecting

Plate-9: Bad condition of reinforced concrete construction of central court

Plate-10: collapsed slab at 2nd floor

Plate-10: Bad condition of slab

Plate-10: collapsed slab at 3rd floor

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Overall condition of supporting system of building appears stable, however, reinforced concrete construction (slabs/beams) need repair.
- Interventions such as top most story added later should be removed.
- Façade has cracks at few locations but do not appear dangerous, should be repaired immediately however.

4.22. Rehmani Mansion

General Information

Building Name: Rehmani Mansion / Bombay Bazaar
Status: Façade only
Address: MAC-3/12, Aga Khan (Harris) Road, Adamjee Dawood Pota (Rampart) Road
Site visit Date: 28/3/2018
Time: 03.20 pm
Building Number: 22
Original Stories: Ground + 1

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	No intervention
	First floor	- none.
5.	**Type of Building Construction:**	Original Load bearing stone wall
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Side – Yes
	Wall	Yes
	Columns	No
	Beam/Girder	No
	Floors	Removed

Observations

It was observed that;

- The original building is ground plus 1 story. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at many locations.
- At first floor, the building seems to be tilted at right.
- The framing elements slab and walls are being removed on first floor causing the façade to deteriorate.

Plate-1: Front Façade- loose stone masonry can be noted at many places.

Plate-2: Wide cracks at first floor level

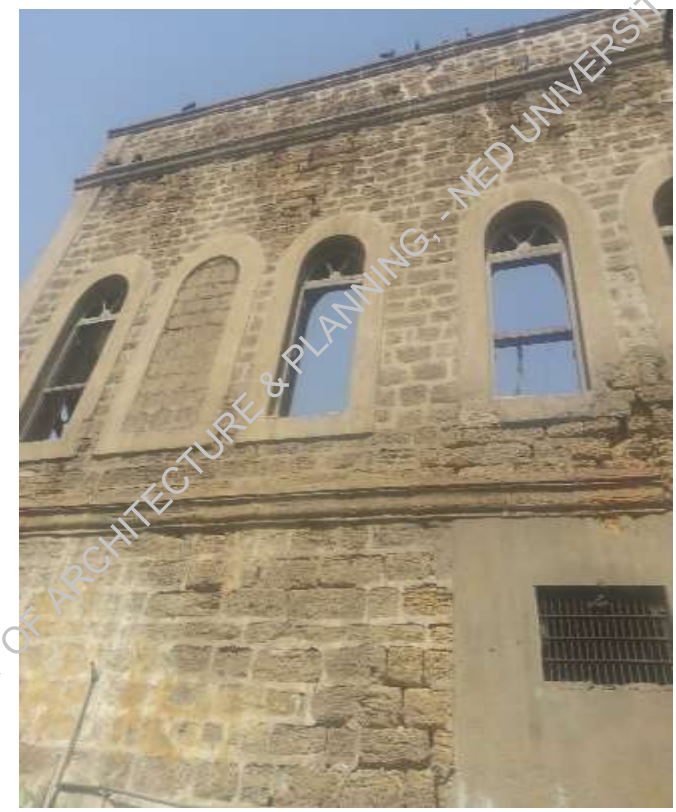

Plate-3: mortar has been eroded

Plate-4: slab removed at roof

Plate-5: condition of wooden slab at ground floor

Plate-6: traces of seepage

Plate-7: masonry needs repairment works

Plate-8: left side façade

Plate-9: Bad condition of plaster and masonry at first floor

Plate-10: stair removed

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure seem unstable,
- Extensive strengthening is required
- Repair works are needed like pointing in joints, and repair of deck/floor works
- Masonry has eroded at few places and patch work is needed to strengthen the weak areas.

4.23. Devi Bai Building

General Information

Building Name: Devi Bai Building
Status: Partially Collapsed - Accessible
Address: MAC-6/4, Young Husband Road off G. Allana (Tahilaram Khemchand) Road
Site visit Date: 28/3/2018
Time: 02.08 pm
Building Number: 23
Original Stories: Ground + 1

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	- Non
	roof	- Fully constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Side – Yes
	Wall	Yes
	Columns	Yes
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus 1 story with intervention at roof. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at many locations.
- The concrete cover is crumbling in various locations. Budge in column is observed. Deflection in beans can also be observed.
- Traces shows that most damages is due to seepage and lack of maintenance.
- Stair Case condition is also bad.

Plate-1: Front Façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: bad condition of masonry in façade

Plate-3: side elevation condition

Plate-4: vertical cracks observed

Plate-5: Concrete construction beam deflecting

Plate-6: concrete in bad condition

Plate-7: Bad condition of timber slab due seepage from.

Plate-8: RCC construction deteriorating

Plate-9: cracks observed above lintel

Plate-10: bad condition of masonry wall

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Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Major strengthening is required to make the structure stable.
- Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.24. Haji Hashim

General Information

Building Name: Haji Hashim
Status: Partially Collapsed
Address: MAC-7/57, Macchi Miani Road
Site visit Date: 28/3/2018
Time: 03.49 pm
Building Number: 24
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	- Partition wall were added in residential apartment.
	Second floor	Fully constructed
	Third floor	Fully constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Back – partial collapsed Side – No
	Wall	Yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus 3 stories with 4th story intervention added sometime later. Refer Plate-1 & 3.
- Front façade and side façade, stone masonry seems intact at all locations. Refer Plate-1 & 2.
- Rear part of building was collapsed showing interventions at floor levels of building from first floor and onwards. Refer Plate-5.
- In most of areas, reinforced concrete floor, was found in bad condition with concrete cover fallen off.
- In central courtyard, Reinforced concrete construction, was found in bad shape.

Plate-1: Front Façade- top story added later on can be seen

Plate-2: right side façade

Plate-3: crack in wall of intervention at roof

Plate-4: original deck in bad condition,

Plate-5: Concrete construction collapsed

Plate-6: bad condition of timber slab

Plate-7: concrete cover fallen off

Plate-8: Central court being repaired and turned into RCC construction

Plate-9: collapsed area

Plate-10: Bad condition of original timber slab

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Façade is in better condition but the internal structure, specially reinforced concrete floors added later on, are in very bad condition.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.25. NP 1/5

General Information

Building Name: NP-1/5
Status: Façade only
Address: NP-1/5, Jahar D.B Road, off Nawab Mahabat Khan (Embankment) Road
Site visit Date: 10/4/2018
Time: 11.33 am
Building Number: 25
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	-
	Second floor	-
	Third floor	Fully constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – collapsed Side – Yes
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations
It was observed that;

- The original building is ground plus two stories with third story added sometime later. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at many location and vertical cracks can be observed.
- The building façade seems to be deflected back and building seems to be tilted left side.
- Slabs have been collapsed inside.

Plate-1: Front façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: Side façade of building

Plate-3: Front façade

Plate-4: timber slab in bad condition,

Plate-5: steel girders installed to support existing slab

Plate-6: Loose stone masonry is visible

Plate-7: slab and stair collapsed

Plate-8: Bad condition of facade in front

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, original building structure appears to be in need of moderate level of strengthening. However, additional floor on top should be removed to avoid any risk to existing structure due to additional stresses by its load.
- No major cracks in stone walls were noticed, hence it is anticipated that pointing work/joint repairs will strengthen the masonry walls.
- Interventions from roof top should be removed.
- Internal staircase and wooden decks need to be repaired as they are in very bad condition.

4.26. Rohana Banash Building

General Information

Building Name: ROHANA BANASH ASHRADI BUILDING
Status: Stable Structures
Address: NP-9/18, Mohammad Shah Street, Ghulam Shah Street
Site visit Date: 28/3/2018
Time: 11.04 am
Building Number: 26
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	-
	Second floor	-
	Third floor	Partial structure above
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Side – Yes
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus 3 stories with fourth third story, added sometime later. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at many locations. Vertical cracks are observed from lintel to sill level. Growth of plantation is also being observed.
- Original timber construction for flooring was found.

- In most of areas, reinforced concrete floor laid later on, was found in bad condition with concrete cover fallen off.
- In central courtyard, Reinforced concrete construction, which was done later-on, was found in bad shape.

Plate-1: Front Façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: Wide cracks at façade

Plate-3: side façade

Plate-4: Reinforced concrete slab in bad condition, concrete cover has fallen off.

Plate-5: Concrete construction done later on, in bad condition

Plate-6: Loose stone masonry is visible

Plate-7: Bad condition of roof slab due to punctures and seepage from plumbing lines

Plate-8: Central court being turned into RCC construction

Plate-9: condition of reinforced concrete construction of central court

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure appears to be stable.
- Cracks are noticed in façade, which should be repaired.
- Concrete construction done later on is in bad condition and needs major repair.

