

STRUCTURAL AUDIT REPORT

For

NOOR CO-OP. HOUSING SOCIETY LTD,

VASHI,

NAVI MUMBAI 400703



Prepared by



Taamra Engineering Consultants Private Limited

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Date: 20th June 2022**BUILDING DETAILS:****NAME: "NOOR CO OPERATIVE HOUSING SOCIETY, VASHI, NAVI MUMBAI- 400703****BUILDING DETAILS: (RESIDENTIAL)**

- Building Floors: Building 1 : G+4
Building 2 : G+4
Building 3A : G+4
Building 3B : G+4
- No of Flats: Building 1 : 20
Building 2 : 20
Building 3A : 15
Building 3B : 15
- Approximate Age of the building: Approx. 38 Years
- Type of building: R.C.C Framed Structure
- Overhead water tank: Building 1 : 10,000 Liter
Building 2 : 10,000 Liter
Building 3A : 10,000 Liter
Building 3B : 10,000 Liter
- Underground water tank: Building 1 : 5,000 Liter
Building 2 : 5,000 Liter
Building 3A : 5,000 Liter
Building 3B : 5,000 Liter
-

Geographical Location:

- Latitude: N19°07,60.0"
- Longitude: E72°99'25.3"
- Elevation: 10 Meters above MSL

Environmental details:

- Daily Temperature: Minimum average 20.5°C in winter and maximum average 35°C in summer.
- Annual average Temperature 27.2°C.
- Average annual Rainfall: 2220 mm

Annexure – 2**PROFORMA 'B'**

Note: to be filled by structural Engineer/ Auditor appointed by owner/tenants/occupiers.

	Sub: Structural audit report	
	Name of consultant: Taamra Engineering Consultants Private Limited.	
1.	Name of Unit in the Building/ Address	NOOR CO_OPERATIVE HOUSING SOCIETY Plot No. 18, Sector No. 9A, opp. Father Angel College, Vashi, Navi Mumbai 400703
2.	CTS No./WARD/UID	-
3.	No. of Storey	Building 1 : G+4 Building 2 : G+4 Building 3A : G+4 Building 3B : G+4
4.	Year of Construction and age of building	Year of Construction: 1984 Age of the Building: Approx. 38 Years
5.	User department	Residential
6.	Date of inspection by consultant	7, 8, 9 th June 2022
7.	Date of preparation of Report	16 th June 2022
8.	Validity Period of report (should be minimum six months)	1 year
9.	Mode of construction of existing Building	
i)	Foundations	RCC (RCC FRAMED STRUCTURE)
	Floors	RCC
	Walls	Masonry Walls
	Beams	RCC
	Columns	RCC
	Roof	RCC
10.	History of Repairs done year-wise- Slab recasting Column jacketing	No slab recasting done in past. Not done in Past
i)	Structural Repairs	Minor external repair were carried out. Some Structural repairs inside the Flats were carried out by individual Flat owners. (process of repair not known)
ii)	Tenantable Repairs	Some Minor & Structural repair done by Flat owners. (Tenanted)
iii)	Roof/Waterproofing	Not done in Past
iv)	Plumbing	Not Done in Past

v)	Additional/Alterations if any	1. Some flat extended the room up to balcony.
11.	Condition of –	
i)	Internal plaster	Plaster cracks, Major structural cracks and Spalling observed. Hollow Sound in plaster by hammer tapping at many places. Major Structural cracks observed on Beam Column & ceiling. (Need to be attend)
ii)	External plaster	Plaster crack, Structural crack, vegetation, water dripping & Seepages on the surface of External plaster & Staircase area. Spalling of plaster & Major structural crack from many areas were observed. (Need to be attend)
iii)	Plumbing and Sewer lines	Vegetation at Many places observed. Seepages observed Around plumbing line. Water Dripping & leakages of water through pipes observed at many places. Some Plumbing lines are damaged. (Need to be attend)
iv)	Drain lines/chambers	Vegetation observed at places.
12.	Observations-	
	a) Doors & windows don't close	In Some Flat the beam or the structural elements Above the window has been deflected down. The gap between the track and the Sliding window is totally reduced.
	b) Columns/Beams & steel exposed	1. In Some Flats seemed to have covered with plaster, Plywood, wallpaper and painting so defects were not observed. But According to NDT test column condition is poor. 2. In Many Flats major structural crack & exposed Steel observed on Ceiling, column & Beam. 3. All Major cracks shown by Red traffic light in the report. (Add support & repair immediately)
	c) Settlement uneven flooring gaps between skirting & floor	No such defects observed but Cracks on surface of Floor tile and uplift floor tile at

		Some Flats were observed.
	d) Foundation settlement	No such settlement observed.
	e) Deflections/sagging	No Major Structural defects observed. The beams over the windows at certain places found to have deflected causing Jamming of Window shutters.
	f) Major cracks in column/beams	Major cracks observed on Ceiling, Beam & column in some flats & External area. (Major cracks shown by Red traffic light in the report.) (These should be attended immediately)
	g) Seepage/Leakages	1. Some Seepage observed in Top floor flat from a terrace in A & B Wings. 2. Major leakages come from dead wall due to external cracks. 3. Some leakages come through extended balcony area. 4. In Many flats seepage due to capillary action observed on Toilet side walls. 5. Major Leakages comes from bathroom & Toilet in many flats. (Mentioned in the report) 6. Leakage Sources could be leakages from pipelines embedded or the water proofing in the enclosure is not effective any more. (Need to be attend)
	h) Staircase area/Column condition/Mumty Room	Seepages were observed from adjacent servant room Toilet at some places.
	i) Lift walls	No lift
	j) U.G. Tank	No such defect observed
	k) OHT/Column condition	RCC tank: RCC tank was showing Surface hair line crack, plaster crack on the wall and Major Structural crack observed on the column.
	l) Parapet at terraces	Plaster cracks & structural crack were (might lead to leakages in floor below) observed on Parapet Top and Sides
	m) Chhajja	Structural crack & hollow plaster observed on some chhajjas resulting in Seepage and distresses in lintels. Spalling of plaster at many places observed.

	n) Common areas		Plaster cracks & seepage were observed.	
	o) Toilet blocks		Plaster cracks, Structural crack & Major seepages observed in many flats.	
	p) Terrace/Water proofing		Surface cracks & hollow surface of floor observed	
	q) Vegetation		Vegetation observed near the plumbing line and some external area.	
	Test carried out on structure/ observations		Findings	Range as per IS code
	NDT	a) Ultrasonic pulse velocity Test	Report attached	Above 4.5 km/s - Excellent 3.5 Km/s to 4.5km/s - Good 3.0 Km/s to 3.5km/s - Medium Below 3.0km/s - Doubtful
		b) Rebound Hammer Test		For normal concrete-2.25Mpa For light weight concrete – 0.075Mpa For mass concrete – 30.00Mpa
		c) Half Cell Potential Test	Done on selected places	Tests results are within limit
		d) Carbonation Depth Test	-do-	-do-
		e) Core Test	Not required	-
		f) Chemical analysis	Done in selected places	-do-
		g) Cement aggregate ratio	Not required	-
14.	Brief Description of repairs to be done			
	a) Water Proofing		1. Need to Repair & waterproof the areas where Seepages were observed in Toilet & from external dead wall. 2. Terrace waterproofing needs to be done properly to stop the leakages.	
	b) External Plaster		Requires repair in respect of addressing structural distresses removal of vegetation, removal of de-bonded plaster and Plaster.	
	c) Structural repairs			
	i. Column jacketing		Major structural crack & Low strength areas as detected by UPV test need to be repaired by Low Viscose Polymer impregnation, Polymer Treatment/Micro concrete Column Jacketing / fibre wrapping may be necessary.	

	ii. Slab recasting	Slab casting not required	
	iii. RCC cover to be replaced	No	
	iv. Beam recasting	Not required	
	d) Partial Evacuation during repairs needed	No	
	e) Propping	In B Wing Flat no 251B, Water Tank required Propping. Major cracks observed on Beam & Column of water Tank	
16.	Conclusions of Consultants -	Observations	Key reason
i	Whether structure is liveable/or whether it is to be evacuated and pulled down	Type of distress and low strength observed by UPV test give an indication that gradual spalling, cracking etc. will go on happening and Building condition will lead to warning situation. All such defects have to be addressed by extensive structural repairs for columns, Beams, Slabs by jacketing/retrofitting along with arresting seepage.	Hammer & UPV test showed very poor strength of Concrete. Visual and Delam survey predict that the members of the society covered the distressed areas with superficial plaster and tiling etc. where condition of structures were pretty bad.
ii	Whether structure requires tenantable repairs/Major structural repairs & its time frame	Opening of the areas of structural distress & de-bonded areas not possible without sufficient propping which will mean the areas taken in hand will not be liveable .	Very Experienced Contractor would have to be deployed for proper repair under close supervision by experienced PMC.
iii	Whether structure can be allowed to occupy during course of repairs	Partially the areas for repairs cannot be occupied.	Partially the areas for repairs cannot be occupied.
iv	Nature/Methodology of repairs	Waterproofing, corrosion arresting, polymer treatment, Fibre Wrapping,	Polymer repair, Micro concreting, providing compensatory

		Jacketing, addition of complementary Reinforcement, Micro concrete etc.	reinforcement, Impregnation of low viscous chemicals would be necessary.
V	Whether structure requires immediate propping. If so, its propping plan /methodology given	In many areas required immediate propping and support. (Mentioned in report in red traffic light)	Major cracks observed on Beam & Column of water Tank
Vi	Whether other immediate safety measures required- What is specific recommendation?	Yes, In certain Places were marked red in traffic lights.	Safety measures during Repair are required
Vii	Enhancement in life of structure after repairs/frequency of repairs required in extended life period.	Enhancement up to 3 years or more if extensive repair for the whole Building inside and outside together for which all the members have to agree.	-
Viii	Projected repair cost/Sq. ft.	Rs. 600/ sq. Ft	For speciality repairs
Ix	Projected reconstruction cost/Sq. Ft.	Rs. 3500/Sq. ft	-
X	Specific remarks, whether building needs to be vacated/demolished/ repairable	Repairable but better approach would be to demolish the structure and reconstruct.	-
xi	Whether structure in extremely critical condition	Criticality will reach soon to the level of extremity.	-
17.	Critical Observation		
18.	Classification of Bldg. -	Category	Auditor's final conclusion
	To be evacuated /demolition immediately. Note : Evacuation and demolition process will take some time till the decision is taken by the society for reconstruction but some repairing work have to be done to avoid any mishaps during such time before evacuation	C-1	Extensive repair will mean heavy expenses and partial evacuation and major inconveniences as the repairing time will be quite long and enhancement of life of 3 years will mean again Audit and

			repair. Hence Reconstruction is recommended
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Additional Remarks/ Recommendations, if any.

1. To ensure no further corrosion, migratory corrosion inhibitor will be provided.
2. Steel structural elements may have to be incorporated if required.
3. Structural members found to be in order. But we suggest for painting as part of maintenance of the structure.

CLASSIFICATION OF BUILDING AND CATEGORY (as referred in Point no 18 above).

Classification of Bldg. -	Category
To be evacuated /demolition immediately	C1
To be evacuated and/or partial demolition requiring major structural	C2-A
No eviction only structural repairs.	C2-B
No eviction needs minor repairs only	C3

Note: Structural Audit was done in the year of 2010 and 2013 when the then Auditors suggested,

In 2010 – Strictly Retro fitted all the damaged structure before monsoon immediate to prevent further damages to structure under the guidelines and supervision of structural expertise.

In 2013 – NDT values are doubtful, so the structure repairs immediate attention to repair and damaged load carrying members like column, Beam & slabs.

As per Observation, There is no any structural repair were carried out as mentioned in Audit report 2010 & 2013.

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METHODOLOGY ADOPTED FOR INVESTIGATION/AUDIT

1. VISUAL SURVEY

The structure was investigated from outside. Each column, beam and slab were observed for a range of defects such as cracks, spalling, and seepage etc. All these defects were noted on the observation sheets along with capturing photos of the same with approximate repair area, which formed the total data of the structure.

2. DELAM SURVEY

Every column and beam were subjected to tapping by medium type of hammer which gave the delams from 15 mm to 30 mm depth. The hollowness was recorded and that part was evaluated for remedial measures. The results of each structural member viz, columns and beams were again recorded into observations sheet and the cumulative area of defects was simultaneously recorded along with photographs.

The inspection was made on the following points:

- a) Condition of the internal & external plaster.
- b) Condition of wall paint.
- c) Structural defects like (a) Crack (b) Settlement (c) Deflection (sagging)
- d) Condition of the terrace water proofing, Overhead Water Tank
- e) Condition of the parapet wall, chhajjas.
- f) Condition of the Plumbing line and all other defects related to the premises

SCOPE OF THE SURVEY COVERS

Ascertaining the structural status of the building based on location & level of structural deterioration.

- a) To carry out visual inspection and distress survey of the entire building with special emphasis on the structural members i.e., slabs, beams, columns etc. to assess the general condition of the structure from stability point of view.
- b) To collect photographic evidence of the locations where structural and non-structural DISTRESS are observed.
- c) Evaluate and opinion on NDT test required.
- d) Detecting the location and level of dampness and leakages.
- e) To establish the specific causes behind above mentioned problems.
- f) Suggesting of remedial measures to rectify the problems.

SURVEY DOES NOT INCLUDE:

- a) Detailed study of foundation drawings [as not available].
- b) Preparation of as built drawings.
- c) Survey of Foundations.
- d) Checking of Structural Design and Stability [as not available].
- e) Seismic Assessment [as design was not available].
- f) Observations on the Fire-Fighting systems, Electrical-Power System, Security System and Communication System [as no MEP Drawings available].

EXECUTIVE SUMMARY

TEC conducted Structural Audit at MAKAR TOWER A & B on 7, 8, & 9th June 2022 with their expert team for the purpose.

During Delam Tests and NDT we observed:

AA. Inside the flats most of the places sounded hollow while tapping in columns and beams as well as the plastered area.

BB. Major Structural crack, Spalling of Plaster observed inside many flats on Beam Column & Ceiling. (Need to add support)

CC. Major Leakages observed in many flats from Toilet & Bathroom. Leakages Sources could be leakages from pipelines embedded or the water proofing in the enclosure is not effective any more. Many Pipelines are corroded & damaged.

EE. Concrete strength as per Hammer tests & UPV Test was not satisfactory.

FF. UPV tests show poor strength in most of the places.

GG. Major Defects are shown in the report by Red traffic light. Need to repair immediately.

DD. Evacuation and demolition process will take some time till the decision is taken by the society for reconstruction but some repairing work have to be done to avoid any mishaps during such time before evacuation

Extensive repair will mean heavy expenses and partial evacuation and major inconveniences as the repairing time will be quite long and enhancement of life of 3 years will mean again Audit and repair. Hence Reconstruction is recommended REPAIR TRAFFIC LIGHTS are given below for the priority areas of Repair:

REPAIR GREEN TRAFFIC LIGHTS

- REPAIR GREEN TRAFFIC LIGHTS: ASSIGNED TO AREAS OF REPAIR WHICH APPARENTLY HAVE SUPERFICIAL DEFECTS WHICH CAN BE MADE GOOD BY SCRAPPING, AND SUITABLE PLASTERING OR SPECIALITY CHEMICAL COATING.

REPAIR GREEN TRAFFIC LIGHT AREAS ARE:

- THESE ARE THE AREAS WHERE NO STRUCTURAL REPAIRING TECHNIQUES NEED BE APPLIED APPARENTLY.
- THESE ESSENTIALLY CONCERN ABOUT
 - a. LOOSE PLASTER ALLOWING SEEPAGE THROUGH THE SAME
 - b. SUPERFICIAL CRACKS IN PLASTER
 - c. DEBONDED PLASTER CAUSING DEFECTS ON THE SURFACE.

REPAIR YELLOW TRAFFIC LIGHTS:

REPAIR YELLOW TRAFFIC LIGHTS: ASSIGNED TO URGENT AND IMPORTANT AREAS OF REPAIR WHERE CRACKS ARE VISIBLE AND REQUIRE FURTHER INVESTIGATION

(NOTE: DURING VISUAL, DELAM SURVEY, THIS AREA IS MARKED AS YELLOW BUT THESE AREAS MAY TURN OUT TO BE RED TRAFFIC LIGHT AREA ONCE THE AREAS ARE OPENED UP DURING EXECUTION)

REPAIR YELLOW TRAFFIC LIGHT AREAS ARE:

- THESE ARE THE AREAS WHERE PEELING OF PAINTS AND WETTING OF THE SURFACE BECAUSE OF DEFECTS IN EXTERNAL PLASTER AND MAY BE DISTRESSES AS EXTERNAL AREAS WERE UNAPPROCHABLE.
- CRACKS FORMED IN CONCRETE ELEMENTS WHICH REQUIRE CRACK OPENING AND STRUCTURALLY REPAIRED.

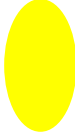
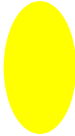
REPAIR RED TRAFFIC LIGHTS:

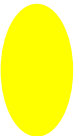
- REPAIR RED TRAFFIC LIGHTS: ASSIGNED TO COMPARATIVELY VERY URGENT AND VERY IMPORTANT AREAS OF REPAIR WHERE SOCIETY AND CONTRACTOR SHOULD GIVE THEIR DUE ATTENTION
- REPAIR OF THESE AREAS (STRUCTURAL REPAIRS) IS DONE WITH CHEMICAL IMPREGNATION, JACKETING, RETROFITTING, POLYMER MODIFIED CONCRETE OR TREATMENT, ETC.

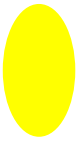
- We suggest that the following procedure be adopted for taking further action on the issue of appointing a contractor to get the repair and rehabilitation work done
 1. Prequalification of contractor and prepare list of contractors
 2. On the approval of the Society, Tender Proceedings can be adopted to get the quotations from parties and job is awarded to the best out of the contractors who have submitted their Quotations.
 3. Get the job executed under supervision of a Good PMC.

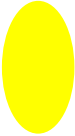
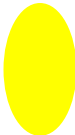
After the repair, the Stability certificate will be taken by Society from Structural Consultant.