4.27. Sonamal Chandimal Building

General Information

Building Name: Sonamal Chandimal Building
Status: Partially Collapsed
Address: NP-9/45, Mohammad Shah Street, off Shahrah-e-Altaf Hussain (Napier Road)

Site visit Date: 28/3/2018
Time: 11.03 am
Building Number: 27
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	- RCC Pre-cast and steel girder floor in most of places - Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Second floor	- Columns and beams were added in courtyard - Partition wall were added in residential apartment.
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – partial collapsed Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus 1story with partial interventions added sometime later. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at many locations.
- All floors are collapsed
- The front façade is being separated from the structure behind.

Plate-1: Front Façade-

Plate-2: front elevation

Plate-3: Wide cracks at the side façade of building

Plate-4: slab collapsed

Plate-5: slab crumbling

Plate-6: Bad condition of original timber flooring and walls at ground floor

Plate-7: Bad condition of masonry

Plate-8: Central court plantation with in the wall

Plate-9: strengthening done at any later stage

Plate-10: slab collapsed

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Front façade however, seems in good condition, but has separated from rest of building as a crack has developed along the height.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.28. NP 10/27

General Information

Building Name: NP 10/27
Status: Partially Collapsed
Address: NP-10/27, Chuba street,Munji Khetsi Street, Off Old Market Road.
Site visit Date: 28/3/2018
Time: 11.31 am
Building Number: 28
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	-
	Second floor	- Intervention in floor above.
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus 2 stories with partial third story, whereas additional third story on rest of the area has been added sometime later. Refer Plate-1.
- Disjointing/loosening of Stone masonry is noticed at façade.
- Internal building part has collapsed leaving façade unsupported to its remaining height.

Plate-1: Front Façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: Wide cracks at the façade of building

Plate-3: Wide cracks

Plate-4: Rear side

Plate-5 & 6: collapsed

Conclusions and Recommendations

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Building Façade however appears in better condition but need repairs as cracks and disjointing of stone masonry is observed a few locations.
- Extensive strengthening is required to make the overall structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls.

4.29. Hajra Building

General Information

Building Name: Hajira Building
Status: Façade Only
Address: RC-3/24, Visram Kara Lane, Marwaree Lane, off Nishtar (Lawrence) Road
Site visit Date: 10/4/2018
Time: 02.27 am
Building Number: 29
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	-
	Second floor	-
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus 2 stories. Refer Plate-1.
- Façade wall is intact with intervention of masonry wall on top level, rest of the structure inside has collapsed.
- Façade wall is also in bad shape.

Plate-1: Front Façade

Plate-2: Wide cracks at the façade of

Plate-3: façade rear side

Plate-4: timber slab in bad condition,

Plate-5: slab deflecting

Plate-6: Loose stone masonry is visible

Plate-7: masonry collapsed

Plate-8: masonry at rare façade in bad condition

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Only façade wall is intact with masonry intervention on top, whereas internal structure has collapsed. Hence the façade is also unstable in current condition and needs major repairs to hold it.

4.30. Jan Muhammad Building

General Information

Building Name: Jan Muhammad Building (Khatija Bai Building)
Status: Partially Collapsed
Address: RC-4/147, off Nabi Bux Road, Kullianji St., Bhawanji St.
Site visit Date: 10/4/2018
Time: 02.45 am
Building Number: 30
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – Yes
	Wall	yes
	Columns	No
	Beam/Girder	collapsed
	Floors	collapsed

Observations

It was observed that;

- The original building is ground plus 1 story with partial roof story, Refer Plate-1.
- Only façade is remaining and since framing elements slab and walls are being removed on first floor causing the façade to deteriorate.

Plate-1: Front Façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: Wide cracks at the rear façade of building before collapse

Plate-3: After collapse of rear side

Plate-4: reinforced concrete slab in bad condition, concrete cover has fallen off.

Plate-5: Concrete construction done later on, in bad condition

Plate-6: Loose stone masonry is visible

Plate-7: Bad condition of roof slab due to punctures and seepage from plumbing lines

Plate-8: Central court being turned into RCC construction

Plate-9: Bad condition of reinforced concrete construction of central court

Plate-10: Bad condition of original timber flooring and walls at ground floor

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Internal floors have collapsed, which need major rebuilt efforts.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.31. Mukhi Mansion

General Information

Building Name: Mukhi Mansion
Status: Stable Structures
Address: RC-7/3B, M. A. Jinnah (Bunder) Road, Haridas Lalji Road
Site visit Date: 27/3/2018
Time: 11.08 am
Building Number: 31
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	-
	Second floor	-
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations
It was observed that;

- The original building is ground plus two stories Refer Plate-1.
- On front façade, no signs of distress were observed.
- The ground floor slab and beams were also intact.
- Building appears to be in good condition.

Plate-1: Front Façade-

Plate-2: front facade

Plate-3: side façade

Plate-4: reinforced concrete slab and beam

Plate-5: stair case

Plate-6: side elevation

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Building appears to be in good condition
- Minor repair works are needed to restore the building to its original glory.

4.32. Hussaini Building

General Information

Building Name: Hussaini Building / Hussaini Manzil
Status: Better Condition
Address: RC-10/10/5, Ranchore Road, Aslam Road
Site visit Date: 10/4/2018
Time: 01.03 pm
Building Number: 32
Original Stories: Ground + 4

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	No intervention
	First, Second, third , fourth floor	- Partition wall were added in residential apartment.
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Back – No Side – No
	Wall	No
	Columns	No
	Beam/Girder	No
	Floors	No

Observations
It was observed that;

- Building appears to be in good condition. Refer Plate-1, 2, 3.
- Floor decking is also in good condition.
- At few places, concrete cover is fallen off from RC projections due to poor maintenance.
- Staircase was replaced with RCC and is in good condition.

Plate-1: Front Façade-

Plate-2: Façade

Plate-3: Façade

Plate-4: Stair case

Plate-5: Concrete construction done later on,

Plate-6: poor maintenance

Plate-7: façade wall inside

Plate-8: Central court

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building appears to be stable.
- Minor repair work in reinforced concrete construction can restore the structure.

4.33. Quetta Wala Building

General Information

Building Name: Quetta Wala Building
Status: Stable Structures
Address: RC-11/1A, CHAND BIBI ROAD (PRINCESS STREET), Sant Tukaram Street

Site visit Date: 10/4/2018
Time: 01.16 pm
Building Number: 33
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	- Partition wall were added in residential apartment.
	Second floor	- Partition wall were added in residential apartment.
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – Yes Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus two stories. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at a few locations and cracks were noticed on the first floor.

- Vegetation was visible on front façade widening the crack from its origin.
- In most of areas, reinforced concrete floor laid later on, was found in bad condition with concrete cover fallen off.
- In central courtyard, Reinforced concrete construction, which was done later-on, was found in bad shape. The rebar is exposed.
- The ground floor is partially occupied by shop keepers
- The building is spread over wide area.

Plate-1: Front Façade- loose stone masonry can be noted at many places.

Plate-2: Wide cracks at the façade of building

Plate-3: Masonry condition at façade

Plate-4: Bad condition of original timber flooring and walls

Plate-5: Concrete construction done later on, in bad condition

Plate-6: Central court being turned into RCC construction

Plate-7: Bad condition of reinforced concrete construction of central court

Plate-8: reinforced concrete slab in bad condition, concrete cover has fallen off.

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure is not dangerous but needs major repairs.
- Extensive strengthening of internal reinforced concrete structure is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.34. Bhagwan Das Building

General Information

Building Name: Bhagwan Das Building
Status: Stable Structures
Address: RC-11/11, Hardas Street, Aslam Road, off Aslam (Hiralal Ganatra) Road
Site visit Date: 10/4/2018
Time: 01.52 am
Building Number: 34
Original Stories: Ground + 1

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	- Partition wall were added in residential apartment. - Addition on Roof
5.	**Type of Building Construction:**	Original Load bearing stone wall
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus 1 story with partial intervention of the roof story, added sometime later. Refer Plate-1.
- Façade appears to be ok but wooden projections/balconies were in bad shape.
- On Rear façade from inside plantation can be observed growing from the wall causing cracks to form Refer Plate-3.
- The vertical crack is observed inside and the timber slab is deflecting in various places.

- In most of areas, reinforced concrete floor was found in bad condition with concrete cover fallen off.
- In central courtyard, Reinforced concrete construction, which was done later-on, was found in bad shape.

Plate-1: Front Façade-

Plate-2: Front facade

Plate-3: After collapse of rear side

Plate-4: reinforced concrete slab in bad condition, concrete cover has fallen off.

Plate-5: Concrete construction done later on, in bad condition

Plate-6: Loose stone masonry is visible

Plate-7: Bad condition of roof slab due to punctures and seepage from plumbing lines

Plate-8: Central court being turned into RCC construction

Plate-9: Bad condition of reinforced concrete construction of central court

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Building is in bad condition from inside and need major repair of internal structure to give it overall stability.
- Façade masonry can be repaired with minor repair works and should be connected to internal structure rigidly.

4.35. SR 3/14

General Information

Building Name: SR 3/14
Status: Partially Collapsed
Address: SR-3/14, Sharah-e-Liaquat (Frere Road), Aiwan-e-Tijarat (Nicol Road)
Site visit Date: 10/4/2018
Time: 10.12 am
Building Number: 35
Original Stories: Ground + 1

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	-
5.	**Type of Building Construction:**	Original Load bearing stone wall
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention temporary structures
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Side – Yes
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus 1 story. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at a various locations and cracks were also noticed.
- In most of areas, reinforced concrete floor laid later on, was found in bad condition with concrete cover fallen off.
- In major part of building, roof structure inside has been removed making façade wall unsupported.
- The building is spread over wide area.

Plate-1: Front Façade- loose stone masonry can be noted at many places.

Plate-2: Main arch for entrance

Plate-3: inside the facade

Plate-4: masonry wall is damaged due to intervention of structural steel for bill board

Plate-5: Bad condition of original timber flooring and walls at ground floor

Plate-6: Concrete construction done later on, in bad condition

Plate-7: intervention at the back

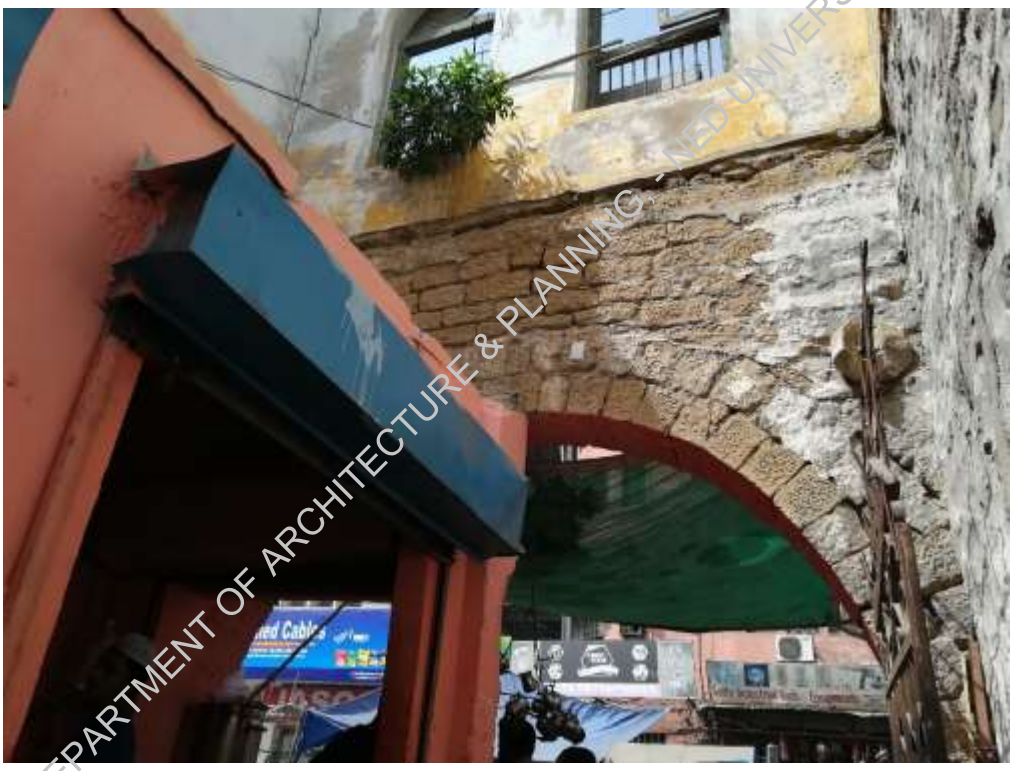

Plate-8: entrance arch from inside

Plate-9: slab broken

Plate-10: Loose masonry visible

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Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as extra floor finishes where present, masonry walls or additional built-ups, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.36. Essaji Ibrahimji Building

General Information

Building Name: Essaji Ibrahimji Building
Status: Façade Only-Inaccessible from inside
Address: SR-9/14, Fiaz Mohammad Futeh Ali Road
Site visit Date: 10/4/2018
Time: 12.32 pm
Building Number: 36
Original Stories: Ground + 1

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	No intervention
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Side – Yes
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground floor only. Refer Plate-1.
- Stone seems to be loose and mortar in joints have been eroded.

Plate-1: Front Façade- loose stone masonry can be noted at many places.

Plate-2 & 3: Wide cracks at the façade of the building

Plate-4: Loose stone masonry is visible

Plate-5: Loose stone masonry is visible

Plate-6: Loose stone masonry is visible

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Being only ground floor, the structure can be made stable by pointing of mortar in joints and/or stone repair works.
- Roof can also be replaced with new framing/sheets to restore the building.

4.37. Old Shahani Building

General Information

Building Name: Old Shahani Building
Status: Partially collapsed/dismantled
Address: RB-3/8-1, Teckchand Udhamdas Road, off Muhammad Bin Qasim (Bunder) Road

Site visit Date: 27/3/2018
Time: 10.07 am
Building Number: 37
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	- RCC Pre-cast and steel girder floor in most of places - Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Second floor	- Columns and beams were added in courtyard - Partition wall were added in residential apartment.
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – partial collapsed Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus two stories. Refer Plate-1.
- Front façade seems intact and in good location.
- The stair is collapsed so no access is available.
- Roots/vegetation are noticed to be protruding from the wall.

Plate-1: Front Façade-

Plate-2: Masonry needs repair in few places

Plate-3: slab of portion seems collapsed

Plate-4: timber slab is in good condition,

Plate-5: stair is inaccessible

Plate-6: masonry wall in bad condition

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure appears stable however, is in need of major repairs.
- Loose stone masonry should be repaired.
- Interventions if any should be removed.

4.38. Ather Mansion

General Information

Building Name: Ather Mansion
Status: Inaccessible
Address: RB-3/24, Maulana Din Mohammad Wafai (Strachan) Road
Site visit Date: 27/3/2018
Time: 09.57 am
Building Number: 38
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	No intervention
	First floor	- RCC steel girder floor in most of places - Partition wall were added in residential apartment.
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – partial collapsed Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus 1 story with partial second story. Refer Plate-1.
- On front façade, loose stone masonry can be noticed a few locations can be repaired.
- The RCC slab has been destroyed at locations.

- The building exterior seems to be tilting and bulging with cracks at left.
- Front entrance slab is on steel girders but in bad shape.
- Intervention on roof with RCC beam frame.
- Rear façade part of building seems collapsed.
- There is a tree damaging the wall in the back.
- The OHWT is a future extension but in bad condition the building it-self feels tilting.

Plate-1: Front Façade- loose stone masonry can be noted at many places.

Plate-2: Wide cracks at the façade of building

Plate-3: walls seems bulging

Plate-4: tree out grown from the wall tearing the wall apart

Plate-5: portion of building collapsed

Plate-6: Loose stone masonry is visible

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure is not stable and is not in useable condition.
- It appears that major strengthening works are required to make structure stable.

4.39. Saify Electric

General Information

Building Name: Saify Electric
Status: Inaccessible
Address: RM-6/73, Sharah-e-Liaquat (Frere Road), Yousuf Street
Site visit Date: 10/4/2018
Time: 12.38 pm
Building Number: 39
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	No intervention
	First floor	-
	Second floor	- Intervention at roof of temporary structure.
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Side – No
	Wall	No
	Columns	No
	Beam/Girder	No
	Floors	No

Observations

It was observed that;

- The original building is ground plus two stories with partial third story intervention added sometime later. Refer Plate-1.
- On front façade, the structure seems intact except for few projections that need maintenance works.
- Side elevation is also in good condition of building. Refer Plate-3.
- Original timber construction is in very good.

Plate-1: Front Façade-

Plate-2: front elevation of building

Plate-3: Side elevation

Plate-4: projection in their original condition intact

Plate-5: plaster fallen off due to lack of maintenance

Plate-6: reinforcement of original projections exposed

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure appears to be in better condition.
- The balcony structures are in bad condition and are susceptible to collapse, as reinforcement of RCC projections have corroded and concrete cover has fallen.
- Internal side could not be observed hence, condition is unknown.

4.40. Sami Chambers

General Information

Building Name: Sami Chambers
Status: Accessible
Address: RB-6/108, M. A. Jinnah (Bunder) Road, Arambagh Road
Site visit Date: 27/3/2018
Time: 11.40 am
Building Number: 40
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	No intervention
	First floor	- Non
	Second floor	- Partial new construction
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Back – No Side – No
	Wall	No
	Columns	No
	Beam/Girder	No
	Floors	No

Observations
It was observed that;

- The original building is ground plus two stories with partial new construction on 2nd story has been added sometime later. Refer Plate-1.
- Front façade seems intact and in good condition
- The girder is installed in second floor below RCC slab
- Over all structure is in good condition.