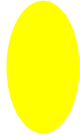
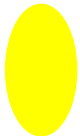
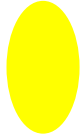
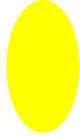
AUDIT RECORD & OBSERVATION WITH AMELIORATIONS PROCESS

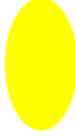
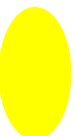
Sr No.	LOCATION	AREA DESCRIPTION		PHOTOS	DEFECTS	PROCESS FOR AMELIORATIONS
Flat 1-1						
a)	Living Room	Column C 1			Column with Hollow sound	Refer attachment I : TYPE XVII
b)	Living Room	Beam			Beam With hollow sound	Refer attachment I : TYPE XVIII
c)	Living Room	Lintel Beam			Separation cracks	Refer attachment I : TYPE X
d)	Living Room	Column C 2			Column covered with Tiles	Noting Visible

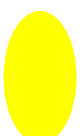
e)	Living room	Column C 3			Column with hollow sound	Refer attachment I : TYPE XVII
f)	External	Chajja			Major Structural cracks	Refer attachment I : TYPE VI
g)	External	Chajja Ceiling			Major structural crack (Structural distress, Reinforcement corroded, Plaster spall off)	Refer attachment I : TYPE VI
h)	External	Chajja			Major structural cracks	Refer attachment I : TYPE VI

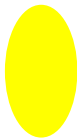
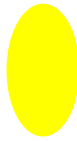
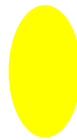
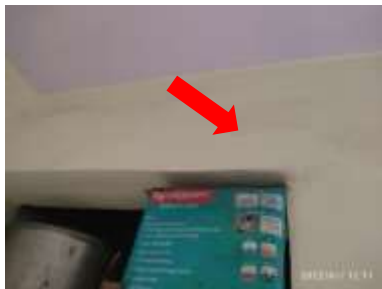
i)	Bathroom Changes to kitchen	Lintel Beam			Major Structural crack, Window top lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX
j)	Bedroom	Beam			Structural crack	Refer attachment I : TYPE VI
k)	Bedroom	Column C 8			Column with hollow sound	Refer attachment I : TYPE XVII
l)	Bedroom	Chajja			Major structural cracks	Refer attachment I : TYPE VI

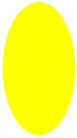
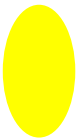
m)	Bedroom	Chajja Ceiling			Major structural crack (Major structural distress, Reinforcement corroded, Plaster spall off)	Refer attachment I : TYPE VI
n)	Bedroom	Chajja			Major structural crack	Refer attachment I : TYPE VI
o)	Living Room	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
Flat 1-4						
a)	Bedroom	Column C 24			Column with hollow sound	Refer attachment I : TYPE XVII

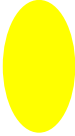
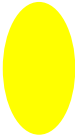
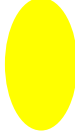
b)	Bedroom	Column C 25			Column with hollow sound	Refer attachment I : TYPE XVII
c)	Living Room	Column C 21			Column with hollow sound	Refer attachment I : TYPE XVII
d)	Living Room	Column C 20			Column with hollow sound	Refer attachment I : TYPE XVII
Flat 1-5						
a)	Living Room	Column C 3			Column with hollow sound	Refer attachment I : TYPE XVII

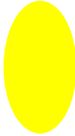
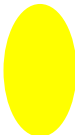
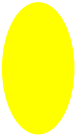
b)	Living Room	Column C 4			Hollow sound at bottom	Refer attachment I : TYPE XVII
c)	Living room	Balcony Lintel Beam			Window top lintel found with crack	Refer attachment I : TYPE XIX
d)	Living Room	Beam			Structural crack	Refer attachment I : TYPE VI
e)	Living Room Balcony	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII

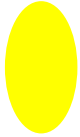
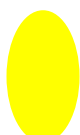
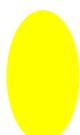
f)	Living Room	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
g)	Living room Balcony	Floor			Floor tile uplift	Refer attachment I : TYPE XXVI
h)	Bedroom	Column C 6			Plaster crack, column with hollow sound	Refer attachment I : TYPE V, TYPE XVII
i)	Bedroom	Chajja			Major Structural crack	Refer attachment I : TYPE VI

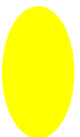
j)	External	chajja			Plaster crack	Refer attachment I : TYPE V
k)	Toilet	Sunk			Seepages from flat no 1/9	Refer attachment I : TYPE XI
l)	Bathroom	Ceiling			Seepages from flat no 1/9, Ceiling cracks	Refer attachment I : TYPE XI
m)	Passage	Beam			Plaster with hollow sound	Refer attachment I : TYPE XVII

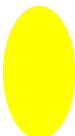
n)	Kitchen	Chajja			Major structural crack, Plaster spall off (reinforcement corroded)	Refer attachment I : TYPE VI, TYPE V
o)	Kitchen	Ceiling			Ceiling cracks	Refer attachment I : TYPES XIII
Flat 1-6 (Some minor repair done before 1.5 Year)						
a)	Living room	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
b)	Kitchen	Chajja			Major Structural crack	Refer attachment I : TYPE VI
c)	Bathroom	Ceiling			Ceiling cracks, seepage from flat no 1/10	Refer attachment I : TYPE XIII, TYPE XI

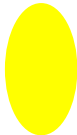
d)	Passage	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
e)	Bedroom	Column C 13			Plaster crack, Plaster with hollow sound	Refer attachment I : TYPE V, TYPE XVIII
f)	External	Chajja			Structural crack	Refer attachment I : TYPE VI
Flat 1-7						
a)	Living Room	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII

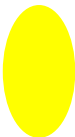
b)	Bedroom	Column C 15			Column with hollow sound	Refer attachment I : TYPE XVII
c)	Bedroom	Beam			Structural crack	Refer attachment I : TYPE VI
d)	Bedroom Balcony	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
Flat 1-8						
a)	Living Room	Column C 20			Column with hollow sound	Refer attachment I : TYPE XVII

b)	Living Room	Column C 21			Column with hollow sound	Refer attachment I : TYPE XVII
c)	Living room	Beam			Plaster crack	Refer attachment I : TYPE V
d)	Living room	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
e)	Living room	Column C 18			Column with hollow sound	Refer attachment I : TYPE XVII

f)	Kitchen	Beam			Plaster crack	Refer attachment I : TYPE V
g)	Kitchen	Chajja			Major structural crack (Plaster spall off)	Refer attachment I : TYPE VI
h)	Kitchen	Sunk			Seepages from kitchen sink from flat no 1/12	Refer attachment I : TYPE XI
i)	Bathroom	Ceiling			Seepages from flat no 1/12, Ceiling cracks	Refer attachment I : TYPE XI

j)	Bedroom	Chajja			Major structural crack	Refer attachment I : TYPE VI
Flat 1-9						
a)	Living room Balcony	Ceiling			Major structural crack (reinforcement corroded, Plaster spall off)	Refer attachment I : TYPE VI
b)	Living room Beam	Beam			Major structural crack, Beam found with crack	Refer attachment I : TYPE VI
c)	Living room	Column C 1			Column with hollow sound	Refer attachment I : TYPE XVII

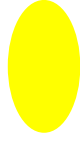
d)	Living Room	Ceiling			Ceiling cracks, Structural crack (Plaster spall off, corroded) Need to support immediately	Refer attachment I : TYPE XIII, TYPE VI
e)	Living Room	Ceiling			Seepages from flat no 1/13	Refer attachment I : TYPE XI
f)	Bedroom	Column C 8			Structural crack, Column with hollow sound	Refer attachment I : TYPE VI, TYPE XVII
g)	Bedroom	Beam			Structural crack	Refer attachment I : TYPE VI

h)	Bedroom	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
i)	Bedroom	Lintel Beam			Structural crack	Refer attachment I : TYPE VI
j)	Bedroom	Column C 7			Major structural crack	Refer attachment I : TYPE VI
k)	Bedroom	beam			Structural crack, Beam found with crack	Refer attachment I : TYPE VI, TYPE XV

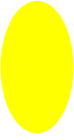
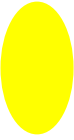
l)	Bedroom	Column C 7			Major structural crack	Refer attachment I : TYPE VI
m)	Bedroom	chajja			Major structural crack	Refer attachment I : TYPE VI
n)	Bedroom	Column C 6			Plaster crack, Column with hollow sound	Refer attachment I : TYPE V, TYPE XVII
o)	Bedroom Balcony	Ceiling			Ceiling cracks (Plaster spall off, Reinforcement corroded)	Refer attachment I : TYPE XIII

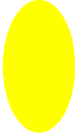
p)	Bedroom Balcony	Beam			Major structural crack, Plaster with hollow sound	Refer attachment I : TYPE VI, TYPE XVIII
q)	Bedroom	Lintel Beam			Structural crack	Refer attachment I : TYPE VI
r)	Bedroom Balcony	Corbel			Major structural crack (Plaster spall off, Corroded)	Refer attachment I : TYPE VI
s)	Toilet	Sunk			Major seepages from flat no 1/13	Refer attachment I : TYPE XI

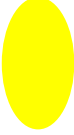
t)	Bathroom	Ceiling			Major seepages from flat no 1/13	Refer attachment I : TYPE XI
u)	Passage	Beam			Structural crack, Major seepages from flat no 1/13	Refer attachment I : TYPE VI, TYPE XI
v)	Passage	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
w)	Kitchen	Ceiling			Ceiling cracks, seepages from flat no 1/13 (reinforcement corroded)	Refer attachment I : TYPE XIII, TYPE XI
x)	kitchen	Beam			Major structural crack (plaster spall off & corroded)	Refer attachment I : TYPE VI

y)	Kitchen	Beam			Major structural crack (corroded & distress)	Refer attachment I : TYPE VI
z)	Kitchen	Ceiling			Ceiling cracks, Seepages from flat no 1/13	Refer attachment I : TYPE XIII, TYPE XI
aa)	Kitchen	Column C 5			Column with hollow sound	Refer attachment I : TYPE XVII
ab)	Kitchen	Chajja			Major structural crack	Refer attachment I : TYPE VI

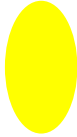
ac)	kitchen	Beam			Structural crack	Refer attachment I : TYPE VI
Flat 1-10						
a)	Living room	Wall			Capillary action marks from adjacent bathroom	Refer attachment I : TYPE IV
b)	Kitchen	Ceiling			Ceiling cracks & Seepage from flat no 2/14	Refer attachment I : TYPE XIII, TYPE XI
c)	Kitchen	Beam			Seepage from flat no 2/14, Structural crack	Refer attachment I : TYPE XI
d)	Kitchen	Chajja			Major structural crack	Refer attachment I : TYPE VI

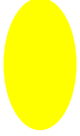
e)	Bathroom	Ceiling & Beam			Major Seepage from flat no 2/14	Refer attachment I : TYPE XI
f)	Bathroom	Ceiling			Major Seepage from flat no 2/14	Refer attachment I : TYPE XI
g)	bathroom	Beam			Major structural crack	Refer attachment I : TYPE VI
h)	Toilet	Sunk			Plaster crack	Refer attachment I : TYPE V

i)	Bedroom	Column C 12			Structural crack	Refer attachment I : TYPE VI
j)	Bedroom	Column C 11			Major structural crack	Refer attachment I : TYPE VI
k)	Bedroom	Column C 13			Column with hollow sound at bottom	Refer attachment I : TYPE XVII

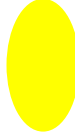
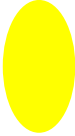
l)	Bedroom	Beam			Structural crack	Refer attachment I : TYPE VI
m)	Bedroom	Chajja			Major structural crack (Plaster spall off & corroded)	Refer attachment I : TYPE VI
n)	Bedroom	Balcony			Major structural crack, Window top lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX
Flat 1-11						
a)	Living Room	Wall			Seepages from external crack	Refer attachment I : TYPE XI

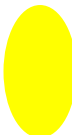
b)	Living Room balcony	Window sill			Major structural cracks, plaster with hollow sound	Refer attachment I : TYPE VI, TYPE XVIII
c)	Kitchen	Ceiling			Major structural cracks (Plaster spall off & corroded)	Refer attachment I : TYPE VI
d)	Kitchen	Beam			Major structural crack (Plaster spall off & corroded)	Refer attachment I : TYPE VI
e)	Kitchen	Lintel Beam			Window stopped sliding	Refer attachment I : TYPE VIII
f)	Bedroom	beam			Structural crack, Seepages from flat no 1/15	Refer attachment I : TYPE VI, TYPE XI

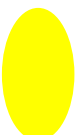
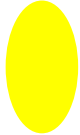
g)	Bedroom	Ceiling			Ceiling cracks, Seepages from flat no 1/15	Refer attachment I : TYPE XIII, TYPE XI
h)	bedroom	Beam			Major structural crack	Refer attachment I : TYPE VI
i)	Bedroom	Ceiling			Ceiling cracks (plaster spall off & corroded)	Refer attachment I : TYPE XIII
j)	Bedroom	Column C 16			Structural crack, Column with hollow sound	Refer attachment I : TYPE VI, TYPE XVII

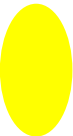
k)	Bedroom	Column C 16			Structural crack, Column with hollow sound	Refer attachment I : TYPE VI, TYPE XVII
l)	Bedroom	Column C 15			Structural crack	Refer attachment I : TYPE VI
m)	Bedroom	Column C 17			Major structural crack, Column with hollow sound	Refer attachment I : TYPE VI, TYPE XVII

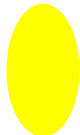
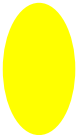
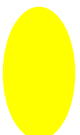
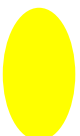
n)	Bedroom Balcony	Lintel Beam			Major structural crack, Window top lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX
o)	Bedroom Balcony	Ceiling			Ceiling cracks, Structural crack (Plaster spall off & corroded)	Refer attachment I : TYPE XIII, TYPE VI
p)	Bedroom Balcony	Lintel Beam			Major structural crack (Plaster spall off)	Refer attachment I : TYPE VI
q)	Bedroom Balcony	Lintel Beam			Major structural crack, Window top lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX
r)	bathroom	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII

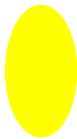
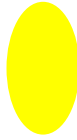
s)	Bathroom	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
t)	Toilet	Sunk			Plaster cracks	Refer attachment I : TYPE V
Flat 1-13						
a)	Living Room	Column C 3			Column with hollow sound	Refer attachment I : TYPE XVII
b)	Living room	Floor			Floor Vibrated	

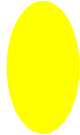
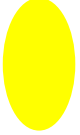
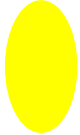
c)	Living room	Ceiling			Ceiling crack	Refer attachment I : TYPE XIII
d)	Living Room	Lintel Beam			Structural crack, Window top lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX
e)	Kitchen	Column C 5			Major structural crack	Refer attachment I : TYPE VI
f)	Kitchen	External chajja			Structural crack	Refer attachment I : TYPE VI

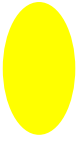
g)	Kitchen	Beam			Plaster crack	Refer attachment I : TYPE V
h)	Kitchen	Beam			Seepages from flat no 1/17	Refer attachment I : TYPE XI
i)	Bathroom	Beam			Structural crack	Refer attachment I : TYPE VI
j)	Toilet	Sunk			Plaster crack	Refer attachment I : TYPE V
k)	Bedroom	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII

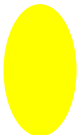
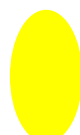
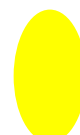
l)	Bedroom	Column C 6			Major structural crack	Refer attachment I : TYPE VI
m)	Bedroom	Column C 8			Tile crack, Structural crack	Refer attachment I : TYPE I, TYPE VI
n)	Bedroom	Lintel Beam			Plaster crack	Refer attachment I : TYPE V
o)	Bedroom balcony	Beam			Structural crack	Refer attachment I : TYPE VI

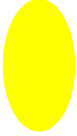
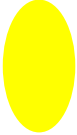
p)	Bedroom balcony	Wall			Plaster crack	Refer attachment I : TYPE V
q)	Bedroom balcony	Chajja			Major structural crack	Refer attachment I : TYPE VI
r)	Bedroom balcony	Floor			Floor crack	Refer attachment I : TYPE I
Flat 1-14						
a)	Living room	Lintel Beam			Plaster crack	Refer attachment I : TYPE V
b)	Living Room	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII

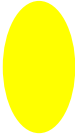
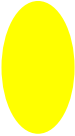
c)	Kitchen changes to Bedroom	Wall			Seepages from adjacent bathroom	Refer attachment I : TYPE XI
d)	Kitchen changes to Bedroom	Wall			Seepages from adjacent bathroom	Refer attachment I : TYPE XI
e)	Kitchen changes to Bedroom	Beam			Plaster crack	Refer attachment I : TYPE V
f)	Kitchen changes to Bedroom	Chajja			Major structural crack	Refer attachment I : TYPE VI
g)	Passage changes to kitchen	Beam			Major structural crack, Beam found with crack	Refer attachment I : TYPE VI, TYPE XV

h)	Passage changes to kitchen	Wall			Tile cracks	Refer attachment I : TYPE I
i)	Passage changes to kitchen	Ceiling			Seepages from Flat no	Refer attachment I : TYPE XI
j)	Passage changes to kitchen	Beam			Major structural crack	Refer attachment I : TYPE VI
k)	Passage changes to kitchen	Beam			Major Structural crack	Refer attachment I : TYPE VI
l)	Toilet	Ceiling			Ceiling Crack	Refer attachment I : TYPE XIII

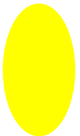
m)	Bedroom	Column C 12			Seepage from external cracks	Refer attachment I : TYPE XI
n)	Bedroom	Column C 13			Major structural crack	Refer attachment I : TYPE VI
o)	Bedroom	Column C 11			Major structural crack	Refer attachment I : TYPE VI
p)	Bedroom	Beam & Wall			Seepages from flat no 1/18	Refer attachment I : TYPE XI

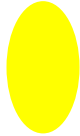
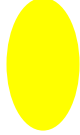
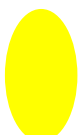
q)	Bedroom	Beam			Plaster crack	Refer attachment I : TYPE V
r)	Bedroom Balcony	Lintel beam			Major structural crack, Window top lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX
s)	Bedroom Balcony	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
Flat 1-15 (Repair completed 1 year before)						
a)	Living room	Column C 14			Column with hollow sound	Refer attachment I : TYPE XVII

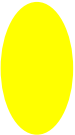
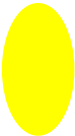
b)	Kitchen	Wall			Seepages from Adjacent Bathroom	Refer attachment I : TYPE XI
c)	Kitchen	Beam			Structural crack	Refer attachment I : TYPE VI
d)	Bathroom	Ceiling			Major seepages from flat no 1/19 Bathroom	Refer attachment I : TYPE XI
e)	Bathroom	Beam			seepages from flat no 1/19 Bathroom	Refer attachment I : TYPE XI

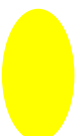
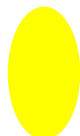
f)	Toilet	Wall			Tile crack	Refer attachment I : TYPE I
g)	Passage	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
h)	Bedroom	Column C 16			Column with hollow sound	Refer attachment I : TYPE XVII
i)	Bedroom	Column C 15			Structural crack	Refer attachment I : TYPE VI

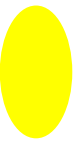
j)	bedroom	Chajja			Major structural crack (Plaster spall off)	Refer attachment I : TYPE VI
k)	Bedroom	Lintel Beam			Structural crack, Window top Lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX
l)	Bedroom	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
m)	Bedroom balcony	Lintel Beam			Structural crack	Refer attachment I : TYPE VI
Flat 1-16						

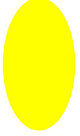
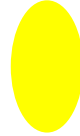
a)	Living Room	Beam			Structural crack	Refer attachment I : TYPE VI
b)	Bedroom	Column C 23			Column with hollow sound	Refer attachment I : TYPE XVII
c)	Bedroom	Lintel Beam			Window top lintel found with crack	Refer attachment I : TYPE XIX
d)	Bedroom	Chajja			Major structural crack	Refer attachment I : TYPE VI