Plate-1: Front Façade-. Additional floor on top is also visible

Plate-2: front façade

Plate-3: side elevation

Plate-4: timber slab in good condition,

Plate-5: Concrete construction done later on, in bad condition

Plate-6: Concrete cover damage

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure appears to be in stable condition.
- No wide cracks were noticed in façade at the time of visit.
- Reinforced concrete construction at some places was in bad conditions and needed repair.

4.41. Dost Manzil

General Information

Building Name: Dost Manzil
Status: Accessible
Address: RB-8/4, Robson Rd., Mohammad Bin Qasim (Burnes) Rd.
Site visit Date: 27/3/2018
Time: 10.24 am
Building Number: 41
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	- CC parapet
	Second floor	- CC parapet
	Third floor	- CC parapet
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Side – Yes
	Wall	Yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations
It was observed that;

- The original building is ground plus two stories with partial third story, whereas additional third story on rest of the area has been added sometime later. Refer Plate-1.
- On front façade, one vertical crack was observed.
- On left side elevation the projection has heavy interventions.
- The entrance at the arch needs repairs.

- The opening made in the stone masonry needs to be closed.
- In most of areas, reinforced concrete floor laid later on, was found in bad condition with concrete cover fallen off.
- Stone masonry found in bad condition as mortar at joint has eroded.
-

Plate-1: Front Façade- Additional floor on top is also visible

Plate-2: intervention on projection

Plate-3: bad condition of stair

Plate-4: reinforced concrete slab in bad condition, concrete cover has fallen off. It has be strengthened still in very bad condition

Plate-5: deteriorated stone and mortar

Plate-6: Loose stone masonry is visible

Plate-7: Interventions inside

Plate-8: Stair at upper level

Plate-9: opening in stone walls needs to be filled

Plate-10: back side wall

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, main building structure appears unstable and need major repairs, especially balconies.
- Reinforced concrete construction is in bad shape in many places and needs strengthening.
- Interventions at projections should be removed.

4.42. Bhojraj Building

General Information

Building Name: Bhojraj Building
Status: Partly accessible
Address: RB-10/21, Babar (Ramchandra Temple) Road, Gidumal Lekhraj Road

Site visit Date: 27/3/2018
Time: 01.35 pm
Building Number: 42
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	- RCC Pre-cast and steel girder floor in most of places - Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Second floor	- Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Third floor	Fully constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Side – No
	Wall	No
	Columns	No
	Beam/Girder	No
	Floors	No

Observations

It was observed that;

- The original building is ground plus two stories with complete third story added sometime later projecting outwards. Refer Plate-1.
- Bhojraj building is in better condition than the neighboring building, hence it is suspected that due to its neighborhood building, it is declared dangerous.
- Reinforced concrete construction at some places is found in bad condition.
- Additional floor on top has been built sometime later.

Plate-1: Front Façade- Additional floor on top is also visible

Plate-2: façade of building

Plate-3: side elevation

Plate-4: new construction inside

Plate-5: concrete cover damage

Plate-6: RCC beam intervention

Plate-7: RCC steps in good condition

Plate-8: damage due to seepage

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure appears in stable condition.
- No major cracks or deterioration was noticed anywhere in stone masonry.
- Reinforced concrete construction needs repair at some places.

4.43. Jiha Building

General Information

Building Name: Jiha Building
Status: Partially Collapsed
Address: PR-2/27, M.A. Jinnah (Bunder) Road, Sir Agha Khan II (Garden) Road

Building Number: 43
Original Stories: Ground + 2

S.no	Description	Observation
8.	**As-Built Drawings availability:**	Not provided
9.	**Year of Construction:**	Unknown
10.	**Approximate Age of Building:**	Unknown
11.	**Intervention Status**	
	Ground floor	shops
	First floor	- Non
	Second floor	- Non
12.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
13.	**Typical Floor framing**	No slabs existing
14.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Side – No
	Wall	No
	Columns	No
	Beam/Girder	No
	Floors	No

Observations

It was observed that;

- The original building is ground plus two stories with no slab intact, only façade wall is free standing. Refer Plate-1.

Plate-1: Front Façade

Plate-2: façade of building

Plate-3: side elevation

Plate-4: new construction inside

Plate-5: concrete cover damage

Conclusions and Recommendations

Based on the observations noted, it is concluded that;

- In existing condition, *building structure is not stable and is susceptible to failure/collapse*.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.44. Haque Building

General Information

Building Name: Haque Building
Status: Inaccessible
Address: SB-6/34, Raja Ghazanfar Ali Road (Somerset Street)
Sheikhchand Street
Site visit Date: 10/4/2018
Time: 05.19 pm
Building Number: 44
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
	First floor	-
	Second floor	-
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Side – No
	Wall	No
	Columns	No
	Beam/Girder	No
	Floors	No

Observations

It was observed that;

- The original building is ground plus two stories. Refer Plate-1.
- The building is itself in very good condition.
- Structure was inaccessible from inside but apparently, overall condition looks good from outside.

Plate-1: Front Façade-

Plate-2&3: Different exterior views

Plate-4: structure in good condition

Conclusions and Recommendations

Based on the observations, it is concluded that;

- No apparent sign of distress could be noticed from outside.
- Building looks in stable condition.
- Since inside of building could not be visited, so no comment can be made on structural condition.

4.45. Hassan Ali Building

General Information

Building Name: Hassan Ali Building
Status: Apparently stable, inaccessible from inside
Address: SB-7/10, Zaibunnisa (Elphinstone) Street, Shahrah-e-Iraq (Clarke Street)
Site visit Date: 10/4/2018
Time: 04.36 am
Building Number: 45
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First and second floor	- Temporary structure for advertisement
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Side – Yes
	Wall	Yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus one story. An additional story has been constructed on top. Refer Plate-1.
- Stone masonry visible on first level seems to be loose and plaster has fallen off.
- Building could not be accessed to observe from inside.

Plate-1: Front Façade- loose stone masonry can be noted at many places.

Plate-2Plaster fallen off from the façade of building

Plate-3: side elevation

Plate-4: reinforced concrete slab in bad condition, concrete cover has fallen off. Plaster been weathered.

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, it appears that building is stable, but needs repairs
- Building could not be observed from inside hence no comment can be made.

4.46. SBQ 7/38

General Information

Building Name: SBQ 7/38
Status: Inaccessible
Address: W-02/04 CHAND BIBI ROAD (PRINCESS STREET)
Site visit Date: 10/4/2018
Time: 05.10 am
Building Number: 46
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	-
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Side – No
	Wall	No
	Columns	No
	Beam/Girder	No
	Floors	No

Observations

It was observed that;

- The original building is ground plus 1 story. Refer Plate-1.
- On front façade, stone masonry appeared to be in good condition with slightly loose condition of masonry at few locations.
- Rest building seems to be in good condition.
- The building was inaccessible for observation from inside.

Plate-1: Front Façade-

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure appears to be in stable condition from outside.

4.47. Rainbow House

General Information

Building Name: Rainbow House
Status: Partly inaccessible
Address: SB-7/40, Zaibunnisa (Elphinstone) Street, Albert Street
Site visit Date: 10/4/2018
Time: 05.06 pm
Building Number: 47
Original Stories: Ground + 2

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not available
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	No intervention
	First floor	-
	Second floor	- .
5.	**Type of Building Construction:**	Original Load bearing stone wall
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Side – Yes
	Wall	Yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus two story. Refer Plate-1.
- The building is in bad condition over all, part of wooden Jali work collapsed and stone masonry in loose condition, especially at top floor.
- All timber beams and slabs are damaged and dislodged.
- The stone masonry is crumbling.

Plate-1: Front Façade- wooden jali work in bad condition.

Plate-2: part of stair inside.

Plate-3: stair broken

Plate-4: Façade in bad condition

Plate-5: Condition of wooden floor from inside

Conclusions and Recommendations

Based on the observations, it is concluded that;

- In existing condition, building structure is not stable and is susceptible to failure/collapse.
- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique.
- Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls,
- Strengthening techniques can be adopted, including but not limited to;
    a. Pointing of mortar in existing stone masonry joints,
    b. Application of mesh plaster
    c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.

4.48. Kanji Wasti Building

General Information

Building Name: Kanji Wasti Building
Status: Partially accessible
Address: SB-7/48, Albert Street, Stalker Street
Site visit Date: 10/4/2018
Time: 04.46 am
Building Number: 48
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shop
	First floor	- RCC Pre-cast and steel girder floor in most of places - Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Second floor	- Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Third floor	Fully constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – partial collapsed Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus two stories with third story added sometime later. Refer Plate-1.
- Façade is in good condition but inside the structure is crumbling the slab and beams are deflecting.