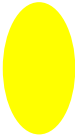
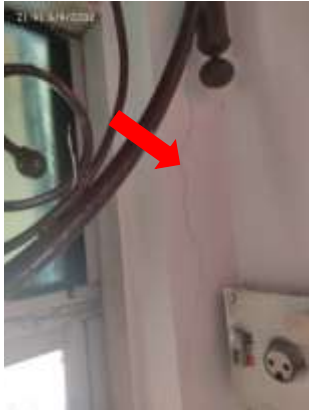
e)	Passage	Wall			Seepage marks	Refer attachment I : TYPE III
f)	kitchen	Lintel Beam			Structural crack, Window top lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX
g)	kitchen	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
Flat 1-17						
a)	Living Room	Column C 1			Major structural cracks	Refer attachment I : TYPE VI

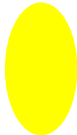
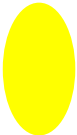
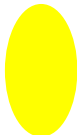
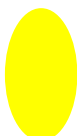
b)	Living Room	Column C 2			Column with hollow sound	Refer attachment I : TYPE XVII
c)	Living Room	Beam			Structural crack	Refer attachment I : TYPE VI
d)	Kitchen	Chajja			Structural crack	Refer attachment I : TYPE VI
e)	Bedroom	Lintel Beam			Structural crack, Window top lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX

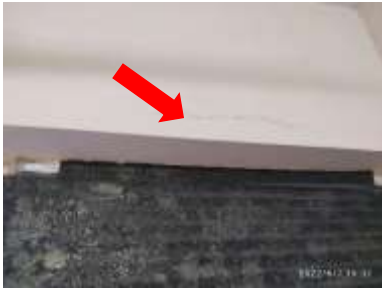
f)	Bedroom	Beam			Tile crack	Refer attachment I : TYPE I
g)	Bedroom	Beam			Plaster crack, Beam found with crack	Refer attachment I : TYPE V, TYPE XV
h)	Bedroom	Beam			Plaster crack	Refer attachment I : TYPE V
i)	Bedroom	Column C 6			Plaster crack, Column found with crack	Refer attachment I : TYPE V, TYPE XIV

j)	Bedroom	Beam			Major structural crack	Refer attachment I : TYPE VI
Flat 1-18						
a)	Living Room	Beam			Plaster with hollow sound	Refer attachment I : TYPE XVIII
b)	Kitchen	Beam			Structural crack, window top lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX
c)	Kitchen	Chajja			Structural crack	Refer attachment I : TYPE VI
d)	Bedroom	Beam			Structural crack	Refer attachment I : TYPE VI

e)	Bedroom	Chajja			Structural crack	Refer attachment I : TYPE VI
f)	Bedroom	Chajja			Structural crack (Plaster spall off)	Refer attachment I : TYPE VI
Flat 1-19						
a)	Living Room	Beam			Structural crack	Refer attachment I : TYPE VI
b)	Kitchen	Lintel Beam			Structural crack	Refer attachment I : TYPE VI

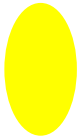
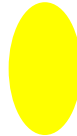
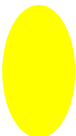
c)	Kitchen	Beam			Structural crack	Refer attachment I : TYPE VI
d)	Bedroom1	Lintel Beam			Major structural crack, Window top lintel found with crack	Refer attachment I : TYPE VI, TYPE XIX
e)	Bedroom 1	Column C 17			Structural crack	Refer attachment I : TYPE VI
f)	Bedroom 1	Column C 18			Structural crack	Refer attachment I : TYPE VI
Flat 1-20						

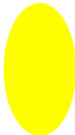
a)	Living Room	Beam			Plaster with hollow sound	Refer attachment I : TYPE XVIII
b)	Living Room	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
c)	Living Room	Column C 20			Column with hollow sound	Refer attachment I : TYPE XVII
d)	Living Room	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
e)	Bedroom 1	Beam			Plaster crack	Refer attachment I : TYPE V

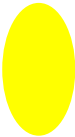
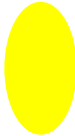
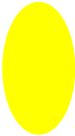
f)	Bedroom 1	Beam			Structural crack	Refer attachment I : TYPE VI
g)	Bedroom 1	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
h)	Bedroom 1	Floor			Floor tile uplift	Refer attachment I : TYPE XXVI
i)	Bedroom 1	Column C 24			Plaster crack	Refer attachment I : TYPE V

j)	Bedroom 1	Column C 23			Column with hollow sound	Refer attachment I : TYPE XVII
k)	Living Room	Beam			Structural crack	Refer attachment I : TYPE VI
l)	Living Room Balcony	Lintel Beam			Window top Lintel found with crack, Structural crack	Refer attachment I : TYPE XIX, TYPE VI
m)	Living Room Balcony	Lintel Beam			Window top Lintel found with crack, Structural crack	Refer attachment I : TYPE XIX TYPE VI

o)	Kitchen	Ceiling			Ceiling cracks	Refer attachment I : TYPE XIII
p)	Kitchen	Chajja			Major Structural crack	Refer attachment I : TYPE VI
q)	Kitchen	Column			Structural crack	Refer attachment I : TYPE VI

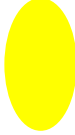
Sr No.	LOCATION	AREA DESCRIPTION		PHOTOS	DEFECTS	PROCESS FOR AMELIORATIONS
Terrace & Water Tank						
a)	Water Tank	Floor			Surface hair line cracks, Plaster cracks	Refer attachment 1-TYPE XXI, TYPE V
b)	Water Tank	Floor			Surface hair line cracks, Plaster cracks	Refer attachment 1-TYPE XXI, TYPE V
c)	Water Tank	Floor			Surface hair line cracks, Plaster cracks	Refer attachment 1-TYPE XXI, TYPE V
d)	Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
e)	Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V

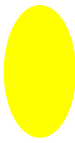
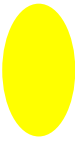
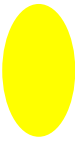
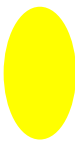
f)	Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
g)	Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
h)	Terrace	Parapet wall			Structural cracks	Refer attachment 1-TYPE VI
i)	Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
j)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI

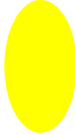
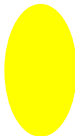
k)	Terrace	Parapet Wall			Structural crack	Refer attachment 1-TYPE VI
l)	Terrace	Parapet Wall			Structural crack	Refer attachment 1-TYPE VI
m)	Terrace	Parapet Wall			Structural crack	Refer attachment 1-TYPE VI
n)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
o)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V

p)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
q)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
r)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
s)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
t)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI

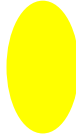
u)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
v)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
w)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
x)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
y)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V

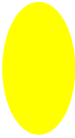
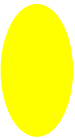
z)	Water tank	Column			Structural crack	Refer attachment 1-TYPE VI
aa)	Mumpty room	Chajja			Structural crack	Refer attachment 1-TYPE VI
ab)	Water tank	Column			Structural crack	Refer attachment 1-TYPE VI
ac)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI

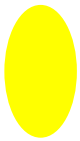
ad)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
ae)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
af)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI
ag)	Terrace	Parapet wall			Structural crack	Refer attachment 1-TYPE VI

ah)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
ai)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
aj)	External	Wall			Major Structural crack	Refer attachment 1-TYPE VI
ak)	External	Wall			Major Structural crack	Refer attachment 1-TYPE VI
Staircase						

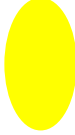
a)	Mumpty room	Ceiling			Seepages from water tank, Ceiling cracks	Refer attachment 1-TYPE XI, TYPE XIII
b)	Mumpty Room	Wall			Plaster crack	Refer attachment 1-TYPE V
c)	Mumpty Room	Beam			Separation crack	Refer attachment 1-TYPE X
d)	Mumpty Room	Beam			Major structural crack	Refer attachment 1-TYPE VI
e)	Staircase 4 th Floor	Waist slab			Structural crack	Refer attachment 1-TYPE VI

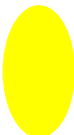
f)	Staircase 4 th Floor	Waist slab			Structural crack	Refer attachment 1-TYPE VI
g)	Staircase 4 th Floor	Column			Structural crack, plaster with hollow sound	Refer attachment 1-TYPE VI, TYPE XVIII
h)	Staircase 4 th Floor	Waist slab			Structural crack	Refer attachment 1-TYPE VI
i)	Staircase 4 th Floor	Waist slab			Major Structural crack	Refer attachment 1-TYPE VI

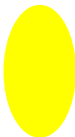
j)	Staircase 3 rd Floor	Waist slab			Structural crack	Refer attachment 1-TYPE VI
k)	Staircase 1 st Floor	Waist slab			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
l)	Staircase 1 st Floor	Handrail			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
m)	Staircase 1 st Floor	Ceiling			Ceiling cracks (plaster spall off)	Refer attachment 1-TYPE XIII

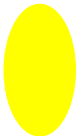
n)	Staircase 1 st Floor	Waist slab			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
External						
a)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
b)	Plumbing	Vegetation			Vegetation, Water dripping	Refer attachment 1-TYPE XXII, TYPE IX
c)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI

d)	External	Column			Major Structural crack	Refer attachment 1-TYPE VI
e)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
f)	External	Wall			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
g)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI

h)	External	Wall			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
i)	External	Wall			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
j)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
k)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI

l)	External	Chajja			Structural crack (plaster spall off)	Refer attachment 1-TYPE VI
m)	External	Vegetation			Vegetation, water dripping	Refer attachment 1-TYPE XXII, TYPE IX
n)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
o)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI

p)	External	Column			Structural crack	Refer attachment 1-TYPE VI
q)	External	Dead Wall			Structural crack, plaster cracks (Source of leakages inside the Flat)	Refer attachment 1-TYPE VI, TYPE V
r)	External	Dead Wall			Structural crack, plaster cracks (Source of leakages inside the Flat)	Refer attachment 1-TYPE VI, TYPE V
s)	External	Dead Wall			Structural crack, plaster cracks (Source of leakages inside the Flat)	Refer attachment 1-TYPEVI, TYPE V

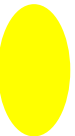
t)	External	Dead Wall			Structural crack	Refer attachment 1-TYPE VI
u)	External	Column			Structural crack, plaster cracks (Source of leakages inside the Flat)	Refer attachment 1-TYPE VI, TYPE V
v)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
w)	External	Plumbing line			Seepages, water dripping	Refer attachment 1-TYPE XI, TYPE IX

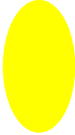
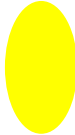
x)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
y)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
z)	External	Column			Structural crack	Refer attachment 1-TYPE VI
aa)	External	Column			Structural crack	Refer attachment 1-TYPE VI

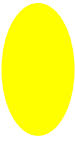
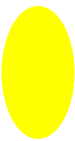
ab)	External	Plumbing Line			Structural crack, plaster cracks (Source of leakages inside the Flat)	Refer attachment 1-TYPE VI, TYPE V
ac)	External	Plumbing Line			Water dripping, seepages	Refer attachment 1-TYPE IX, TYPE XI
ad)	External	Plumbing Line			Water dripping, seepages	Refer attachment 1-TYPE IX, TYPE XI
ae)	External	Dead Wall			Water dripping, seepages	Refer attachment 1-TYPE IX, TYPE XI

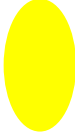
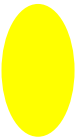
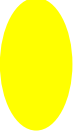
af)	External	plumbing			Water leakages	Refer attachment 1-TYPE IX
ag)	External	Dead wall			Water dripping, seepages	Refer attachment 1-TYPE IX, TYPE XI
ah)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
ai)	External	Column			Major structural crack	Refer attachment 1-TYPE VI

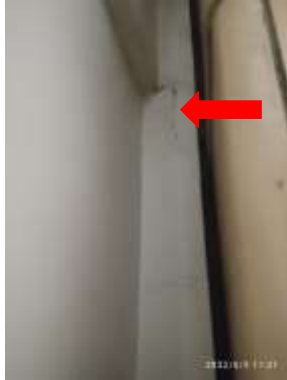
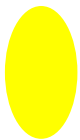
Sr No.	LOCATION	AREA DESCRIPTION		PHOTOS	DEFECTS	PROCESS FOR AMELIORATIONS
Flat 2-1						
a)	Living Room	Column C 4			Major structural crack, Column Found with crack	Refer attachment 1-TYPE VI, Type XVII
b)	Living Room Balcony	Ceiling			Major Structural crack, Major ceiling crack (reinforcement Corroded, Plaster spall off)	Refer attachment 1-TYPE VI, TYPE XII
c)	Living Room Balcony	Beam			Major structural crack (Plaster spall off)	Refer attachment 1-TYPE VI
d)	Kitchen	Beam			Structural crack, Beam found with crack	Refer attachment 1-TYPE VI

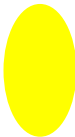
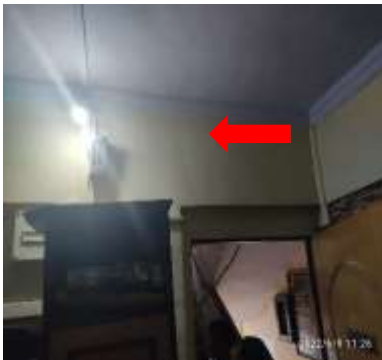
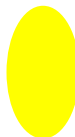
e)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XII
f)	Kitchen	Wall			Seepages through sink Pipeline	Refer attachment 1-TYPE XI
g)	Kitchen	Chajja			Structural crack	Refer attachment 1-TYPE VI
h)	Kitchen	Column			Column with hollow sound	Refer attachment 1-TYPE XVII

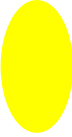
i)	Bedroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XII
j)	Bedroom	Column C 8			Seepages from external pipeline	Refer attachment 1-TYPE XI
k)	Bedroom	Beam			Plaster crack	Refer attachment 1-TYPE V
l)	Bedroom	Column C 9			Structural crack	Refer attachment 1-TYPE VI

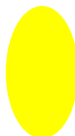
m)	Bedroom	Wall			Major seepages from adjacent Bathroom	Refer attachment 1-TYPE XI
n)	Passage	Beam & Ceiling			Major Structural crack	Refer attachment 1-TYPE VI
o)	Passage	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XII
p)	Toilet	Sunk			Plaster crack, Seepages from Flat no 2/5	Refer attachment 1-TYPE V, TYPE XI

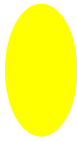
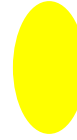
q)	External	Chajja			Plaster crack	Refer attachment 1-TYPE V
Flat 2-2						
a)	Living room Balcony	Wall			Capillary action marks	Refer attachment 1-TYPE IV
b)	Bedroom	Ceiling			Ceiling cracks & Seepages from Flat no 2/6 Bathroom	Refer attachment 1-TYPE XIII, TYPE XI
c)	Bedroom	Beam			Plaster crack	Refer attachment 1-TYPE V

d)	Bedroom	Column C 13			Plaster crack	Refer attachment 1-TYPE V
e)	Bedroom	Chajja			Major structural crack	Refer attachment 1-TYPE VI
f)	Passage	Beam			Structural crack, Beam Found with crack	Refer attachment 1-TYPE VI
g)	Kitchen	Wall			Seepages from sink Pipeline	Refer attachment 1-TYPE XI

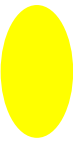
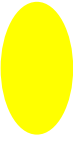
h)	Bathroom	Loft			Tile crack	Refer attachment 1-TYPE I
Flat 2-3						
a)	Living Room	Beam			Beam with hollow sound	Refer attachment 1-TYPE VI
Flat 2-4						
a)	Living Room	Beam			Separation crack	Refer attachment 1-TYPE X
b)	Living room	Column C 19			Column with hollow sound	Refer attachment 1-TYPE XVII

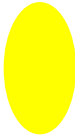
c)	Living room	Column C 20			Column with hollow sound	Refer attachment 1-TYPE XVII
d)	Living room	Column C 21			Column with hollow sound	Refer attachment 1-TYPE XVII
e)	Living room	Column C 22			Column with hollow sound. Structural crack at bottom	Refer attachment 1-TYPE XVII, TYPE VI
f)	Living Room Balcony	Beam			Major structural crack, Beam Found with crack	Refer attachment 1-TYPE VI

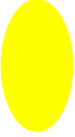
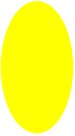
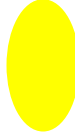
g)	Living Room Balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
h)	Living Room Balcony	Lintel Beam			Plaster cracks	Refer attachment 1-TYPE V
i)	Living Room Balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
j)	Living Room Balcony	Beam			Plaster crack, Beam found with crack	Refer attachment 1-TYPE V

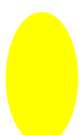
k)	Bedroom	Column C 24			Column with hollow sound	Refer attachment 1-TYPE XVII
l)	Bedroom	Column C 25			Plaster crack, Column with hollow sound	Refer attachment 1-TYPE V, TYPE XVII
m)	Bedroom	Beam			Seepages from flat no 2/8 & Plaster crack	Refer attachment 1-TYPE XI, TYPE V
n)	Bedroom	Wall			Seepages from flat no 2/8 & Plaster crack	Refer attachment 1-TYPE XI, TYPE V

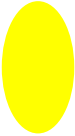
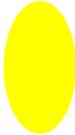
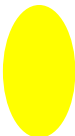
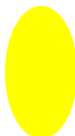
o)	Bedroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
p)	Toilet	Sunk			Seepages from flat no 2/8, Plaster crack	Refer attachment 1-TYPE XI
q)	Passage	Beam			Structural crack	Refer attachment 1-TYPE VI
r)	Passage	Ceiling			Seepages from flat no 2/8	Refer attachment 1-TYPE XI

s)	Kitchen	Beam			Plaster crack, Plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII
Flat 2-5 (Minor Repair & Paint before 3 Month)						
a)	Living Room	Beam			Plaster crack	Refer attachment 1-TYPE V
b)	Bedroom	Ceiling			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
c)	Bedroom	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII

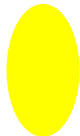
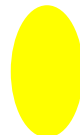
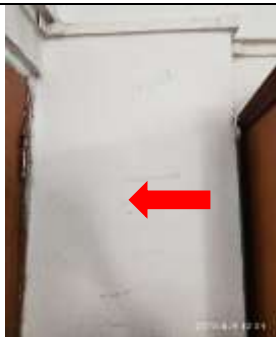
d)	Bathroom	Lintel Beam			Window lintel crack	Refer attachment 1-TYPE XIX
e)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
Flat 2-6						
a)	Bedroom	Lintel Beam			Window top lintel found with crack, Structural crack	Refer attachment 1-TYPE XIX, TYPE VI
b)	Bedroom	Wall			Seepages from external wall crack	Refer attachment 1-TYPE XI

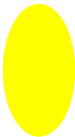
c)	Bedroom	Beam			Plaster crack, Plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII
d)	Bedroom	Ceiling			Ceiling crack	Refer attachment 1-TYPE XIII
e)	Bedroom	Chajja			Plaster crack	Refer attachment 1-TYPE V
f)	Bedroom	Lintel Beam			Major structural crack, Window top lintel found with crack	Refer attachment 1-TYPE VI, TYPE XIX

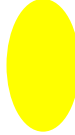
g)	Bedroom	Beam			Separation crack	Refer attachment 1-TYPE X
h)	Kitchen	Column C 2			Plaster crack at bottom, Plaster with hollow sound at bottom	Refer attachment 1-TYPE V, TYPEXVIII
i)	Toilet	Sunk			Structural crack	Refer attachment 1-TYPE VI
Flat 2-7						
a)	Living Room	Beam			Separation crack	Refer attachment 1-TYPE X

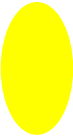
b)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
c)	Kitchen	Chajja			Structural crack	Refer attachment 1-TYPE VI
d)	Kitchen	Wall			Tile crack on the wall	Refer attachment 1-TYPE I
e)	Toilet	Ceiling			Seepages from flat 2/11	Refer attachment 1-TYPE XI
f)	Passage	Beam			Structural crack, Plaster with hollow sound	Refer attachment 1-TYPE VI, TYPEX VIII

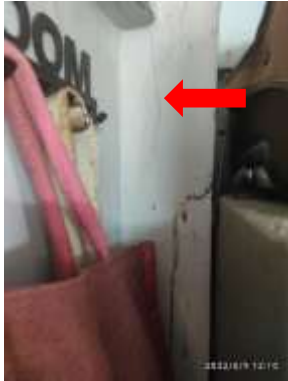
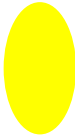
g)	Bedroom	Column C 18			Major structural crack	Refer attachment 1-TYPE VI
h)	Bedroom	Column C 19			Major structural crack	Refer attachment 1-TYPE VI
i)	Bedroom	Lintel Beam			Major structural crack, Window top lintel found with crack	Refer attachment 1-TYPE VI, TYPE XIX
j)	Bedroom	Chajja			Structural crack	Refer attachment 1-TYPE VI

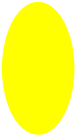
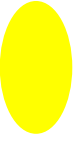
k)	Bedroom Balcony	Beam			Major structural crack	Refer attachment 1-TYPE VI
l)	Bedroom Balcony	Lintel Beam			Seepages from external chajja crack	Refer attachment 1-TYPE XU
Flat 2-8						
a)	Living room	Column 19			Column with hollow sound	Refer attachment 1-TYPE XVIII
b)	Living Room	Column C 20			Structural crack at bottom	Refer attachment 1-TYPE VI

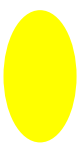
c)	Living Room	Column C 21			Major structural crack at bottom	Refer attachment 1-TYPE VI
d)	Living Room	Column C 22			Structural crack at bottom	Refer attachment 1-TYPE VI
e)	Living Room	Column C 22			Structural crack	Refer attachment 1-TYPE VI
f)	Living Room	Beam			Structural crack	Refer attachment 1-TYPE VI

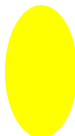
g)	Living Room	Lintel beam			Window top lintel found with crack	Refer attachment 1-TYPE XIX
h)	Living room Balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
i)	Living Room Balcony	Beam			Major structural crack	Refer attachment 1-TYPE VI
j)	Kitchen	Column C 26			Major structural crack, Structural distress (Need to add support immediately)	Refer attachment 1-TYPE VI
k)	Kitchen	Beam			Major Structural crack (Reinforcement corroded & Plaster spall off) (Need support immediately)	Refer attachment 1-TYPE VI

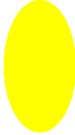
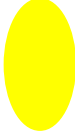
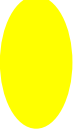
l)	Kitchen	Wall			Capillary action marks from adjacent Bathroom	Refer attachment 1-TYPE IV
m)	Kitchen	Beam			Major structural crack (Need support immediately)	Refer attachment 1-TYPE VI
n)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
o)	Bedroom	Column C 23			Structural crack	Refer attachment 1-TYPE VI

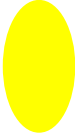
p)	Bedroom	Column			Plaster crack, Column with hollow sound	Refer attachment 1-TYPE V, TYPE XVII
q)	Bedroom	Beam			Major structural crack	Refer attachment 1-TYPE VI
r)	Bedroom	Column C 25			Major Structural crack	Refer attachment 1-TYPE VI
s)	Bedroom	Wall			Capillary action marks from adjacent Bathroom	Refer attachment 1-TYPE IV

t)	Bedroom	Chajja			Major structural crack (Plaster spall off)	Refer attachment 1-TYPE VI
u)	Bedroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
v)	Bedroom	Beam			Major structural crack	Refer attachment 1-TYPE VI
w)	Bedroom Balony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
x)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII

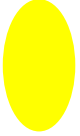
y)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
Flat 2-9						
a)	Bedroom	Column C 8			Major structural crack (need to add support immediately)	Refer attachment 1-TYPE VI
b)	Bedroom	Beam			Major Structural cracks (need to add support immediately)	Refer attachment 1-TYPE VI
c)	Bedroom	Wall			Seepage from adjacent Bathroom	Refer attachment 1-TYPE XI

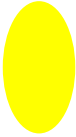
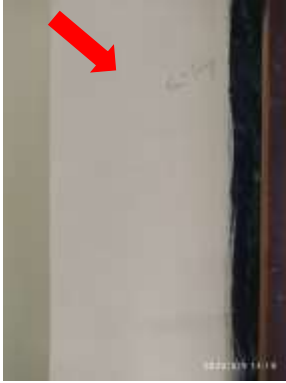
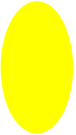
d)	Bedroom	Lintel Beam			Major Structural crack, Window top lintel found with crack	Refer attachment 1-TYPE VI
e)	Bedroom	Lintel Beam			Major Structural crack, Window top lintel found with crack	Refer attachment 1-TYPE VI, TYPE XIX
f)	Bedroom	External chajja			Major structural crack	Refer attachment 1-TYPE VI
g)	Bedroom	Beam			Major structural crack, Beam found with crack	Refer attachment 1-TYPE VI
h)	Bedroom	Column C 7			Structural crack, Column with hollow sound	Refer attachment 1-TYPE VI, TYPE XVII

i)	Bedroom	Beam			Major Structural crack	Refer attachment 1-TYPE VI
j)	Bedroom	Balcony			Ceiling cracks (plaster spall off)	Refer attachment 1-TYPE XIII
k)	Bedroom Balcony	Beam			Seepages from external, plaster crack	Refer attachment 1-TYPE XI
l)	Bedroom Balcony	Window Sill			Major structural crack	Refer attachment 1-TYPE VI
m)	Toilet	Ceiling			Seepages from flat no 2/13	Refer attachment 1-TYPE XI

n)	Kitchen	Sunk			Seepages from flat no 2/13 sink	Refer attachment 1-TYPE XI
o)	Kitchen	Beam			Major Structural crack	Refer attachment 1-TYPE VI
p)	Kitchen	Beam			Structural crack, Plaster with hollow sound	Refer attachment 1-TYPE VI, TYPEVIII
q)	Living Room	Column C 4			Structural crack, Plaster with hollow sound	Refer attachment 1-TYPE VI, TYPE XVIII

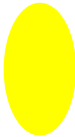
r)	Living Room	Column C 3			Structural crack at bottom	Refer attachment 1-TYPE VI
s)	Living Room	Column C 3			Structural crack at bottom	Refer attachment 1-TYPE VI
t)	Living Room	Column C 2			Plaster crack, column with hollow sound	Refer attachment 1-TYPE V, TYPEXVII
u)	Living Room	Beam			Major Structural crack	Refer attachment 1-TYPE VI

v)	Living room Balcony	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
w)	Living room Balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XII
x)	Living room Balcony	Lintel Beam			Structural crack, Window Top Lintel Found with crack	Refer attachment 1-TYPE VI, TYPE XIX
Flat 2-10 (Floor vibrate)						
a)	Living room	Column C 11			Structural crack, Column found with crack	Refer attachment 1-TYPE VI, TYPE XVII

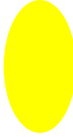
b)	Bedroom	Column C 14			Column with hollow Sound	Refer attachment 1-TYPE XVII
c)	Passage	Ceiling			Water dripping (Live leakages from Flat no 2/14)	Refer attachment 1-TYPE XI
d)	Bathroom	Ceiling			Water dripping (Live leakages from Flat no 2/14)	Refer attachment 1-TYPE XI
e)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
f)	Bedroom	Ceiling			Seepage Marks	Refer attachment 1-TYPE III

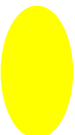
Flat 2-11

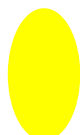
a)	Living Room	Ceiling			Major structural crack (reinforcement Corroded & Plaster spall off)	Refer attachment 1-TYPE VI
b)	Living Room	Wall			Plaster crack	Refer attachment 1-TYPE V
c)	Living room	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
d)	Living Room	Column C 10			Major Structural crack	Refer attachment 1-TYPE VI

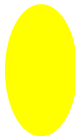
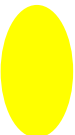
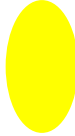
e)	Living Room	Column C 15			Column with hollow sound	Refer attachment 1-TYPE XVII
f)	Bedroom	Beam			Major structural crack	Refer attachment 1-TYPE VI
g)	Bedroom	Beam			Major structural crack	Refer attachment 1-TYPE VI
h)	Bedroom	Beam			Major structural crack	Refer attachment 1-TYPE VI

i)	Bedroom	Column C 17			Major structural crack, Column found with crack	Refer attachment 1-TYPE VI, TYPE XVII
j)	Bedroom	Column C 18			Major structural crack, Column found with crack	Refer attachment 1-TYPE VI, TYPE XVII
k)	Bedroom Balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XI
l)	Bedroom Balcony	Beam			Major structural crack (Need to be support immediately)	Refer attachment 1-TYPE VI

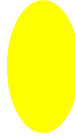
m)	Bedroom Balcony	Beam			Structural crack	Refer attachment 1-TYPE VI
n)	Toilet	Ceiling			Ceiling crack, Seepages from Flat no 2/15	Refer attachment 1-TYPE XIII
o)	Bathroom	Ceiling			Ceiling crack (Reinforce- ment corroded, Plaster spill off)	Refer attachment 1-TYPE XIII
p)	Bathroom	Ceiling			Seepages from Flat no 2/15	Refer attachment 1-TYPE XI

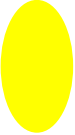
q)	Kitchen	Beam			Major Structural crack	Refer attachment 1-TYPE VI
r)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
s)	External	Chajja			Major Structural crack	Refer attachment 1-TYPE VI
Flat 2-12						
a)	Living Room	Lintel Beam			Major structural crack, Window Top Lintel Found with crack	Refer attachment 1-TYPE VI, TYPE XIX
b)	Kitchen	Beam			Structural crack, beam Found with crack	Refer attachment 1-TYPE VI

c)	Kitchen	Lintel Beam			Separation crack, plaster crack	Refer attachment 1-TYPE X, TYPE V
d)	Kitchen	Column C 26			Structural crack	Refer attachment 1-TYPE VI
e)	Kitchen	Ceiling			Seepage marks	Refer attachment 1-TYPE III
f)	Bedroom	Column C 25			Major Structural crack, Column found with crack	Refer attachment 1-TYPE VI, TYPE XVII

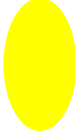
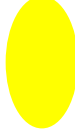
g)	Bedroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
h)	Bedroom Balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
i)	Bathroom	Loft			Seepage Marks	Refer attachment 1-TYPE III

Flat 2-13

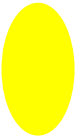
a)	Living room	Beam			Plaster crack, Beam With hollow sound	Refer attachment 1-TYPE V
b)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI

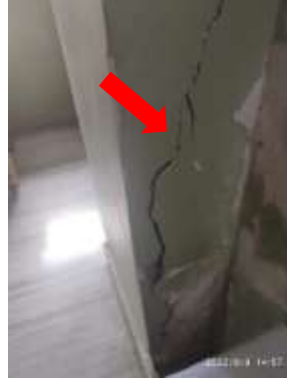
c)	Bedroom Balcony	Lintel Beam			Tile cracks	Refer attachment 1-TYPE I
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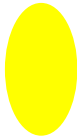
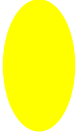
Flat 2-14

a)	Kitchen	Lintel Beam			Window Top lintel found with crack, Tile crack	Refer attachment 1-TYPE XIX, TYPE I
b)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
c)	Kitchen	Loft			Seepage Marks	Refer attachment 1-TYPE III

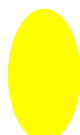
Flat 2-15 (floor vibrate)

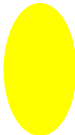
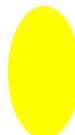
a)	Living room	Ceiling			Seepages from flat no 2/19	Refer attachment 1-TYPE XI
b)	Living room	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
c)	Living Room	Beam			Major Structural crack	Refer attachment 1-TYPE VI
d)	Living room	Column C 10			Structural crack at bottom	Refer attachment 1-TYPE VI

e)	Bedroom	Beam			Major Structural crack (Reinforcement corroded & Plaster spall off)	Refer attachment 1-TYPE VI
f)	Bedroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
g)	Bedroom	Beam			Plaster crack	Refer attachment 1-TYPE V
h)	Bedroom	Column C 18			Major structural crack at bottom	Refer attachment 1-TYPE VI

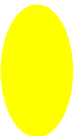
i)	Bedroom	Column C 18			Structural crack	Refer attachment 1-TYPE VI
j)	Bedroom Balcony	Beam			Structural crack	Refer attachment 1-TYPE VI
k)	Bedroom	Column C 16			Seepages	Refer attachment 1-TYPE XI
l)	Bedroom Balcony	Beam			Plaster crack, Plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII

m)	Balcony	Celing			Seepages from external cracks	Refer attachment 1-TYPE XI
n)	Bedroom Balcony	Beam			Structural crack, Beam Found with crack	Refer attachment 1-TYPE VI
o)	Bathroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
p)	Passage	Beam			Major Structural crack	Refer attachment 1-TYPE VI
q)	Passage	Beam			Structural crack	Refer attachment 1-TYPE VI

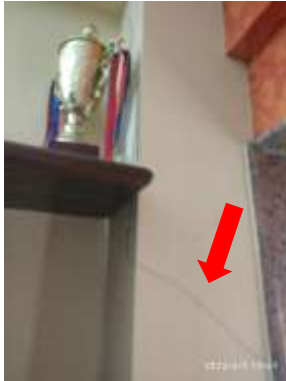
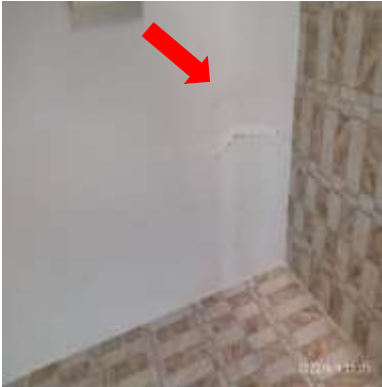
r)	Kitchen	Beam			Structural crack, Beam found with crack	Refer attachment 1-TYPE VI
s)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
Flat 2-16						
a)	Living Room	Beam			Structural crack	Refer attachment 1-TYPE VI
b)	Living Room	Column C 20			Plaster crack	Refer attachment 1-TYPE V

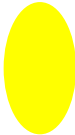
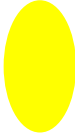
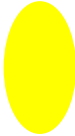
c)	Living Room	Beam			Plaster crack	Refer attachment 1-TYPE V
d)	Living Room	Lintel Beam			Window top lintel found with crack, Plaster cracks	Refer attachment 1-TYPE XIX, TYPE V
e)	Living room	Wall			Plaster crack	Refer attachment 1-TYPE V
f)	Living Room	Column C 21			Column with hollow sound	Refer attachment 1-TYPE XVII
g)	Bedroom	Column C 25			Column found with cracks	Refer attachment 1-TYPE XVII

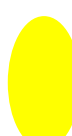
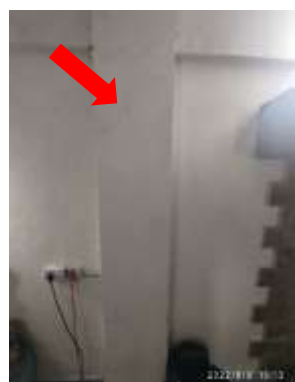
h)	Bedroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
i)	Bedroom	Chajja			Plaster crack	Refer attachment 1-TYPE V
j)	Bedroom	Column C 23			Column with hollow sound	Refer attachment 1-TYPE XVII
k)	Bedroom Balcony	Lintel Beam			Major Structural crack, Window top lintel found with crack	Refer attachment 1-TYPE VI, TYPE XIX
l)	Bedroom Balcony	Lintel Beam			Structural crack, Window top lintel found with crack	Refer attachment 1-TYPE VI, TYPE XIX

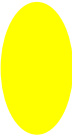
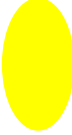
m)	Bedroom Balcony	Lintel Beam			Structural crack, Window top lintel found with crack	Refer attachment 1-TYPE VI, TYPE XIX
n)	Kitchen	Ceiling			Seepage marks	Refer attachment 1-TYPE III
o)	Kitchen	Lintel beam			Window top lintel found with crack	Refer attachment 1-TYPE XIX
Flat 2-17						
a)	Living Room	Column C 4			Major structural crack	Refer attachment 1-TYPE VI

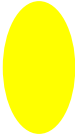
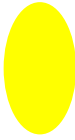
b)	Living Room	Column C 3			Structural crack, Column with hollow sound	Refer attachment 1-TYPE VI, TYPE XVII
c)	Bedroom	Column C 8			Structural crack	Refer attachment 1-TYPE VI
d)	Kitchen	Chajja			Major Structural crack	Refer attachment 1-TYPE VI
Flat 2-18						
a)	Living Room	Column C 11			Major Structural crack, Column with hollow sound	Refer attachment 1-TYPE VI, XVII

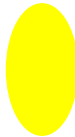
b)	Bedroom	Beam			Structural crack	Refer attachment 1-TYPE VI
c)	Bedroom	Column C 14			Major Structural crack	Refer attachment 1-TYPE VI
d)	Bedroom Balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
Flat 2-19						
a)	Living Room	Column C 15			Plaster crack	Refer attachment 1-TYPE V

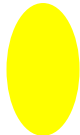
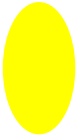
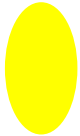
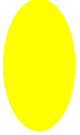
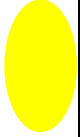
b)	Bedroom	Column C 18			Structural crack, column with hollow sound	Refer attachment 1-TYPE VI, TYPE XVII
c)	Bedroom	Beam			Plaster crack, Plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII
d)	Bedroom Balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
e)	Bedroom Balcony	Lintel Beam			Tile crack	Refer attachment 1-TYPE I
f)	Kitchen	Beam			Plaster crack	Refer attachment 1-TYPE V

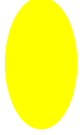
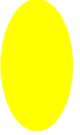
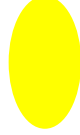
g)	Kitchen	Chajja			Structural crack	Refer attachment 1-TYPE VI
Flat 2-20						
a)	Living Room	Beam			Structural crack	Refer attachment 1-TYPE VI
b)	Living Room	Column C 22			Column with Hollow sound	Refer attachment 1-TYPE XVII
c)	Living Room	Column C 20			Column with hollow sound	Refer attachment 1-TYPE XVII