Plate-1: Front Façade-

Plate-2: timber slab.

Plate-5: slab above stair

Plate-6: Loose planks

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Building appears to be in better condition from outside, however, deck/floor needs to be replaced/repaired.

4.49. Nabi Manzil

General Information

Building Name: Nabi Manzil
Status: Accessible
Address: SB-7/75, Woodburn Street, Stalker Street
Site visit Date: 10/4/2018
Time: 04.40 pm
Building Number: 49
Original Stories: Ground + 3

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	Shops
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – No Side – Yes
	Wall	Yes
	Columns	No
	Beam/Girder	No
	Floors	No

Observations
It was observed that;

- The original building is ground plus 3 stories. Refer Plate-1.
- Front façade appears intact and in good condition.
- Side elevation has a crack and it seems the wall is bulging.
- Over all building is in very good condition minor repair works needed.

Plate-1: Front Façade-

Plate-2: side elevation little wall seems bulging

Plate-3: front side

Plate-4: reinforced concrete slab in good condition,

Plate-5: Concrete construction done later on,

Plate-6: slab damage due to seepage

Plate-7: Bad condition of timber deck

Plate-8: stair

Plate-9: Bad condition reinforced concrete construction

Plate-10: loose stone masonry

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Building appears to be in good condition from outside.
- From inside, stone walls appear intact, however, repair work is needed in floor decks and staircases.

4.50. United Bank Building

General Information

Building Name: United Bank Building
Status: Inaccessible
Address: SB-7/9, Raja Ghazanfar Ali Road (Somerset Street)
Site visit Date: 10/4/2018
Time: 05.15 am
Building Number: 50
Original Stories: Ground + 1

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	shops
	First floor	-
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior
6.	**Typical Floor framing**	
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes
	Wall	Yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus 1 story. Refer Plate-1.
- On front façade, loose stone masonry can be noticed at many locations due to intervention of MS girders.
- Roof appears to have been collapsed or removed.

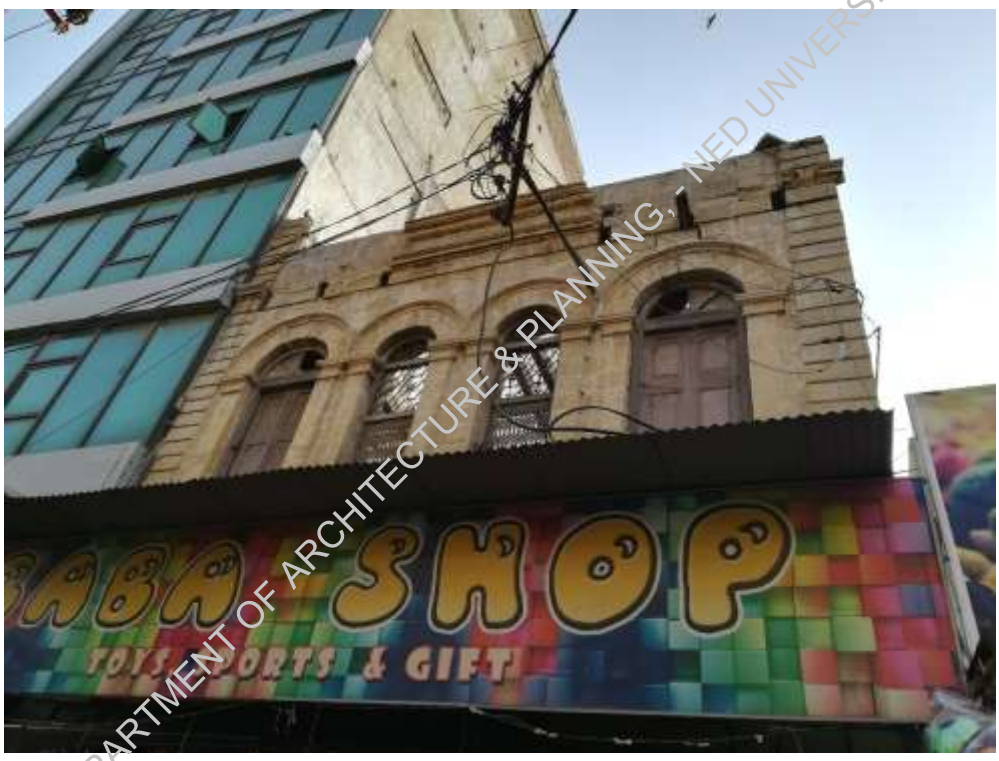

Plate-1: Front Façade-

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Front façade of building appears to be in better condition and need minor repairs, however, it appears to have no support from inside as roof deck appears to have been collapsed.
- Roof structure to be repaired and rebuilt.

4.51. SBQ 3/67

General Information

Building Name:	Parsi Mortuary
Status:	Demolished

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4.52. Saifee Building

General Information

Building Name: Saifee Building
Status: Inaccessible
Address: CL-1/1, Dr. Ziauddin Road, Elander Road
Site visit Date: 28/3/2018
Time: 04.14 pm
Building Number: 52
Original Stories: Ground + 1

S.no	Description	Observation
1.	**As-Built Drawings availability:**	Not provided
2.	**Year of Construction:**	Unknown
3.	**Approximate Age of Building:**	Unknown
4.	**Intervention Status**	
	Ground floor	No intervention
	First floor	- RCC Pre-cast and steel girder floor in most of places - Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Second floor	- Columns and beams were added in courtyard - Partition wall were added in residential apartment.
	Third floor	Fully constructed
5.	**Type of Building Construction:**	Original Load bearing stone wall on exterior with beam-column structure in middle courtyard
6.	**Typical Floor framing**	Original wooden slab with mortar on wooden girder after intervention RCC beam-column framing
7.	**Visible Structural cracks/deterioration in following framing elements**	
	Façade	Front – Yes Back – partial collapsed Side – No
	Wall	yes
	Columns	No
	Beam/Girder	Yes
	Floors	Yes

Observations

It was observed that;

- The original building is ground plus two stories with partial third story, whereas additional third story on rest of the area has been added sometime later. Refer Plate-1.
- Part of the building was accessible which was cladded and plastered
- Diagonal cracks in the plaster of Face was observed in 2 locations.
- Rare side of the building which could only be observed from outside which as not plastered and loose stone masonry with weathered mortar was observed.

Plate-1: Front Façade- loose stone masonry can be noted at many places. Additional floor on top is also visible

Plate-2: Side View

Plate-3: Crack on side of wall

Plate-4: crack in stone masonry wall

Conclusions and Recommendations

Based on the observations, it is concluded that;

- Part of the building where crack has appeared needs strengthening/repair immediately.
- Rest of the building appears in good shape and requires minor strengthening works to restore it.
- Building could not be observed from inside hence condition is not known

5. Summary of Conclusions

S.No.	Building Name	Conclusion
1	Sherwala mandir	- In existing condition, *building structure is not stable and is susceptible to failure/collapse*. - Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
2	Kausar Baba Dargah	- In existing condition, building structure appears to be in good condition. - However, it is suspected that the mortar used for pointing and repair is cement mortar which is not good for stone integrity in long run, hence it is recommended to guide the occupants/user of building to get the repair of building done with lime mortar.
3	OT 5/103	- In existing condition, partially collapsed building structure appears in non-workable condition. - Moderate strengthening might be enough to make structure safe and workable for ground plus one story. - Building could not be observed from inside, hence strengthening level suggested is based on visual inspection of façade only. - Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions if present inside, should be removed - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
4	OT 6/86	- In existing condition, building structure appears stable. - However, since it could not be observed from inside, no comment can be made on the stability of internal structure.

5	OT 7/4	- In existing condition, building facade is not stable and is susceptible to failure/collapse. - Extensive strengthening is required to make the façade stable. - New Building structure inside will have to be constructed to join façade and make it stable.
6	Dharam Das Mandir	- In existing condition, building structure is not stable and is susceptible to failure/collapse. - Building was inaccessible and could be observed from outside only. - Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; c. Pointing of mortar in existing stone masonry joints, d. Application of mesh plaster.
7	Antarya Building	- In existing condition, building structure is not stable and is susceptible to failure/collapse. - Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
8	Calcutta Building	- In existing condition, building structure is not stable and is susceptible to failure/collapse. - Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to;

		a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
9	Jahangeer Kothari	- In existing condition, building structure appears in good and stable condition. - Minor repair work can restore the original building structure to its former glory.
10	Jahangeer Mansion	- Front Block of Building structure appears in good condition and localized repairs might be required. - Rear block building structure is partially collapsed, whereas, the rest of area require moderate level strengthening to make structure stable. - Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions, if any, should be removed, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Localized internal MS Angle frame
11	Habib Bank Building	Demolished
12	Farzana Mansion	- In existing condition, building structure is not stable and is susceptible to failure/collapse. - Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; d. Pointing of mortar in existing stone masonry joints, e. Application of mesh plaster f. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
13	Paracha Building	- The over-all condition of the building appears stable as condition of stone masonry is ok. However, at few locations, such as staircase and wooden floor, repair works are needed. - The stair case is of wood and need minor repair work. - Top roof slab made in RCC need extensive repair.
14	Fida Hussain	- Building appears to be in good condition.