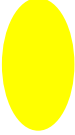
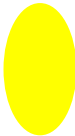
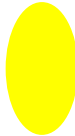
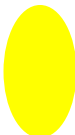
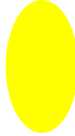
d)	Living Room	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
e)	Kitchen	Column C 26			Column with hollow sound	Refer attachment 1-TYPE XVII
f)	Kitchen	Chajja			Major structural crack	Refer attachment 1-TYPE VI
g)	Toilet	Ceiling			Seepage Marks	Refer attachment 1-TYPE III

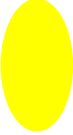
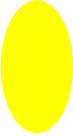
h)	Bedroom 1	Column C 25			Structural crack	Refer attachment 1-TYPE VI
i)	Bedroom 1	Column C 24			Major Structural crack	Refer attachment 1-TYPE VI
j)	Bedroom 1	Beam			Plaster crack	Refer attachment 1-TYPE V
k)	Bedroom 1	Column C 23			Column with hollow sound	Refer attachment 1-TYPE XVII

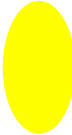
Sr No.	LOCATION	AREA DESCRIPTION		PHOTOS	DEFECTS	PROCESS FOR AMELIORATIONS
Terrace						
a)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
b)	Building 2 Terrace	Parapet wall			Structural cracks	Refer attachment 1-TYPE VI
c)	Building 2 Terrace	Parapet wall			Plaster cracks, plaster with hollow sound	Refer attachment 1-TYPE V, Type XVIII
d)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V

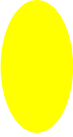
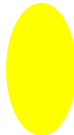
e)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
f)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
g)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
h)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
i)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V

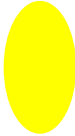
j)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
k)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
l)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
m)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
n)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V

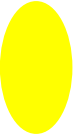
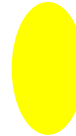
o)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
p)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
q)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
r)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
s)	Building 2 Terrace	Parapet wall			Plaster cracks, Seepages	Refer attachment 1-TYPE V, TYPE XI

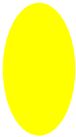
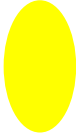
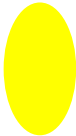
t)	Building 2 Terrace	Parapet wall			Plaster cracks, seepages	Refer attachment 1-TYPE V, TYPE XI
u)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
v)	Building 2 Terrace	Parapet wall			Major structural crack	Refer attachment 1-TYPE VI
w)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
x)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V

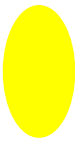
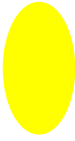
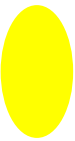
y)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
z)	Building 2 Terrace	Parapet wall			Plaster cracks	Refer attachment 1-TYPE V
aa)	Building 2 Terrace	Wall			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
ab)	Building 2 Terrace	Floor			Floor cracks	Refer attachment 1-TYPE I

ac)	Building 2 Terrace	Water tank Floor			Plaster cracks, Seepages	Refer attachment 1-TYPE V, TYPE XI
ad)	Building 2 Terrace	Water Tank floor			Plaster cracks, Seepages	Refer attachment 1-TYPE V, TYPE XI
ae)	Building 2 Terrace	Water Tank floor			Surface hair line cracks	Refer attachment 1- TYPE XXI
af)	Building 2 Terrace	Water Tank floor			Major plaster cracks	Refer attachment 1-TYPE V
ag)	Building 2 Terrace	Water Tank floor			Major plaster cracks	Refer attachment 1-TYPE V

ah)	Building 2 Terrace	Water Tank floor			Major plaster cracks	Refer attachment 1-TYPE V
Staircase						
a)	Building 2 Staircase Mumpty Room	Beam & wall			Separation crack, plaster with hollow sound	Refer attachment 1-TYPE X, TYPE XVIII
b)	Building 2 Staircase Mumpty Room	Wall			Capillary action marks, Plaster with hollow sound at bottom	Refer attachment 1-TYPE IV. TYPE XVIII
c)	Building 2 Staircase Mumpty Room	Ceiling			Seepages from water tank, Ceiling cracks	Refer attachment 1-TYPE XI, TYPE XIII

d)	Building 2 Staircase 4 th Floor	Wall			Plaster cracks	Refer attachment 1-TYPE V
e)	Building 2 Staircase 4 th Floor	Beam			Structural crack	Refer attachment 1-TYPE VI
f)	Building 2 Staircase 4 th Floor	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
g)	Building 2 Staircase 3 rd Floor	Waist slab			Plaster crack, Plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII
h)	Building 2 Staircase 3 rd Floor	Handrail			Structural crack	Refer attachment 1-TYPE VI

i)	Building 2 Staircase 3 rd Floor	Wall			Seepages from external, plaster with hollow sound	Refer attachment 1-TYPE XI, TYPE XVIII
j)	Building 2 Staircase 3 rd Floor	Ceiling			Seepage marks	Refer attachment 1-TYPE III
k)	Building 2 Staircase 2 nd Floor	Waist slab			Plaster crack, plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII
l)	Building 2 Staircase 2 nd Floor	Waist slab			Plaster crack, Plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII

m)	Building 2 Staircase 2 nd Floor	Waist slab			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
n)	Building 2 Staircase 1 st Floor	Waist slab			Structural crack, Plaster with hollow sound	Refer attachment 1-TYPE VI, TYPE XVIII
o)	Building 2 Staircase 1 st Floor	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
External						
a)	External	Column			Major Structural crack	Refer attachment 1-TYPE VI

b)	External	Column			Major structural crack	Refer attachment 1-TYPE VI
c)	External	Lintel Beam			Major structural crack	Refer attachment 1-TYPE VI
d)	External	Plumbing line			Water dripping, Major seepages from pipeline	Refer attachment 1-TYPE XI
e)	External	Column			Major structural crack	Refer attachment 1-TYPE VI

f)	External	Plumbing line			Water dripping, Major seepages from pipeline	Refer attachment 1-TYPE XI
g)	External	Balcony			Major structural crack	Refer attachment 1-TYPE VI
h)	External	Chajja			Major structural crack, Seepages	Refer attachment 1-TYPE VI
i)	External	Column			Major structural crack	Refer attachment 1-TYPE VI

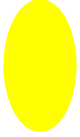
j)	External	Beam			Structural crack	Refer attachment 1-TYPE VI
k)	External	Column			Major structural crack	Refer attachment 1-TYPE VI
l)	External	Column			Major structural crack	Refer attachment 1-TYPE VI
m)	External	Column			Major structural crack	Refer attachment 1-TYPE VI

n)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
o)	External	Chajja			Major structural crack (reinforcement corroded & Plaster spall off)	Refer attachment 1-TYPE VI
p)	External	Column			Major structural crack	Refer attachment 1-TYPE VI
q)	External	Pipeline			Seepages, Leakages through pipeline	Refer attachment 1-TYPE XI

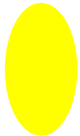
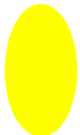
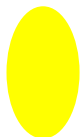
r)	External	Chajja			Major structural crack	Refer attachment 1-TYPE VI
s)	External	Column			Major structural crack	Refer attachment 1-TYPE VI
t)	External	Column			Major structural crack	Refer attachment 1-TYPE VI
u)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI

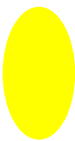
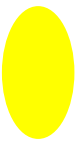
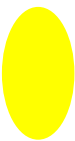
v)	External	Column			Structural crack	Refer attachment 1-TYPE VI
w)	External	Plumbing			Seepages from external pipelines	Refer attachment 1-TYPE XI
x)	External	Plumbing			Seepages from external pipelines, Vegetation	Refer attachment 1-TYPE XI
y)	External	Dead Wall			Plaster cracks, Plaster with hollow sound (Major leakages from external)	Refer attachment 1-TYPE V, TYPE XVIII

z)	External	Wall			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
aa)	External	Chajja			Major structural crack	Refer attachment 1-TYPE VI
ab)	External	Dead Wall			Structural crack, Major seepages	Refer attachment 1-TYPE VI, TYPE XI
ac)	External	Chajja			Plaster cracks	Refer attachment 1-TYPE V

ad)	External	Wall			Plaster cracks	Refer attachment 1-TYPE V
ae)	external	Beam			Structural crack	Refer attachment 1-TYPE VI
af)	External	Dead Wall			Plaster cracks, Plaster with hollow sound (Source of leakages inside the Flat)	Refer attachment 1-TYPE V, TYPE XVIII
ag)	External	Chajja			Plaster crack	Refer attachment 1-TYPE V

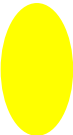
ah)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
ai)	External	Column			Major structural crack	Refer attachment 1-TYPE VI

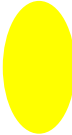
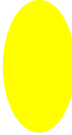
Sr No.	LOCATION	AREA DESCRIPTION		PHOTOS	DEFECTS	PROCESS FOR AMELIORATIONS
Flat 3A - 1						
a)	Living room	Column C 2			Column with hollow sound	Refer attachment 1-TYPE XVII
b)	Living room	Column C 1			Column with hollow sound	Refer attachment 1-TYPE XVII
c)	Living Room	Beam			Structural crack	Refer attachment 1-TYPE VI
d)	Toilet	Sunk			Seepage marks	Refer attachment 1-TYPE III

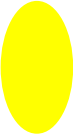
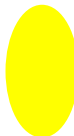
e)	Bedroom 1	Column C 6			Structural crack	Refer attachment 1-TYPE VI
f)	Bedroom 1	Column C 4			Column with hollow sound	Refer attachment 1-TYPE XVIII
Flat 3A - 4						
a)	Bedroom 1	Column C 5			Plaster crack, column with hollow sound	Refer attachment 1-TYPE V, TYPE XVII
b)	Bedroom 1	Column 7			Column with hollow sound	Refer attachment 1-TYPE XVII

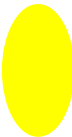
Flat 3A - 5

a)	Living Room	Beam			Structural crack	Refer attachment 1-TYPE VI
b)	Living Room	Column C 8			Major structural crack	Refer attachment 1-TYPE VI
c)	Living Room	False ceiling			(Need to check)	Refer attachment 1-TYPE
d)	Kitchen	Column C 9			Major structural crack	Refer attachment 1-TYPE VI

e)	Kitchen	Ceiling			Seepages from flat no 3A/8	Refer attachment 1-TYPE XI
f)	Bathroom	Ceiling			Ceiling seepages from flat no 3A/8	Refer attachment 1-TYPE XI
g)	Bathroom	Ceiling			Ceiling seepages from flat no 3A/8	Refer attachment 1-TYPE XI
h)	Bedroom 1	Column C 13			Major Structural crack	Refer attachment 1-TYPE VI

i)	Bedroom	Column C 14			Plaster crack	Refer attachment 1-TYPE V
j)	Bedroom	Column C 16			Plaster crack, Column with hollow sound	Refer attachment 1-TYPE V, TYPE XVII
k)	Bedroom	Beam			Major structural crack	Refer attachment 1-TYPE VI
l)	Bedroom	Chajja			Major structural crack	Refer attachment 1-TYPE VI
m)	Bedroom	Chajja			Plaster crack	Refer attachment 1-TYPE V

n)	Bedroom 1	Wall			Seepages from adjacent bathroom	Refer attachment 1-TYPE XI
o)	Living Room	Column C 18			Major structural crack	Refer attachment 1-TYPE VI
Flat 3A - 6						
a)	Living Room	Column C 20			Plaster crack, Column with hollow sound	Refer attachment 1-TYPE V, TYPE XVII
b)	Living Room	Column C 20			Structural crack	Refer attachment 1-TYPE VI

c)	Bedroom 1	Column C 21			Structural crack, Column with hollow sound	Refer attachment 1-TYPE VI, TYPE XVII
d)	Bedroom 1	Beam			Structural crack	Refer attachment 1-TYPE VI
e)	Kitchen	Ceiling			Ceiling cracks, (reinforcement corroded)	Refer attachment 1-TYPE XIII
f)	Kitchen	Sunk			Seepage from flat no 3A/9	Refer attachment 1-TYPE XI
g)	Kitchen	Chajja			Major structural crack	Refer attachment 1-TYPE VI

Flat 3A - 7

a)	Living Room	Lintel Beam			Window top lintel found with crack	Refer attachment 1-TYPE XIX
b)	Living room	Column C 3			Column with hollow sound	Refer attachment 1-TYPE XVII
c)	Living Room	Ceiling			Ceiling crack	Refer attachment 1-TYPE XIII
d)	Bedroom	Ceiling			Major structural crack, ceiling cracks (Reinforcement corroded)	Refer attachment 1-TYPE VI, TYPE XIII

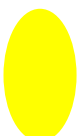
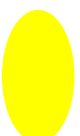
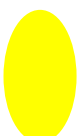
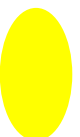
e)	Bedroom	Beam			Major structural crack	Refer attachment 1-TYPE VI
f)	Bedroom	Beam			Major structural crack	Refer attachment 1-TYPE VI
g)	Bedroom Balcony	Ceiling			Ceiling cracks, Structural crack (Reinforcement corroded & Plaster spall off)	Refer attachment 1-TYPE XIII, TYPE VI
h)	Bathroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
i)	Toilet	Ceiling			Ceiling cracks. Seepages	Refer attachment 1-TYPE XIII, TYPE XI

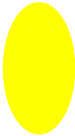
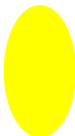
j)	Bedroom	Balcony			Window Top lintel found with crack	Refer attachment 1-TYPE XIX
k)	Passage	Beam			Seepage from flat no 3A/10	Refer attachment 1-TYPE XI
l)	Passage	Ceiling			Seepage from flat no 3A/10	Refer attachment 1-TYPE XI
m)	Passage	Chajja			Major structural crack	Refer attachment 1-TYPE VI

Flat 3A - 8

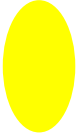
a)	Living room	Column C 8			Column with hollow sound t bottom	Refer attachment 1-TYPE XVII
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b)	Kitchen	Ceiling			Major seepages from flat no 3A/11, Water dripping	Refer attachment 1-TYPE XI, TYPE IX
c)	Kitchen	Chajja			Structural crack	Refer attachment 1-TYPE VI
d)	Kitchen	Ceiling			Major seepages from flat no 3A/11, Water dripping	Refer attachment 1-TYPE XI, TYPE IX
e)	Bedroom	Column C 13			Column with hollow sound	Refer attachment 1-TYPE XVII

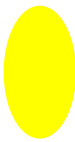
f)	Bedroom	Column C 14			Column with hollow sound	Refer attachment 1-TYPE XVII
g)	Bedroom	Column C 16			Column with hollow sound	Refer attachment 1-TYPE XVII
Flat 3A - 9						
a)	Living Room	Column C 20			Column with hollow sound	Refer attachment 1-TYPE XVII
b)	Living room	Ceiling			Ceiling crack	Refer attachment 1-TYPE XIII

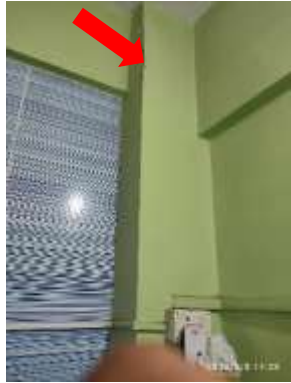
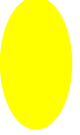
c)	Bedroom	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
d)	Bedroom	Column C 21			Structural crack at bottom	Refer attachment 1-TYPE VI
e)	Bedroom 1 Balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
f)	Bedroom 1	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII

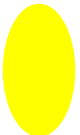
g)	Toilet	Ceiling			Ceiling cracks (Reinforcement corroded & plaster spall off)	Refer attachment 1-TYPE XIII
h)	Toilet	Sunk			Major seepage from flat no 3A/12	Refer attachment 1-TYPE XI
i)	Toilet	Beam			Major structural crack	Refer attachment 1-TYPE VI
j)	Bedroom 2	Column			Major structural crack	Refer attachment 1-TYPE VI

k)	Bedroom 2	Column C 8			Column with hollow sound	Refer attachment 1-TYPE XVII
l)	Bedroom 2	Lintel Beam			Window top lintel found with crack	Refer attachment 1-TYPE XIX
m)	Bedroom 2 External	Chajja			Major structural crack (Corroded & plaster spall off)	Refer attachment 1-TYPE VI
n)	Bathroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII

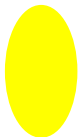
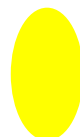
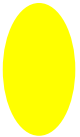
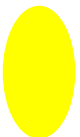
o)	Kitchen	Ceiling			Ceiling cracks (Corroded & plaster spall off)	Refer attachment 1-TYPE XIII
p)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
q)	Kitchen	Chajja			Major structural crack (Corroded & plaster spall off)	Refer attachment 1-TYPE VI
Flat 3A - 10						
a)	Living room	Column C 1			Plaster crack	Refer attachment 1-TYPE V

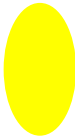
b)	Living Room	Beam			Plaster crack	Refer attachment 1-TYPE V
c)	Living Room	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
d)	Living room	Beam			Structural crack	Refer attachment 1-TYPE VI
e)	Living room	Column C 2			Structural crack, Column with hollow sound	Refer attachment 1-TYPE VI, TYPE XVIII
f)	Living Room Balcony	Ceiling			Major structural crack, Ceiling cracks (Plaster spall off)	Refer attachment 1-TYPE VI, TYPE XIII

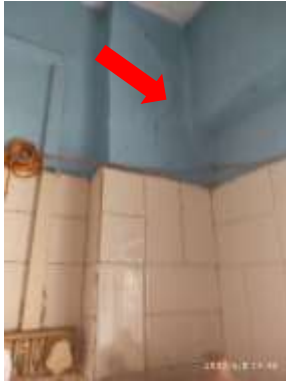
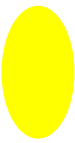
g)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
h)	Bedroom 1	Column C 3			Major structural crack	Refer attachment 1-TYPE VI
i)	Bedroom 1	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
j)	Bedroom 1	Beam			Structural cracks	Refer attachment 1-TYPE VI
k)	Bedroom 1	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII

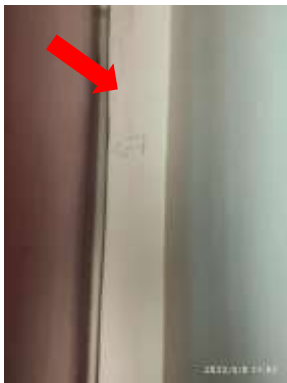
l)	Bedroom 1	Beam			Structural crack	Refer attachment 1-TYPE VI
m)	Bedroom 1	Lintel beam			Window top lintel found with crack, Structural crack	Refer attachment 1-TYPE XIX
n)	Kitchen	Column C 4			Major structural crack	Refer attachment 1-TYPE VI
Flat 3A - 11						
a)	Living Room	Column C 8			Plaster crack, Column with hollow sound	Refer attachment 1-TYPE V, TYPE XVII

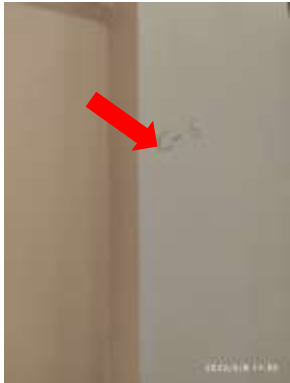
b)	Kitchen	Beam			Seepages from flat no 3A/14	Refer attachment 1-TYPE XI
c)	Kitchen	Chajja			Structural crack	Refer attachment 1-TYPE VI
d)	Bathroom	Ceiling			Seepages from flat no 3A/14	Refer attachment 1-TYPE XI
e)	Toilet	Wall			Seepages from flat no 3A/14	Refer attachment 1-TYPE XI

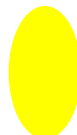
f)	Bedroom	Column C 13			Column with hollow sound	Refer attachment 1-TYPE XVII
g)	Bedroom	Column C 14			Column with hollow sound	Refer attachment 1-TYPE XVII
h)	Bedroom	Column C 15			Column with hollow sound	Refer attachment 1-TYPE XVII
Flat 3A - 12						
a)	Living Room	Column C 19			Plaster crack	Refer attachment 1-TYPE V

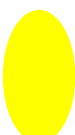
b)	Living Room	Beam			Plaster crack	Refer attachment 1-TYPE V
c)	Bedroom	Column C 12			Major structural crack	Refer attachment 1-TYPE VI
d)	Bedroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
e)	Bedroom	Beam			Structural crack	Refer attachment 1-TYPE VI
f)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII

g)	Kitchen	Column C 22			Structural crack	Refer attachment 1-TYPE VI
h)	Bedroom 2	Beam			Plaster cracks	Refer attachment 1-TYPE V
Flat 3A - 13						
a)	Loving room	Column C 1			Structural crack	Refer attachment 1-TYPE VI
b)	Living Room	Beam			Structural crack	Refer attachment 1-TYPE VI

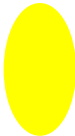
c)	Living room	Column C 2			Major structural crack	Refer attachment 1-TYPE VI
d)	Kitchen	Column C 3			Tile crack (need to remove & check)	Refer attachment 1-TYPE I
e)	Bedroom 1	Column C 5			Structural crack	Refer attachment 1-TYPE VI
f)	Bedroom	Column C 7			Structural crack	Refer attachment 1-TYPE VI

g)	Bedroom	Column C 6			Column with hollow sound	Refer attachment 1-TYPE XVII
Flat 3A - 14						
a)	Living Room	Column C 8			Major structural crack	Refer attachment 1-TYPE VI
b)	Bedroom balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
c)	Bedroom balcony	Wall			Plaster crack	Refer attachment 1-TYPE V

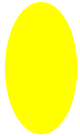
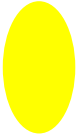
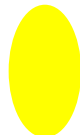
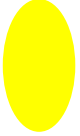
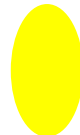
d)	External	Chajja			Major structural crack	Refer attachment 1-TYPE VI
e)	Bedroom 2	Column C 16			Major Structural crack (Structural distress)	Refer attachment 1-TYPE VI
f)	Bedroom 2	Column C 16			Major Structural crack (Structural distress)	Refer attachment 1-TYPE VI
g)	Bedroom 2	beam			Plaster crack	Refer attachment 1-TYPE V

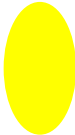
h)	Bedroom 2	Lintel beam			Window top lintel found with crack	Refer attachment 1-TYPE XIX
i)	Bathroom	Beam			Plaster crack	Refer attachment 1-TYPE V
j)	Kitchen	Wall			Capillary action marks from adjacent bathroom	Refer attachment 1-TYPE IV
k)	Kitchen	Wall			Capillary action marks from adjacent bathroom	Refer attachment 1-TYPE IV
l)	Kitchen	Beam			Major structural crack	Refer attachment 1-TYPE VI

Flat 3A - 15

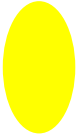
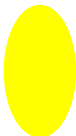
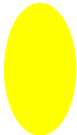
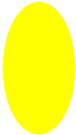
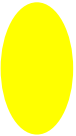
a)	Living Room	Column C 20			Structural crack, column with hollow sound	Refer attachment 1-TYPE VI, TYPE XVII
b)	Living Room	Column C 19			Major structural crack at bottom of column	Refer attachment 1-TYPE VI
c)	Toilet	Column C 22			Structural crack	Refer attachment 1-TYPE VI
d)	Bedroom	Column C 8			Column with hollow sound	Refer attachment 1-TYPE XVII

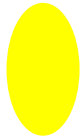
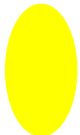
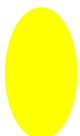
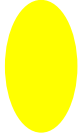
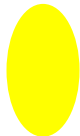
e)	External	Chajja			Major structural crack	Refer attachment 1-TYPE VI
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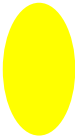
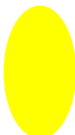
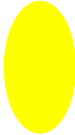
Sr No.	LOCATION	AREA DESCRIPTION		PHOTOS	DEFECTS	PROCESS FOR AMELIORATIONS
Terrace						
a)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
b)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
c)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
d)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
e)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V

f)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
g)	Terrace	Column			Structural crack	Refer attachment 1-TYPE VI
h)	Terrace	Column			Structural crack, Column with hollow sound	Refer attachment 1-TYPE VI, TYPE XVII
i)	Terrace	Chajja			Structural crack	Refer attachment 1-TYPE VI

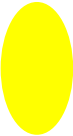
j)	Terrace	Column			Column with hollow sound	Refer attachment 1-TYPE XVII
k)	Terrae	Wall			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
l)	Terrace	Wall			Plaster crack	Refer attachment 1-TYPE V
m)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
n)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V

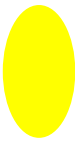
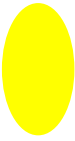
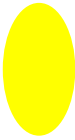
o)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
p)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
q)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
r)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
s)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V

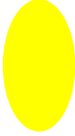
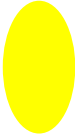
t)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
u)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
v)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
w)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
x)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V

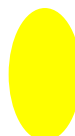
y)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
z)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
aa)	Terrace	Parapet wall			Plaster crack	Refer attachment 1-TYPE V
ab)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI
ac)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI

ad)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI
ae)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI
af)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI
ag)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI

ah)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI
ai)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI
aj)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI
ak)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI
Staircase						

a)	Mumpty Room	Wall			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
b)	Mumpty Room	Wall			Plaster with hollow sound, Plaster crack	Refer attachment 1-TYPE XVIII, TYPE V
c)	Staircase 4 th Floor	Ceiling			Ceiling cracks (plaster spall off)	Refer attachment 1-TYPE XIII
d)	Staircase 3 rd Floor	Wall			Plaster with hollow sound	Refer attachment 1-TYPE XVIII

e)	Staircase 3 rd Floor	Beam			Structural crack	Refer attachment 1-TYPE VI
g)	Staircase 3 rd Floor	RCC Grill			Structural crack	Refer attachment 1-TYPE VI
h)	Staircase 3 rd Floor	Wall			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
i)	Staircase 2 nd Floor	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
j)	Staircase 2 nd Floor	Rcc Grills			Damaged	-

k)	Staircase 2 nd Floor	Beam			Major Structural crack	Refer attachment 1-TYPE VI
l)	Staircase 1 st Floor	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
m)	Staircase 1 st Floor	Beam			Structural crack	Refer attachment 1-TYPE VI
n)	Staircase 1 st Floor	Beam			Structural crack	Refer attachment 1-TYPE VI
o)	Staircase 1 st Floor	Wall			Plaster with hollow sound	Refer attachment 1-TYPE XVIII

p)	Ground Floor	Waist slab			Major structural crack (Corroded & plaster spall off)	Refer attachment 1-TYPE VI
q)	Ground floor	Chajja			Structural crack	Refer attachment 1-TYPE VI
External						
a)	External	Dead Wall			Seepages, Plaster cracks	Refer attachment 1-TYPE XI, TYPE V
b)	External	RCC grills			Damaged	-

c)	External	RCC Grills			Damaged	-
d)	External	Column			Major structural crack (Structural distress)	Refer attachment 1-TYPE VI
e)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI
f)	External	Chajja			Structural crack	Refer attachment 1-TYPE VI

g)	External	Wall			Seepages, Plaster cracks	Refer attachment 1-TYPE XI, TYPE V
h)	External	Wall			Seepages, Plaster crack	Refer attachment 1-TYPE XI, TYPE V
i)	External	Wall			Plaster spall off, Damaged	-
j)	External	Plumbing Line			Water dripping, Seepages	Refer attachment 1-TYPE IX, TYPE XI

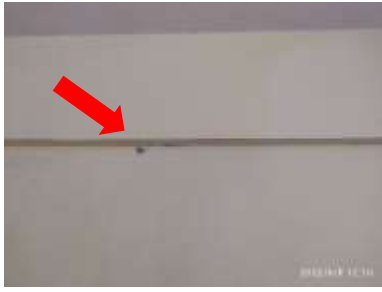
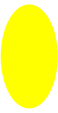
k)	External	Beam			Structural crack	Refer attachment 1-TYPE VI
l)	External	Column			Major structural crack, Structural distress	Refer attachment 1-TYPE VI
m)	External	Column			Structural crack	Refer attachment 1-TYPE VI
n)	External	Plumbing Line			Major seepages, water dripping, Vegetation	Refer attachment 1-TYPE XI, TYPE IX, TYPE XXII

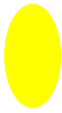
o)	External	Plumbing Line			Major seepages, water dripping, Vegetation	Refer attachment 1-TYPE XI, TYPE IX, TYPE XXII
p)	External	Plumbing Line			Major seepages, water dripping, Vegetation	Refer attachment 1-TYPE XI, TYPE IX, TYPE XXII
q)	external	Chajja			Structural crack (Plaster spall off)	Refer attachment 1-TYPE VI

Sr No.	LOCATION	AREA DESCRIPTION		PHOTOS	DEFECTS	PROCESS FOR AMELIORATIONS
Flat 3B - 16						
a)	Bedroom 1	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
b)	Kitchen	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
c)	Kitchen	Column C 7			Tile cracks (need to check inside)	Refer attachment 1-TYPE I
d)	Bedroom 2	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
Flat 3B - 17						

a)	Living Room	Wall			Capillary action marks from adjacent bathroom	Refer attachment 1-TYPE IV
b)	Living room	Beam			Plaster crack	Refer attachment 1-TYPE V
c)	Kitchen	Ceiling			Seepages from flat no 3B/20	Refer attachment 1-TYPE XI
d)	Bedroom 1	Wall			Capillary action marks from adjacent bathroom	Refer attachment 1-TYPE IV
e)	Bedroom 1	Wall			Plaster crack	Refer attachment 1-TYPE V

f)	Bedroom 2	Beam			Major structural crack	Refer attachment 1-TYPE VI
g)	Bedroom 2	Column C 17			Structural crack	Refer attachment 1-TYPE VI
h)	Bedroom 2	Column C 16			Major structural crack	Refer attachment 1-TYPE VI
i)	Bedroom 2	Wall			Seepages from flat no 3B/20	Refer attachment 1-TYPE XI

j)	Bedroom 2	Lintel beam			Major structural crack. Window top lintel found with crack	Refer attachment 1-TYPE VI, TYPE XIX
k)	Bedroom 2	Beam			Plaster crack	Refer attachment 1-TYPE V
l)	Toilet	Sunk			Seepages from flat 3B/20	Refer attachment 1-TYPE XI
Flat 3B - 18						
a)	Living Room	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII

b)	Living Room	Wall			Capillary action marks from adjacent bathroom	Refer attachment 1-TYPE IV
c)	Living Room	Wall			Capillary action marks from adjacent bathroom	Refer attachment 1-TYPE IV
d)	Living Room	Wall			Capillary action marks from adjacent bathroom	Refer attachment 1-TYPE IV
e)	Bedroom	Column C 23			Column with hollow sound	Refer attachment 1-TYPE XVII

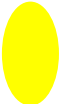
Flat 3B - 19

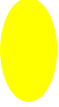
a)	Living Room	Beam			Beam with hollow sound	Refer attachment 1-TYPE XVIII
b)	Living Room	Column C 4			Column with hollow sound	Refer attachment 1-TYPE XVII
Flat 3B - 20						
a)	Living Room	Column C 10			Structural crack at top	Refer attachment 1-TYPE VI
b)	Living Room	Lintel beam			Structural crack	Refer attachment 1-TYPE VI

c)	Living Room Balcony	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
d)	Living Room	Beam			Major structural crack	Refer attachment 1-TYPE VI
e)	Bedroom 1	Wall			Plaster crack, Plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII
f)	Bedroom 1	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
g)	Bedroom 1	Beam			Plaster crack, plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII

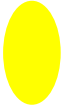
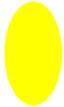
h)	Bedroom 1	Beam			Major structural crack	Refer attachment 1-TYPE VI
i)	Bedroom 1	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
j)	Kitchen	Lintel Beam			Major structural crack, Window top lintel found with crack	Refer attachment 1-TYPE VI, TYPE XIX
k)	Kitchen	Ceiling			Seepages from flat no 3B/23	Refer attachment 1-TYPE XI
l)	Kitchen	Chajja			Major structural crack	Refer attachment 1-TYPE VI

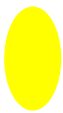
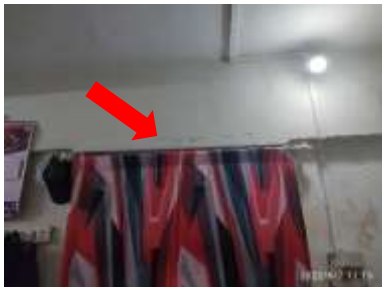
m)	Passage	Ceiling			Seepages from flat no 3B/23 bathroom	Refer attachment 1-TYPE XI
n)	Passage	Ceiling			Ceiling cracks, Major structural crack (Steel corroded & Plaster spall off)	Refer attachment 1-TYPE XIII, TYPE VI
o)	Passage	Beam			Major structural crack (need immediate support)	Refer attachment 1-TYPE VI
p)	Bedroom 2	Column C 14			Structural crack	Refer attachment 1-TYPE VI
q)	Bedroom 2	Beam			Structural crack	Refer attachment 1-TYPE VI

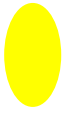
r)	Bedroom 2	Column C 15			Major structural crack	Refer attachment 1-TYPE VI
s)	Bedroom 2	Beam			Structural crack, Window top lintel found with crack	Refer attachment 1-TYPE VI, TYPE XIX
t)	Bedroom 2	Column C 18			Major Structural crack	Refer attachment 1-TYPE VI
u)	Bedroom 2	Column C 17			Structural crack	Refer attachment 1-TYPE VI
Flat 3B - 21						

a)	Living Room	Column C 18			Column with hollow sound	Refer attachment 1-TYPE XVII
b)	Living room	Beam			Structural crack	Refer attachment 1-TYPE VI
c)	Living Room	Beam			Plaster crack	Refer attachment 1-TYPE V
d)	Living room	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII

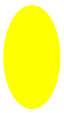
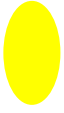
e)	Living Room	Beam			Major structural crack	Refer attachment 1-TYPE VI
f)	Kitchen	Ceiling			Major seepages from flat no 3B/24	Refer attachment 1-TYPE XI
g)	Kitchen	Beam			Major structural crack	Refer attachment 1-TYPE VI
h)	Kitchen	Column C 20			Major structural crack	Refer attachment 1-TYPE VI

i)	Bathroom	ceiling			Major seepages from flat no 3B/24	Refer attachment 1-TYPE XI
j)	Toilet	Sunk			Major seepages from flat no 3B/24	Refer attachment 1-TYPE XI
k)	Passage	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
l)	Passage	Beam			Structural crack	Refer attachment 1-TYPE VI
m)	Passage	Lintel Beam			Structural crack	Refer attachment 1-TYPE VI

n)	Bedroom	Column C 24			Structural crack	Refer attachment 1-TYPE VI
o)	Bedroom	Beam			Structural crack	Refer attachment 1-TYPE VI
p)	Bedroom	Wall			Seepages from external from damaged pipes	Refer attachment 1-TYPE XI
q)	Bedroom	Lintel beam			Structural crack	Refer attachment 1-TYPE VI

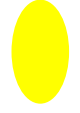
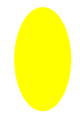
r)	Bedroom	Beam			Major structural crack	Refer attachment 1-TYPE VI
s)	Bedroom	Column C 23			Plaster crack, Column with hollow sound	Refer attachment 1-TYPE V, TYPE XVII

Flat 3B - 22

a)	Living Room	Column C 4			Column with hollow sound	Refer attachment 1-TYPE XVII
b)	Living room	Column C 2			Column with hollow sound	Refer attachment 1-TYPE XVII

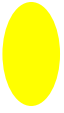
c)	Living Room	Column C 3			Structural crack at bottom	Refer attachment 1-TYPE VI
d)	Bedroom	beam			Structural crack	Refer attachment 1-TYPE VI
e)	Kitchen	Sunk			Seepage from flat no 3B/25	Refer attachment 1-TYPE XI
f)	Kitchen	Ceiling			Ceiling crack	Refer attachment 1-TYPE XIII
g)	Bedroom	Beam			Major structural crack (Structural distress)	Refer attachment 1-TYPE VI

h)	Bedroom	Beam & Column			Major seepages from flat no 3B/25	Refer attachment 1-TYPE XI
i)	Bedroom	Balcony Ceiling			Major structural crack, Ceiling crack (Plaster spall off)	Refer attachment 1-TYPE VI, TYPE XIII
j)	Bedroom	Lintel beam			Structural crack, Window top lintel found with crack	Refer attachment 1-TYPE VI, TYPE XIX
k)	Bedroom	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
l)	Toilet	Sunk			Major seepages from flat no 3B/25	Refer attachment 1-TYPE XI

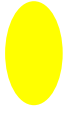
m)	Bathroom	Ceiling			Major seepages from flat no 3B/25	Refer attachment 1-TYPE XI
n)	Passage	Beam			Major structural crack	Refer attachment 1-TYPE VI
o)	Passage	Ceiling			Major seepages from flat no 3B/25	Refer attachment 1-TYPE XI
Flat 3B - 23						
a)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
b)	Bedroom	Floor			Sloping down	Refer attachment 1-TYPE

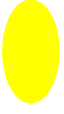
c)	Bedroom	Floor			Floor tile uplift	Refer attachment 1-TYPE XXVI
d)	Passage	Wall			Tile crack	Refer attachment 1-TYPE I
e)	Passage	Column C 15			Major structural crack	Refer attachment 1-TYPE VI
f)	Bedroom	Lintel beam			Window top lintel found with crack	Refer attachment 1-TYPE XIX
g)	Bedroom	Ceiling			Ceiling crack	Refer attachment 1-TYPE XIII

Flat 3B - 24

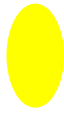
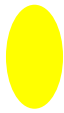
a)	Living Room	Ceiling			Seepages from Flat no 3B/27	Refer attachment 1-TYPE XI
b)	Living Room	Column			Column with hollow sound	Refer attachment 1-TYPE XVII
c)	Living Room	Beam			Structural crack	Refer attachment 1-TYPE VI
d)	Kitchen	Ceiling			Seepages from Flat no 3B/27	Refer attachment 1-TYPE XI
e)	Bedroom 1	Ceiling			Seepages from Flat no 3B/27	Refer attachment 1-TYPE XI

f)	Bedroom	Wall			Capillary action marks	Refer attachment 1-TYPE IV
Flat 3B - 25						
a)	Living Room	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
b)	Living Room	Beam			Major structural crack (need support immediately)	Refer attachment 1-TYPE VI
c)	Living room	Column C 1			Plaster crack, column with hollow sound	Refer attachment 1-TYPE V, TYPE XVII
d)	Living Room Balcony	Beam			Plaster crack, plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII

e)	Living room	Column C 2			Major structural crack	Refer attachment 1-TYPE VI
f)	Living room	Beam			Structural crack	Refer attachment 1-TYPE VI
g)	Bedroom	Column C 5			Column with hollow sound, Reinforcement visible	Refer attachment 1-TYPE XVII
h)	Bedroom 1	Beam			Major structural crack	Refer attachment 1-TYPE VI