		- Minor repair work is needed at few locations.
15	Khaliq un Nisa	- Building appears to be in good condition. - Minor repair work is needed at few locations.
16	Karachi Muslim Restaurant	- Minor repair works are needed, especially in reinforced concrete projections and floor beams.
17	Sarang Building	Demolished
18	Feroz Pur Wala Market	Demolished
19	Sheeba Manzil	Demolished
20	Tayabi Manzil	Demolished
21	Tharyamal Nayandas	- Overall condition of supporting system of building appears stable, however, reinforced concrete construction (slabs/beams) need repair. - Interventions such as top most story added later should be removed. - Façade has cracks at few locations but do not appear dangerous, should be repaired immediately however.
22	Rehmani Mansion	- In existing condition, building structure seem unstable, - Extensive strengthening is required - Repair works are needed like pointing in joints, and repair of deck/floor works - Masonry has eroded at few places and patch work is needed to strengthen the weak areas.
23	Devi Bai Building	- In existing condition, building structure is not stable and is susceptible to failure/collapse. - Major strengthening is required to make the structure stable. - Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
24	Haji Hashim	- In existing condition, building structure is not stable and is susceptible to failure/collapse.

		- Façade is in better condition but the internal structure, especially reinforced concrete floors added later on, are in very bad condition. - Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
25	NP 1/5	- In existing condition, original building structure appears to be in need of moderate level of strengthening. However, additional floor on top should be removed to avoid any risk to existing structure due to additional stresses by its load. - No major cracks in stone walls were noticed, hence it is anticipated that pointing work/joint repairs will strengthen the masonry walls. - Interventions from roof top should be removed. - Internal staircase and wooden decks need to be repaired as they are in very bad condition.
26	Rohana Banash Building	- In existing condition, building structure appears to be stable. - Cracks are noticed in façade, which should be repaired. - Concrete construction done later on is in bad condition and needs major repair.
27	Sonamal Chandimal Building	- In existing condition, building structure is not stable and is susceptible to failure/collapse. - Front façade however, seems in good condition, but has separated from rest of building as a crack has developed along the height. - Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster

		c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
28	NP 10/27	- In existing condition, building structure is not stable and is susceptible to failure/collapse. - Building Façade however appears in better condition but need repairs as cracks and disjointing of stone masonry is observed a few locations. - Extensive strengthening is required to make the overall structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls.
29	Hajra Building	- Only façade wall is intact with masonry intervention on top, whereas internal structure has collapsed. Hence the façade is also unstable in current condition and needs major repairs to hold it.
30	Jan Muhammad Building	- In existing condition, building structure is not stable and is susceptible to failure/collapse. - Internal floors have collapsed, which need major rebuilt efforts. - Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
31	Mukhi Mansion	- Building appears to be in good condition - Minor repair works are needed to restore the building to its original glory.
32	Hussaini Building	- In existing condition, building appears to be stable. - Minor repair work in reinforced concrete construction can restore the structure.
33	Quetta Wala Building	- In existing condition, building structure is not dangerous but needs major repairs. - Extensive strengthening of internal reinforced concrete structure is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of

		existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
34	Bhagwan Das Building	- Building is in bad condition from inside and need major repair of internal structure to give it overall stability. - Façade masonry can be repaired with minor repair works and should be connected to internal structure rigidly.
35	SR 3/14	- In existing condition, building structure is not stable and is susceptible to failure/collapse. - Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as extra floor finishes where present, masonry walls or additional built-ups, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
36	Essaji Ibraheemji Building	- Being only ground floor, the structure can be made stable by pointing of mortar in joints and/or stone repair works. - Roof can also be replaced with new framing/sheets to restore the building.
37	Old Shahani Building	- In existing condition, building structure appears stable however, is in need of major repairs. - Loose stone masonry should be repaired. - Interventions if any should be removed.
38	Ather Mansion	- In existing condition, building structure is not stable and is not in useable condition. - It appears that major strengthening works are required to make structure stable.
39	Saify Electric	- In existing condition, building structure appears to be not dangerous.

		- The balcony structures are in bad condition and are susceptible to collapse, as reinforcement of RCC projections have corroded and concrete cover has fallen. - Internal side could not be observed hence, condition is unknown.
40	Sami Chambers	- In existing condition, building structure appears to be in stable condition. - No wide cracks were noticed in façade at the time of visit. - Reinforced concrete construction at some places was in bad conditions and needed repair.
41	Dost Manzil	- In existing condition, main building structure appears unstable and need major repairs, especially balconies. - Reinforced concrete construction is in bad shape in many places and needs strengthening. - Interventions at projections should be removed.
42	Bhojraj Building	- In existing condition, building structure appears in stable condition. - No major cracks or deterioration was noticed anywhere in stone masonry. - Reinforced concrete construction needs repair at some places.
43	Jiha Building	- In existing condition, *building structure is not stable and is susceptible to failure/collapse*. - Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
44	Haque Building	- No apparent sign of distress could be noticed from outside. - Building looks in stable condition. - Since inside of building could not be visited, so no comment can be made on structural condition.
45	Hassan Ali Building	- In existing condition, it appears that building is stable, but needs repairs - Building could not be observed from inside hence no comment can be made.
46	SBQ 7/38	- In existing condition, building structure appears to be in stable condition from outside.
47	Rainbow House	- In existing condition, building structure is not stable and is susceptible to failure/collapse.

		- Extensive strengthening is required to make the structure stable. Strengthening measures to be done with careful methodology which will include propping of existing walls/floors before proceeding with any strengthening technique. - Interventions should be removed such as the additional floor on top and extra floor finishes where present, to decrease the dead load on existing walls, - Strengthening techniques can be adopted, including but not limited to; a. Pointing of mortar in existing stone masonry joints, b. Application of mesh plaster c. Introducing internal mild steel frame within the building to secure the occupants from fatal damages.
48	Kanji Wasti Building	- Building appears to be in better condition from outside, however, deck/floor needs to be replaced/repaired.
49	Nabi Manzil	- Building appears to be in good condition from outside. - From inside, stone walls appear intact, however, repair work is needed in floor decks and staircases.
50	United Bank Building	- Front façade of building appears to be in better condition and need minor repairs, however, it appears to have no support from inside as roof deck appears to have been collapsed. - Roof structure to be repaired and rebuilt.
51	SBQ 3/67	Demolished
52	Saifee Building	- Part of the building where crack has appeared needs strengthening/repair immediately. - Rest of the building appears in good shape and requires minor strengthening works to restore it. - Building could not be observed from inside hence condition is not known