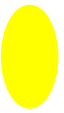
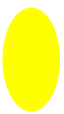
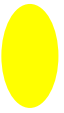
i)	Bedroom	Lintel Beam			Window top lintel found with crack	Refer attachment 1-TYPE XIX
j)	Bedroom balcony	Ceiling			Ceiling crack	Refer attachment 1-TYPE XIII
k)	Bedroom 1	Beam			Separation crack	Refer attachment 1-TYPE X
l)	Bedroom 1	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
m)	Passage	Wall			Capillary action marks from adjacent bathroom	Refer attachment 1-TYPE IV

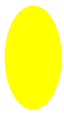
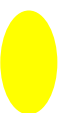
n)	Toilet	Ceiling			Seepages from flat no 3B/28	Refer attachment 1-TYPE XI
o)	Bathroom	ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
p)	Bathroom	ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
q)	Passage	Wall			Seepages from adjacent bathroom	Refer attachment 1-TYPE XI
r)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII

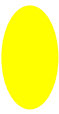
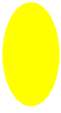
s)	Bedroom 2	Beam			Plaster crack, beam found with crack	Refer attachment 1-TYPE V, TYPE XVIII
t)	Bedroom 1	Ceiling			Ceiling crack	Refer attachment 1-TYPE XIII
u)	Living room	Column C 3			Structural crack	Refer attachment 1-TYPE VI

Flat 3B - 26

a)	Living room	Column C 10			Structural crack	Refer attachment 1-TYPE VI
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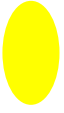
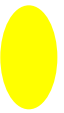
b)	Living Room	Beam			Structural crack	Refer attachment 1-TYPE VI
c)	Living Room	Beam			Structural crack	Refer attachment 1-TYPE VI
d)	Living Room	Lintel Beam			Tile crack	Refer attachment 1-TYPE I
e)	Bedroom 1	Beam			Plaster crack	Refer attachment 1-TYPE V
f)	Bedroom 1	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII

g)	Bedroom 1	Beam			Plaster crack, plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII
h)	Bedroom 1 Balcony	Ceiling			Ceiling cracks (Steel corroded & plaster spill out)	Refer attachment 1-TYPE XIII
i)	Kitchen	Sunk			Seepage marks	Refer attachment 1-TYPE III
j)	Kitchen	Beam			Beam found with crack	Refer attachment 1-TYPE XV
k)	Passage	Ceiling			Seepage marks	Refer attachment 1-TYPE III

l)	Toilet	sunk			Seepages, plaster crack	Refer attachment 1-TYPE XI, TYPE V
m)	Bedroom 2	Beam			Window top lintel found with crack, Structural crack	Refer attachment 1-TYPE XIX TYPE VI
n)	Bedroom 2	Column C 16			Tile crack (need to check inside)	Refer attachment 1-TYPE I
o)	Bedroom 2	Ceiling			Ceiling crack	Refer attachment 1-TYPE XIII

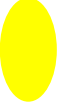
Flat 3B - 27

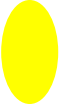
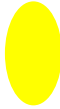
a)	Living Room	Beam			Plaster with hollow sound	Refer attachment 1-TYPE XVIII
b)	Living Room	Column C 19			Column with hollow sound, plaster crack	Refer attachment 1-TYPE XVII, TYPE V
c)	Kitchen	Column C 20			Column with hollow sound	Refer attachment 1-TYPE XVII
d)	Kitchen	Beam			Structural crack	Refer attachment 1-TYPE VI

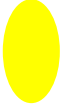
e)	Kitchen	Ceiling			Ceiling cracks	Refer attachment 1-TYPE XIII
f)	Passage	Ceiling			Seepages from external damaged pipeline	Refer attachment 1-TYPE XI
g)	Bedroom 2	Column C 22			Column with hollow sound at bottom	Refer attachment 1-TYPE XVII
h)	Bedroom 2	Beam			Plaster crack	Refer attachment 1-TYPE V

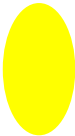
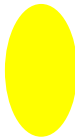
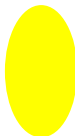
Flat 3B - 28

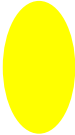
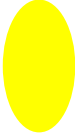
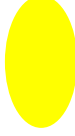
a)	Living room	Column C 1			Column with hollow sound	Refer attachment 1-TYPE XVII
b)	Living Room	Beam			Structural crack, Plaster with hollow sound	Refer attachment 1-TYPE VI, TYPE XVIII
c)	Bedroom 1	Column C 5			Plaster crack, Plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII
d)	Bedroom 1 Balcony	Ceiling			Ceiling crack	Refer attachment 1-TYPE XIII

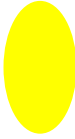
e)	Bathroom	Ceiling			Ceiling cracks & seepages	Refer attachment 1-TYPE XIII, TYPE XI
f)	Bathroom	Wall			Capillary action marks	Refer attachment 1-TYPE IV
g)	Bedroom 2	Column C 8			Plaster crack	Refer attachment 1-TYPE V
h)	Bedroom 2	Beam			Structural crack	Refer attachment 1-TYPE VI
Flat 3B - 29						

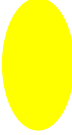
a)	Living room	Column C 10			Column with hollow sound	Refer attachment 1-TYPE XVII
b)	Kitchen	Beam			Tile crack (need to check inside)	Refer attachment 1-TYPE I
c)	Passage	Wall			Seepages from adjacent bathroom	Refer attachment 1-TYPE XI
d)	Passage	Wall			Plaster crack, Plaster with hollow sound	Refer attachment 1-TYPE V, TYPE XVIII

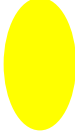
e)	Bedroom 2	Column C 11			Column with hollow sound	Refer attachment 1-TYPE XVII
Flat 3B - 30						
a)	Living room	Column C 19			Column with hollow sound	Refer attachment 1-TYPE XVII
b)	Living room	Wall			Seepage marks	Refer attachment 1-TYPE III
c)						Refer attachment 1-TYPE

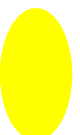
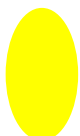
Sr No.	LOCATION	AREA DESCRIPTION		PHOTOS	DEFECTS	PROCESS FOR AMELIORATIONS
TERRACE						
a)	Terrace	Parapet Wall			Plaster crack	Refer attachment 1-TYPE V
b)	Terrace	Parapet Wall			Plaster crack	Refer attachment 1-TYPE V
c)	Terrace	Parapet Wall			Plaster crack	Refer attachment 1-TYPE V
d)	Terrace	Parapet Wall			Plaster crack	Refer attachment 1-TYPE V

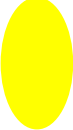
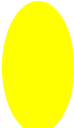
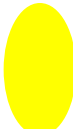
g)	Terrace	Chajja			Plaster crack	Refer attachment 1-TYPE V
h)	Terrace	Column			Structural crack	Refer attachment 1-TYPE VI
i)	Terrace	Wall			Plaster crack	Refer attachment 1-TYPE V
j)	Terrace	Chajja			Plaster crack	Refer attachment 1-TYPE V

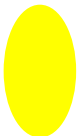
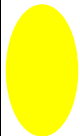
k)	Terrace	Chajja			Structural crack	Refer attachment 1-TYPE VI
n)	Terrace	Chajja			Structural crack	Refer attachment 1-TYPE VI
q)	Terrace	Column			Major structural crack (plaster spall off)	Refer attachment 1-TYPE VI
s)	Terrace	Parapet Wall			Plaster crack	Refer attachment 1-TYPE V

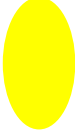
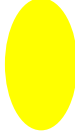
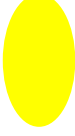
t)	Terrace	Parapet Wall			Plaster crack	Refer attachment 1-TYPE V
u)	Terrace	Parapet Wall			Plaster crack	Refer attachment 1-TYPE V
y)	Terrace	Water Tank Floor			Structural crack	Refer attachment 1-TYPE VI
z)	Terrace Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI

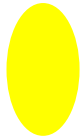
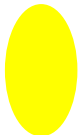
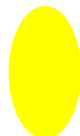
aa)	Water tank	Floor			Structural crack	Refer attachment 1-TYPE VI
STAIRCASE						
a)	Mumpty room	Ceiling			Seepages from water tank	Refer attachment 1-TYPE XI
b)	Mumpty room	Beam			Structural crack	Refer attachment 1-TYPE VI
c)	Mumpty room	RCC grills			Plaster cracks	Refer attachment 1-TYPE V

d)	Mumpty room	Column			Structural crack	Refer attachment 1-TYPE VI
EXTERNAL						
a)	External	-			Painted & repaired	Methodology not known
b)	External	-			Painted & repaired	Methodology not known

c)	External	-			Painted & repaired	Methodology not known
d)	External	-			Painted & repaired	Methodology not known
e)	External	-			Painted & repaired	Methodology not known

f)	External	-			Painted & repaired	Methodology not known
g)	External	-			Painted & repaired	Methodology not known
h)	External	-			Painted & repaired	Methodology not known

i)	External	-			Painted & repaired	Methodology not known
j)	External	-			Painted & repaired	Methodology not known
k)	External	-			Painted & repaired	Methodology not known

l)	External	-			Painted & repaired	Methodology not known
m)	External	-			Painted & repaired	Methodology not known
n)	External	-			Painted & repaired	Methodology not known

Recommendation

The photographs and the defective areas are clearly marked in the “AUDIT RECORD AND OBSERVATION WITH AMELIORATION PROCESS”.

Defects as observed are of various nature such as

- Structural cracks and Distresses
- Seepage and vegetation at many places
- Paint peeling off
- Separation cracks
- Column with hollow sound
- Bulging of tiles
- Steel exposed and structural distress
- Etc.

All these are tabulated in ‘Attachment I’ which may be referred and which is clearly marked in column “Process of Amelioration” which can be taken as specific repair recommendation.

Note:

1. Most of the leakages from the bathrooms inside the Flats & Duct damaged Pipelines (Mention in AUDIT RECORD & OBSERVATION). Leakages Sources could be leakages from pipelines embedded or the water proofing in the enclosure is not effective any more. Need to waterproof with proper methodology and check the Pipeline materials and connections.
2. Capillary action marks & leakages through Bathroom at many Flats observed. The Toilet area water proofing needs to be redone. Chemical water proofing on the sunk areas and on the walls around up to a height of at least one foot above the floor level should be done.
3. Some seepages observed on dead wall during rainy season due to external cracks on Dead wall.
4. Extensive repair will mean heavy expenses and partial evacuation and major inconveniences as the repairing time will be quite long and enhancement of life of 3 years will mean again Audit and repair. Hence Reconstruction is recommended



Taamra Engineering Consultants Pvt. Ltd.

508, Kukreja Plaza, 5th Floor, Sector-11, CBD Belapur, Navi Mumbai-400614

(NON-DESTRUCTIVE TEST)	
Client Name & Address- Noor CHS	
Building Age: 38 Years	
Nomenclature and Conventions used in Report	
Member	-Element number as per client's drawing -These can be based on grid numbers if no element numbers are available. -Element numbers are provided by us if no element or grid numbers are present on client's drawing.
Level	-Floor at which element is present. For columns, the start and end floor levels are indicated. - In case of industrial buildings, this can be the approximate height from ground level. Legends used in results: (Ground Floor = G-0, 1st Floor= F-1, 2 nd Floor = F-2, 3 rd floor = F-3, 4 th Floor = F-4, 5 th Floor = F-5, 6 th floor = F-6, 7 th Floor= F-7)
Test Location on Member	Columns: Whether the test has been done near the top, middle or bottom of the column height. Beam: Whether the test has been done near the mid-span (MID) or near the supports (END). Slab: Divided in Four Quadrants numbered clockwise from Left side top corner as 1 st , 2 nd , 3 rd , and 4 th Quadrants.

Ultrasonic pulse velocity Test

Application

These tests are primarily done to establish:

- The homogeneity of concrete.
- Presence of cracks, voids and other imperfections.
- Changes in quality of concrete over time.
- This test does not establish compressive strength of tested concrete and fairly indicative of the present Strength. UPV Tests are done in accordance with Indian standards IS: 13311 (Part 1).

Procedure:

- The concrete surface where probes are to be applied is cleaned properly to open the face of concrete.

- Grease is applied on the test surfaces to ensure no Air gaps between Transducers and concrete face.
- The probes are pressed on the surface of the structural element to remove air gaps.
- Distance between the two probes is noted in case DIRECT UPV tests.
- In case of Indirect and Semi Direct UPV Tests two sets (each set comprises one transmitter and one Receiver points) to derive the depth of the element and actual Pulse traverse length (Derived by TEC innovatively)
- Read time taken for the ultrasonic pulse from the instrument.
- Calculate Velocity= Pulse Traverse distance / time read on the Equipment.

Sr. No.	Pulse velocity by cross probing	Concrete Quality Grading
1	Above 4.5 km/s	Excellent
2	3.5 Km/s to 4.5km/s	Good
3	3.0 Km/s to 3.5km/s	Medium
4	Below 3.0km/s	Doubtful

Rebound Hammer Tests

Application:

These tests are primarily done to assess:

- The likely compressive strength of concrete
- The uniformity of concrete
- Rebound Hammer tests are done in accordance with Indian standards IS: 13311 (part 2).

Procedure:

- The concrete surface is cleaned properly to expose the surface of the Concrete face.
- The hummer is pressed against the concrete surface and released
- Six readings are taken and average is taken. Thus, one Test is performed.
- Correlate the average with the compressive strength.

Sr. No.	Average Rebound Number	Concrete Quality Grading
1	>40	Very Good
2	30-40	Good
3	20-30	Fair
4	<20	Poor and/or Delaminated
5	0	Very Poor and/or Delaminated

NDT TEST RESULTS (UPV /Rebound Hammer)

<u>Test Location</u>						<u>UPV RESULTS</u>		<u>Rebound Hammer Result</u>			
Sr. No.	Location	Member ID	Level	Element type	Test Location on Member	UPV (km/s)	Concrete Quality	Hammer Reading (Rebound Number)	Hammer	Equivalent Cube Strength (mPa)	Concrete Quality
BUILDING 1											
1	1/1 Living Room	C1	G-0	Column	Mid	2.06	Poor	-	-	-	-
2	1/1 Living Room	C3	G-0	Column	Mid			29.55	HOR	23.0	Fair
3	1/1 Bedroom	C8	G-0	Column	Mid			29.11	HOR	22.0	Fair
	1/4 Living Room	C20	G-0	Column	Mid	1.96	Poor				
	1/1 Bedroom	C25	G-0	Column	Mid			27.0	HOR	19.0	Poor
4	1/5 Living Room	C2	G-1	Column	Mid	0.88	Poor	-	-	-	-
5	1/5 Bedroom	C6	G-1	Column			-	32.44	HOR.	27.0	Fair
6	1/6 Bedroom	C13	G-1	Column	Mid	1.25	Poor	-	-	-	-
	1/7 Bedroom	C15	G-1	Column	Mid			27.55	HOR	20.0	Fair
7	1/8 Living Room	C20	G-1	Column	Mid	2.04	Poor	-	-	-	-
	1/9 Bedroom	C6	G-2	Column	Mid			28.67	HOR	22.0	Fair
8	1/10 Living room	C13	G-2	Column	Mid	1.77	Poor	-	-	-	-

	1/13 Bedroom	C3	G-3	Column	Mid			27.99	HOR	20.0	Fair
9	1/15 Living Room	C 14	G-3	Column	Mid	1.333	poor				
	1/20 Bedroom	C23	G-4	Column	Mid			28.22	HOR	20.3	Fair
BILDING 2											
11	2/1 Living room	C1	G-0	Column	Mid			30.22	HOR	24	Fair
12	2/1 Bed Room	C7	G-0	Column	Mid	2.2	Poor	-	-	-	-
13	2/2 Living Room	C11	G-0	Column	Mid	3.25	Medium	-	-	-	-
14	2/4 Living Room	C22	G-0	Column	Mid	0.95	Poor	-	-	-	-
	2/4 Living Room	C19	G-0	Column	Mid			27.67	HOR	24.0	Fair
	2/4 Bed Room	C23	G-0	Column	Mid			29.67	HOR	23.0	Fair
15	2/7 bed Room	C18	G-1	Column	Mid	3.41	Medium	-	-	-	-
	2/8 Living Room	C19	G-1	Column	Mid			30.33	HOR	24.0	Fair
16	2/10 Living Room	C10	G-2	Column	Mid	2.52	Poor	-	-	-	-
	2/10 Bed Room	C14	G-2	Column	Mid			28.22	HOR	20.2	Fair
17	2/16 Living Room	C 21	G-3	Column	Mid	2.26	Poor	-	-	-	-

18	2/19 Bedroom	C18	G-4	Column	Mid	2.33	Poor	-	-	-	-
BUILDING 3A											
	3A/1 Living Room	C1	G-0	Column	Mid			27.11	HOR	19.0	poor
	3A/6 Living Room	C19	G-1	Column	Mid			25.67	HOR	17.0	Poor
20	3A/9 Living Room	C20	G-1	Column	Mid	2.19	Poor	-	-	-	-
21	3A/11 Living Room	C8	G-3	Column	Mid	2.64	Poor				
22	3A/12 Living Room	C19	G-3	Column	Mid	1.87	Poor	-	-	-	-
23	3A/13 Living Room	C6	G-4	Column	Mid	1.88	Poor	-	-	-	-
	3A/14 Living Room	C15	G-4	Column	Mid			28.22	HOR	20.2	Fair
BUILDING 3B											
25	3B/21 Living Room	C18	G-2	Column	Mid	0.77	Poor	-	-	-	-
26	3B/25 Living Room	C4	G-3	Column	Mid	2.48	Poor	-	-	-	-
27	3B/27 Living Room	C19	G-3	Column	Mid	1.26	Poor	-	-	-	-
28	3B/28 Living Room	C3	G-4	Column	Mid	1.49	Poor				
	3B/21 Living Room	C1	G-2	Column	Mid			30.44	HOR	24.0	Fair

29	3B/22 Living Room	C1	G-3	Column	Mid	1.73	Poor	-	-	-	-
	3B/22 Living Room	C4	G-3	Column	Mid			27.77	HOR	20.0	Fair

Rebound Hammer Test Summery		
Criteria	Concrete Quality	No of Readings
>40	Very Good	01
30-40	Good	06
20-30	Fair	27
<20	Poor and/or Delaminated	08
UPV Result Summery		
Criteria	Concrete Quality	No of Readings
Above 4.5 km/s	Excellent	01
3.5 to 4.5 km/s	Good	06
3.0 to 3.5 km/s	Medium	13
Below 3.0 km/s	Poor	78

For, Taamra Engineering Consultants Pvt Ltd.