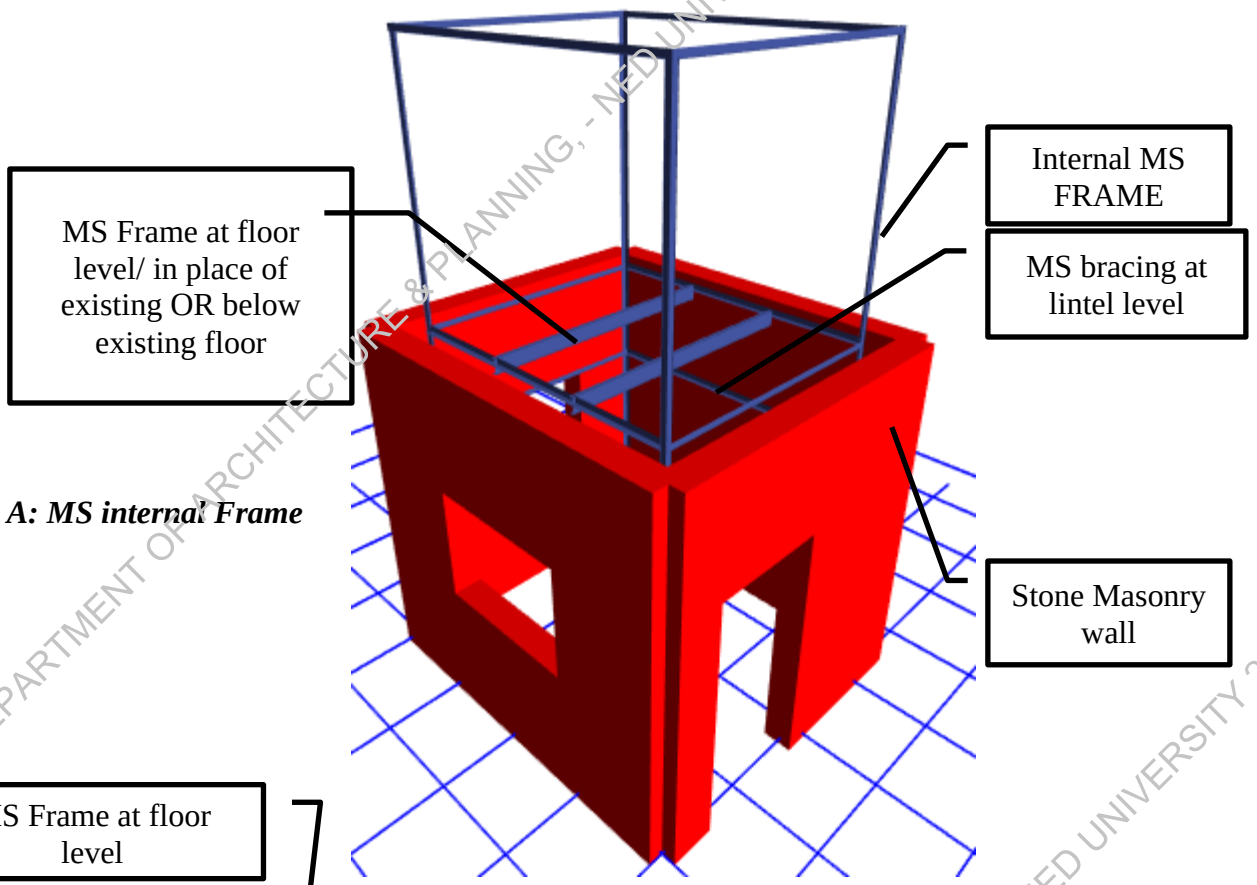
6. Strengthening Levels

6.1. Extensive strengthening Level

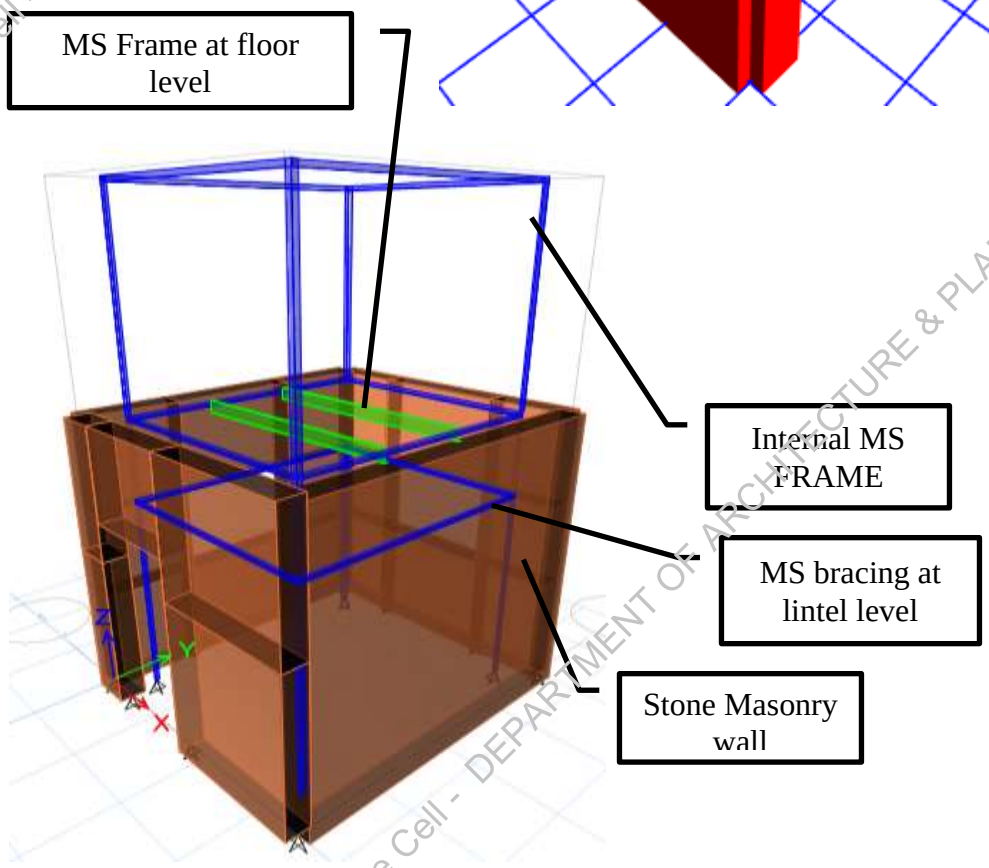
In Extensive Strengthening Level,

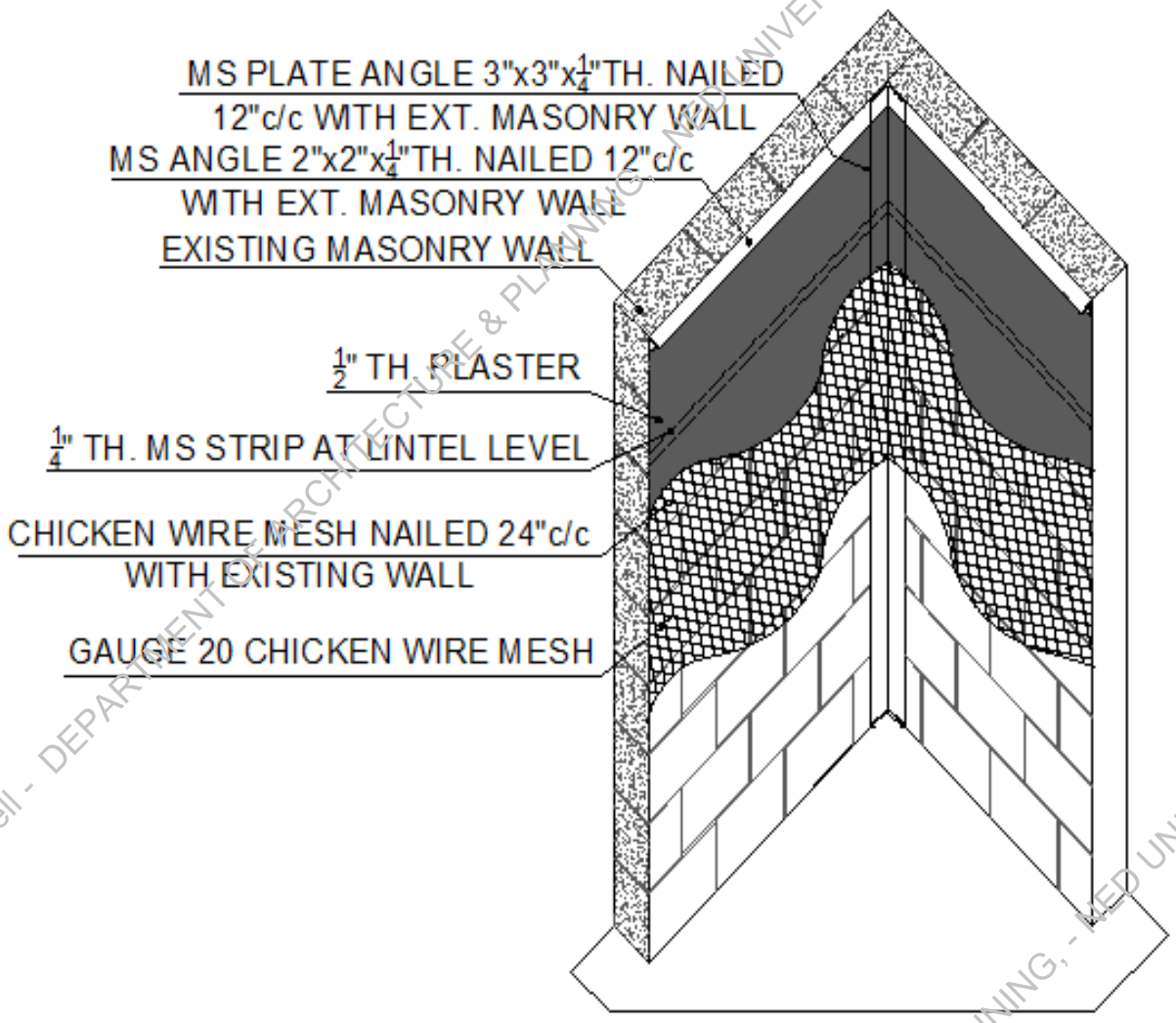
- Steel structure frame is to be introduced to jacket the existing stone masonry walls and to form a frame within the original structure, tied-up together in a way, that if any sliding/settlement or tilting initiate in the stone wall structure, the frame work should hold the walls together and redistribute the load to the rest of the frame elements. Refer Sketch-A below.
- Cracks should be sealed with soft mortar (lime mortar) applied over metal lath which is to be nailed to the stone walls.Refer Sketch-B &D
- Additional built up on floor should be removed.
- Any interventions/additions should be removed.
- Light weight partition to be used for future development.
- Existing floor/deck elements should be repaired/replaced/cleaned, strengthened if required, and Mild Steel elements to be painted with Anti-Rust Paint.
- Façade walls if found tilted outwards, should be anchored with tie rods. These tie rods will need to be connected to internal MS frame to give anchorage.
- MS angle frame to be installed in door and window frames to secure the openings. Refer Sktech-C

Note: For the structures, which require Extensive Strengthening Level, Professional Structural Engineer should be involved to design Strengthening/Retrofitting works.



Sketch A: MS internal Frame view



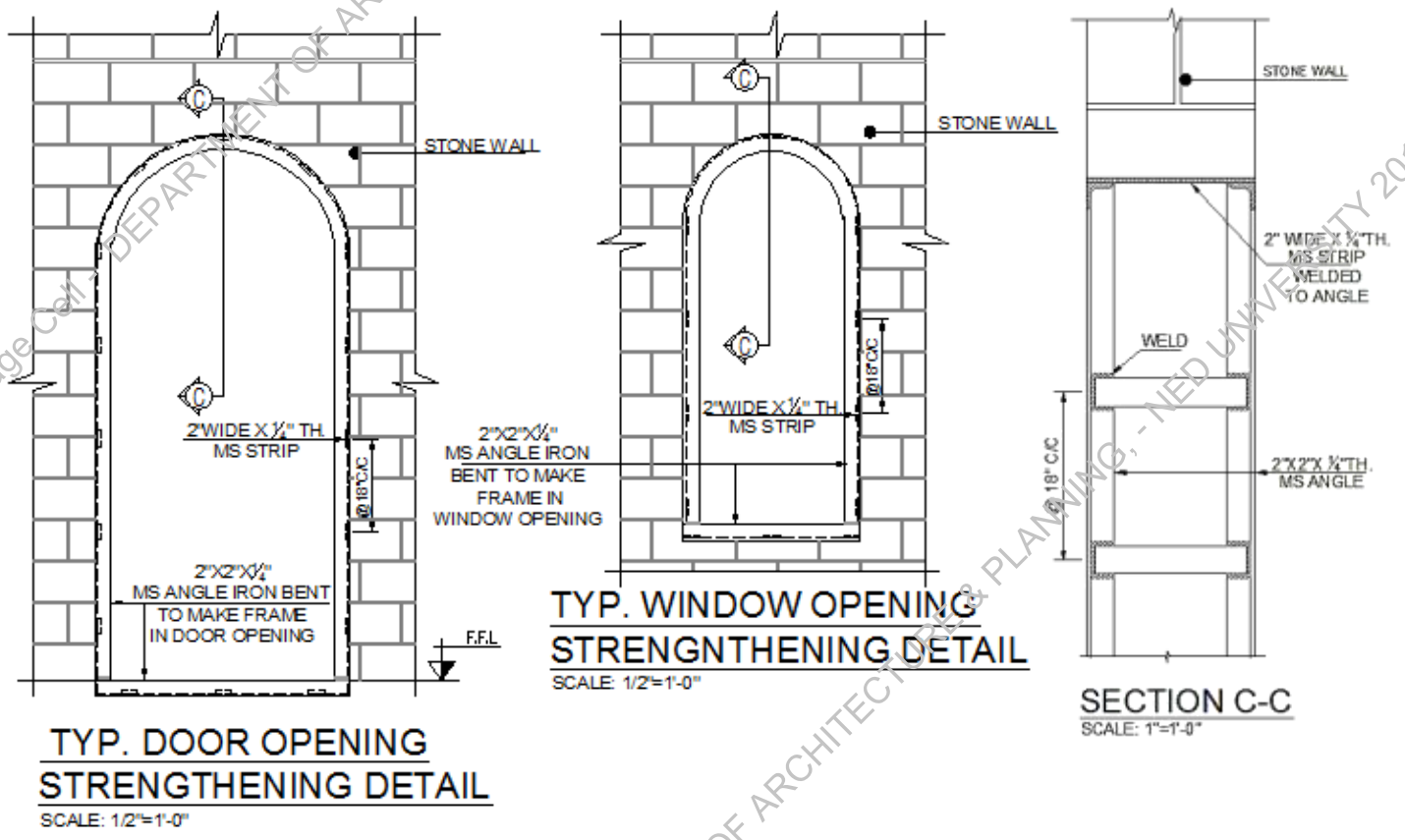


Sketch B: Wall repair detail

6.2. Moderate Strengthening Level

In Moderate Strengthening Level,

- MS angle frame to be installed in door and window frames to secure the openings. Refer Sketch-C
- MS frame (as shown in Sketch A) might be required in localized area.
- Cracks should be sealed with soft mortar (lime mortar) applied over metal lath which is to be nailed to the stone walls. Refer Sketch-D.
- Existing floor/deck elements should be repaired/replaced/cleaned, strengthened if required, and Mild Steel elements to be painted with Anti-Rust Paint.
- Additional built up on floor should be removed.
- Any interventions/additions should be removed.
- Light weight partition to be used for future development.

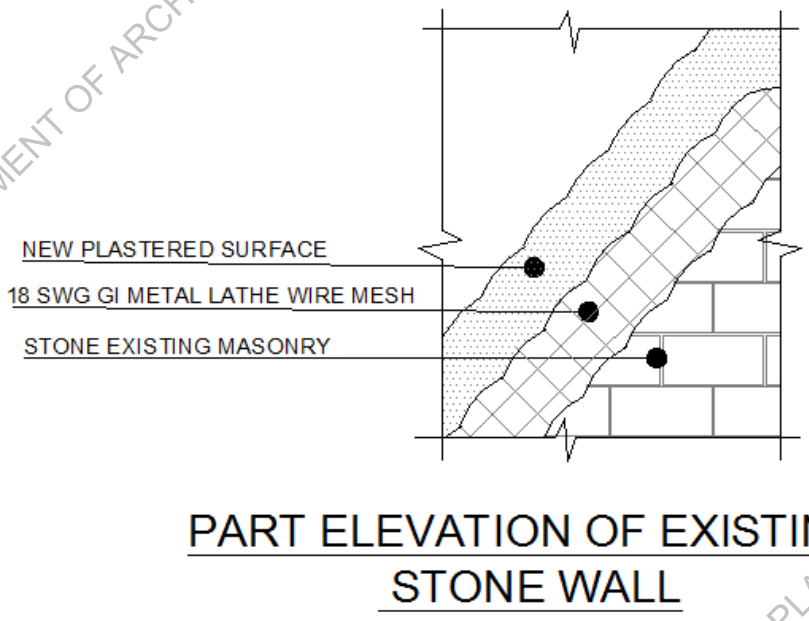


Sketch C: Typical Door/Window Opening Strengthening Detail

6.3. Minor Strengthening Level

In Minor Strengthening Level,

- MS angle frame to be installed in localized opening locations. Refer Sketch-C.
- Cracks should be sealed with soft mortar (lime mortar) applied over metal lath which is to be nailed to the stone walls. Refer Sketch-D.
- Existing floor/deck elements should be repaired/replaced/cleaned, strengthened if required, and Mild Steel elements to be painted with Anti-Rust Paint.
- Additional built up on floor should be removed.
- Any interventions/additions should be removed.
- Light weight partition to be used for future development.



Sketch D: Wall Repair Detail

7. General Strengthening Guidelines

Mild Steel Internal Frame:

- Mild steel internal frame can consist of MS angles at corners of walls connected through MS strips running all round at lintel level. These MS angles and strips would be bolted to existing stone masonry at approx. 18 to 24 inch center to center (Refer Sketch-A).

Plaster

- Where needed, walls shall be plastered with 1" th. cement: lime: sand mortar (1:1:4). All existing surfaces shall be thoroughly cleaned and a layer of 18 SWG GI metal lathe shall be fixed prior to plaster with the help of steel nails. Appropriate spacers shall be placed to ensure that metal lathe is at the center of mortar. The plastered surfaces shall be cured with water thrice a day for at least 10 days.

Steel Structure

1. All structural steel sections to be used in strengthening works, should be cleaned by sand blast, galvanized, painted with one coat of epoxy primer and 2 coats of epoxy paint each.
2. All structural steel sections to have minimum yield strength of 36 ksi (252mpa) conforming to ASTM A 36.
3. use minimum 1/4" th. full weld through e-70 electrode unless noted otherwise. Specifications of other electrodes available to be submitted to engineer for approval.
4. All MS base plates to be 1/4" thick unless noted otherwise.
5. Welding works to conform to ANSI AWSD 1.1 code.