Authorized Signatory

ATTACHMENT – I

A. OBJECTIVE:

Investigate and look into nature of problems and work out appropriate solutions for repair TO ENHANCE THE LIFE OF THE STRUCTURE.

B. Visit and Actions

a. 7, 8, 9th June 2022, we inspected the building part by part. We took ample photographs for each and every distressed area.

b. We have categorized the types of problems/ defects and suggested the methodologies for Ameliorations. These methodologies will be further modified after the NDT's are conducted.

Types of problems and Amelioration suggestions/steps.

Category	Type of Problem	Reasons for such problem
Type I	Floor Tile subsidence and cracks	The bed mortar used for fixing tiles might have pockets which allowed the tiles to subside and cracks are formed.
Type II	Paint Peeling	1. Excessive salinity & sulphate content in sand used for plaster and carbonation cause de-bonding between cement & sand and the paint coated on the surface let loose its grip and peel off takes place. 2. Use of improper use of materials for backing coat for smoothening of surface of plaster may have unbonded and the paint peel off occurred. 3. There could be seepage from External surface or from Toilet or Kitchen sunk areas make the bond between paint layer and plaster loose and make the paint layer peel off. 4. Breathable paint may not have been used and blistering of the paint surface happens followed by Paint peeling
Type	Seepage Marks	1. There was water seepage on the wall for some extraneous

III		reasons. After the seepage stopped the marks on the surface show up after drying of the moisture from the surface
Type IV	Capillary Action marks	1. Water has a tendency of rising higher than the level of the source of water through the minute pores available in plaster or masonry 2. Generally these are observed in the area adjacent to the Toilet or Kitchen sunk area. 3. The Sunk areas are filled up with Brick bat coba. The Toilet water goes into the brickbat mass and the water gets absorbed there. Water leakages through old pipe line laid in the sunk area also is the source of water absorption. This phenomenon resembles to reservoir to make the water drive up through pores of the adjoining masonry and plaster.
Type V	Plaster Cracks	1. These cracks may happen because of shrinkage 2. Plaster thickness could be more in the area and the water from plaster soaked by the brick masonry behind leaving cracks on the surface 3. The structural defects behind the plaster also show up as cracks on the plaster
Type VI	Structural Cracks	1. These are the result of increase of volume of the reinforcement available nearer to the surface of the cracks. 2. Over the years Rebar gets under the effect of water leakages from external surface or some other sources. 3. Atmospheric various gases percolate into the concrete through weak plaster and cracks

		and result weakening of the cover to reinforcement and allows water or deleterious gases affect the reinforcements. These lead to oxidation of the Rebar and the corrosion cracks show up. 4. These cracks should not be left unattended for long otherwise the corrosion will increase and make the structure weaker.
Type VII	Cracks on Tiles on the wall	1. Crack on the tiles take place because of the defects in covered concrete or masonry walls.
Type VIII	Windows stopped sliding	1. The beam or the structural elements above the window has been deflected down. 2. The gap between the track and the Sliding window is totally reduced 3. The situation may be aggravated further if not attended quickly. window glass may be shattered and inconveniences will increase.
Type IX	Water dripping	1. Leakages through the member is showing up as dripping 2. Leakages Sources could be leakages from pipelines embedded or the water proofing in the enclosure is not effective any more.
Type X	Separation Cracks	1. These are the effect of the excessive corrosion of the structural members
Type XI	Seepage	Seepages can occur only if the sources of water like Toilet or Kitchen sunk areas, pipelines along the wall, storm water from external wall etc. when the Masonry wall or RCC Slab are not able to shield the movement of the water.
Type XII	Discoloration	Discoloration is the after effect of the change of the paint colour in

		dried seepage patches
Type XIII	Ceiling Cracks	Corrosion of bottom steel of slab leads to cracks, excessive loading on the upper floor also can cause cracks. Basically the distressed areas show up the cracks.
XIV	Column Cracks	Columns show cracks when the corrosion of steel cause swelling of volume of steel and also when column is not able to carry the load imposed.
XV	Beam Found with Cracks	Corrosion of bottom steel of Beam leads to cracks, excessive loading on the upper floor also can cause cracks. Basically the distressed areas show up the cracks.
XVI	Door with Overhung Lintel	Part of lintel got distressed and hang over the Door Frame
XVII	Column with Hollow Sound	Plaster over the column or cover to the reinforcement after corrosion separated out of the core but cracks are not visible when hollow sound comes from the unit while striking.
XVIII	Plaster with hollow Sound	Plaster over the column/ Structural element or cover to the reinforcement after corrosion separated out of the core but cracks are not visible when hollow sound comes from the unit while striking. Basically plaster when deboned from the original surface make hollow sound
XIX	Window Top and Bottom Sill found with Crack	Structural element below and above the window is distressed and cracks are apparent.
XX	Balcony alterations	No such defects were observed
XXI	Surface hair line cracks	The main reason is difference in coefficient of expansion of different surfaces. If the cracks are visible on beams and pillars, it is on architectural problem.

XXII	Growth of Vegetation	Sand used for the work might have carried some germination seeds or so and available water through seepages help to grow vegetation.
XXIII	Plaster bulging also called as blistering of plastered surfaces	Defective plaster may be the major reason. Water seepage also may cause the unwanted chemicals available in mortar cause debonding and Blistering showing up as bulging of plastered surfaces.
XXIV	Slab Sagging	Apparently the sagging was caused by the defective shuttering used during Construction. Presently the Structural support is given for the slab not to sag any further. Already bent structural member has less capacity to hold loading above. It was appropriate action taken.
XXV	Cracks on Boundary wall	Cracks have taken place as the Wall was built on the unstable subbase. Over the years soil under the foundation was eroded and a cavity was created to allow the crack to take place.
Type XXVI	Floor tile uplift	1. The bed mortar used for fixing tiles might have contained Gypsum or lime instead of cement which takes quite long to complete reaction with water. It increases in volume over a long time and it shows up in tile uplift. 2. Over the years the structural member deflects due to loads or creep or the reinforcement relaxation. Tiles cannot absorb Such deflections and Tile Uplifts occur 3. Negative Reinforcements or top reinforcement of doubly reinforced portions of the

		structural member undergoes corrosion due to water ingress during washing/cleaning of floors etc. Reinforcements increase in volume and the Tile uplifts. 4. Sand used during construction might be contaminated with excessive Salinity which might also contribute to corrosion of reinforcement
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For, Taamra Engineering Consultants Pvt Ltd.

Authorized Signatory

					Legends:
BILL OF QUANTITIES : Buidling 3A					
NAME OF WORK : REPAIR, water Proofing and Plastering and Painting Work			Estimated		
CLIENT : NOOR CHS			DATE : 20-06-2022		
PMC : TAAMRA ENGINEERING CONSULTANTS PVT. LTD , CBD Belapur, Navi Mumbai			Proj No: TEC/PROJ/220401		
TEM NO.	SHORT DESCRIPTION OF ITEM	Unit	Quantity	Rates	Amount
1	Scaffolding – Providing , constructing and erecting Single or double scaffolding for all the works . The scaffolding will include surrounding the vertical area with safety net/ Vardan to protect against scattering out of the area affecting the people passing by.The supports shall be sound and strong, tied together with horizontal pieces (transverse or Longitudinal) over which scaffolding planks / Challis shall be Placed/ fixed. A scaffold supported from the base by a double row of uprights, independent of support from the walls is expected to be provided. The Scaffolding should be held in position by Tieing with members to pass through holes in the walls made or tieing with uprights placed inside the part of the building taken up for Painting or Plasterinbg or Repairing. Rate should include all cost of horizontal platform, horizontal suppots and diagonal bracing. The Scaffolding for repairing has to be kept erected for the entire period of Repairing, Plastering, painting etc. In case Scaffolding is kept in place for more than six months the scaffolding should be chcked for the sturdiness and if required should be made good as directed by Engineer. Rates : The rates should include for all the tools, plants, material, machinery, processes, labour for scaffolding, safety measures, transport to and fro, site clearance etc. complete . Mode of measurement: Actual Scaffolding erected will only be measured and paid limited to the height of the Building including Parapets.				
a.	Bamboo Single Scaffolding (for a period six months and beyond six months Tieing should be renewed at no extra cost)	Sqft		9.00	-
b.	Bamboo Double Scaffolding (for a period six months and beyond six months Tieing should be renewed at no extra cost)	Sqft	8,683	16.00	1,38,927.93
c.	Steel Scaffolding (Double Standards) including horizontal supports from Building to hold the Scaffolding in position	Sqft		60.00	-
2	Removal of existing MS or CI grills, RCC Jally, Poly Carbonate Sheets, GI/Galvalume sheets, Tiles, Rain Sheds, FRP sheets, existing steel members, GI/Cast Iron/ PVC Pipes, Rain water Down comers, Wooden Doors, Aluminium/ wooden Windows etc which are necessary in respect of repair items of work to be taken up as per the directions of Engineer/ in consonance with Flat Owners/ Society members and keeping it in safe custody (in such a way that these materials can be fixed back in position as it was) in discussions with the owner & Engineer.				-
a.	Steel Members	kg	QRO	20.00	
b.	Wooden Doors with Frame or without Frame	Sft	QRO	40.00	
c.	Aluminium / wooden windows	sft	109	30.00	3,264.00
d.	PVC pipes of any diameters	rft	QRO	40.00	
e.	GI Pipelines of any diameter	rft	QRO	30.00	
f.	MS Grills/ CI/ Concrete Precast Grills	sft	QRO	30.00	
g.	Rain water down comers (CI or PVC) of any diameter	rft	QRO	30.00	

h.	Ventilators	sft	QRO	40.00	
i.	Wall Tiles	sft	-	30.00	
j.	Floor Tiles	sft	164	30.00	4,920.00
k.	Cuddpah Sills and Jambs for Windows	sft	QRO	30.00	
l.	Cuddapah or Kota Tiles laid over Parapet	sft	QRO	30.00	
m.	Removal of WC	Nos	4	2500.00	10,000.00
n	Removal of China Mosaic layer from the Terrace carefully and clearing the area of protrusions and make the area even for further treatment to be carried out. Note: Grouting , Crack filling and other applications will be paid as per the appropriate items provided separately.		QRO		
o	Top Terrace	Sft		20.00	-
p	Removal of defective substrate below China Mosaic or at Bathroom as directed by Engineer and offer for inspection after cleaning the area appropriately.	Sft	128	27.00	3,456.00
q	Removal of Old Paving Area and damaged Drain lines and chambers suitably as per the Direction of the Engineer. Usable Paver Blocks have to be kept at site for reuse.	Sft	QRO	30.00	
3A	Repairing and Fixing in position the removed items appropriately as directed by Engineer / Society. Note: In case of the unsuitability of old items to be reused as decided by the Society and the Engineer new suitable items should be procured by the contractor with approval from Society/Engineer. Such Purchases will be paid as per actuals separately. Fixing the same in replacement of the same will be included.				-
a.	Wooden Doors with Frame or without Frame.	Sft	QRO	180.00	
b.	Aluminium / wooden windows	sft	109	22.00	2,393.60
c	Removal of electrical Wiring and refixing with new Wiring (without cost of wiring or fittings as directed by Engineer. Note: Contractor has to remove electrical fittings as well with the Point Wiring. Payment will be done per Point basis.	No	QRO	22.00	
d.	PVC pipes of any diameters (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	QRO	75.00	
e.	GI Pipelines of any diameter (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	-	150.00	
f.	MS Grills/ CI Grills (repaired and painted).	sft	QRO	80.00	
g.	Rain water down comers (CI or PVC) of any diameter (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	QRO	90.00	
h.	Ventilators (damaged rails or mullions should be replaced with new one and make the window as required for fixing in location, and damaged Glass panes to be replaced as required).	sft	QRO	150.00	
i	Fixing of Wash Basin/WC/other fittings in toilet. Rates to be quoted per Bath Room/WC. Note: The old fittings removed should be checked and reused. Otherwise the Items supplied by Society will be fixed. Contractor has to assist the Society for such purchases.	Nos	4	500.00	2,000.00

j.	Cuddpah Sills and Jambs	Sqft	QRO	90.00	
3B	Providing & Fixing in position (after removal of items) appropriately as directed by Engineer / Society.				
a.	Wall Tiles	Sft	-	200.00	
b	Floor Tiles	Sft	164	20.00	3,280.00
c (i)	Paver blocks Refixing with available removed Blocks	Sqft	QRO	80.00	
c(ii)	Providing and Fixing Paver Blocks matching with existing ones appropriately as per the directions of Engineer.	Sqft	QRO	175.00	
d.	Providing and laying Screed concrete (1:1:2 with 10mm and down stone metal with admixtures of Integral water proofing Compound or Polymer and Recron Fiber) layer over the roof as per the direction of Engineer. (average thickness 40mm). Proper slope to the downcomers has to be provided with proper level pads and checked by Engineer.	Sqft	QRO	100.00	
d.(i)	Providing and fixing China Mosaic layer as per the pattern and color combination provided by the Society as directed by Engineer.	Sqft	-	95.00	-
e.	Providing & fixing Brick bat Coba as per the instruction by engineer at terrace or at bathroom	Sqft	128	105.00	13,440.00
4	6mm thick Ply covering for protection of Windows, Openings, Ventilators etc. while breaking of plaster or breaking of distressed areas or During Painting. Area covered will be measured & paid as directed by Engineer.	sft		21.00	-
5	Breaking and removing of old damaged / deteriorated /debonded PLASTER/CONCRETE/BRICKS/TILES in whole or in patches including removal and disposal of old debris as directed by Engineer. RATES: The rate includes for all the tools, plant,material,machinery,processes, labour, cleaning with water jets,safety measures ,disposal of debris ,site clearances etc. required for the item to complete . MODE OF MEASUREMENT: Initially the Contractor has to mark the areas which require removal and get the approval from Engineer before breaking and removal. The payment will be made as per the actual work done and measured in square metre converted in SqFt.				-
a.	Propping : Before breaking of any area of Structural Cracks or distressed portions of the Structural Members propping the identified members with Steel adjustable Props adequately has to be done. No of Props required will be suggested by the Engineer depending upon the Location of the repair to be taken up. The props should be kept at the place undisturbed till the repair has been completed and sufficient time is allowed for the treated member regained the desired strength. Props will be removed on instruction from the Engineer.	Per No per Location	150	250.00	37,500.00
b.	Breaking and removal of Internal plaster (Mark the areas to be broken and show those to the Engineer & take prior approval) including disposal	SqFt	2,429	15.00	36,435.00
c.	Breaking and removal of External plaster (Mark the areas to be broken and show those to the Engineer & take prior approval) including disposal	SqFt	8,683	22.00	1,91,025.91
d.	Breaking of concrete (irrespective of any thickness as required and dispose the same as directed. (Mark the areas to be broken and show those to the Engineer & take prior approval) .	SqFt	2,429	22.00	53,438.00
e.	Breaking of Masonry wall including plaster along with concrete elements like Lintels or concrete bands or Mullions (Mark the areas to be broken and show those to the Engineer & take prior approval) and dispose the debris as directed.	Cft	QRO	30.00	

f.	Crack Opening: Cracks need to be investigated by going deeper & opening up. Mapping of the cracks and getting these measured and recorded. Cracks should be opened up in 'V' shape and thoroughly cleaned with water and allowed to Touch dry condition. Cracks are to be treated with Polymer modified mortar with Monobond or equivalent with 1:1 cement and Quartz Sand (Monobond to be used as per the manufacturers recommendations) or with Epoxy formulations mixed with Quartz sand of 300 microns.and surface is matched and finished properly . Note: opening of the Cracks will be decided jointly with Engineer and measured.	Rft	450	50.00	22,500.00
6	Providing and applying 10mm to 12mm thick plaster in cement mortar ratio CM 1:4 (1 cement : 4 sand with appropriate Qty of Synthetic Fibre as approved) to internal surfaces of concrete or Masonry work including applying approved chemical bonding coat before dash / Chhaat coat with slurry like mortar added with Polymer and leave the surface for at least 12 hours (curing for creating a positive bond) before main coarse of plaster. Plaster work also will include supply and fixing of wire mesh, if necessary, at the junction of concrete & Masonry followed by treatment of the Jalli area with polymer modified mortar. All grooves, pattas, Vattas, rounding of corners if any, etc. complete are included in the rates as per specifications & instruction of engineer and finished smooth with proper tools at all leads, lifts as required including cleaning of surfaces, curing, etc. complete as per specification and to the approval of the Engineer RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS " or as decided by the Engineer. The materials to be used as per the manufacturers instruction, methodology, and specification. The rates include for all the tools and plants, material, machinery, processes , labour, scaffolding, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete. Mortar mixing will be done in a tray by using Hand Electrically operated Mixer to ensure homogenous Mortar. Note : Breaking of Plaster and removal of Debris will be paid separately asper item 5b.	SqFt	2,429	90.00	2,18,610.00
a.	OR Plastering may be done with Ready Mix Plaster of approved make. All the specification and scope same as in item no 5 above.	Sft	QRO	120.00	
b.	Providing and applying Cement Sand Plaster on Ceiling of 6 to 8 mm thickness following same procedure and scope as in item no 5 above.	Sft	642	85.00	54,570.00
c.	Do - Using Ready Mix plaster following the specifications as above	Sft	QRO	110.00	

7	Providing and applying minimum 20 mm thick double coat cement sand plaster, comprising of a Dash / Chhat Coat (Polymer modified 1:4 Cement sand Mortar slurry) left for min 12 hours & curing for proper bond, followed by first coat of 12 mm thick plaster of mix ratio 1:4 (1 cement : 4 sand+ Synthetic Fibre) and Second coat 8 mm thick of mix ratio 1:3 (1 cement : 3 sand) Mixed with Recron fibre or equivalent and integral water proofing compound with sand face finishing matching with existing surface or as required to receive specified architectural external finish, to the correct line, plumb and level to external faces of walls, soffits/ceiling if any, including addition of approved wire mesh fixed at the junction of concrete and Masonry, making drip moulds, grooves and pattas as per specifications and engineer's instructions ; RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS "or/ and as approved by Engineer.The materials to be used as per the manufacturers instruction, methodology, and specification. The rate includes for all the tools and plants, material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete . Rate should include raking out junctions of masonry and concrete and other dissimilar materials, hacking closely concrete surfaces, applying chemical adhesive if any. Note :Breaking of Plaster and removal of Debris will be paid separately as per item 5c.	Sft	8,683	100.00	8,68,299.59
a.	OR Alternatively the Plastering may be done with Ready Mix Plaster of approved make. All the specification and scope same as in item no 3 above.	Sft	QRO	140.00	
8	Providing and constructing burnt clay brick masonry with conventional/ IS type or Modular bricks having minimum crushing strength 35 Kg/Sq. cm and maximum water absorption 20%, in cement mortar 1:6 in 9" thick (Nine inches) brick walls or as per instruction of engineer including raking out joints, filling up gap between brick work and structural members with 1:3:6 concrete using expandable grout admixture, curing, etc. complete at all leads and height as specified. RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS " and as approved by Engineer .The materials to be used as per the manufacturers instruction, methodology, and specification. The rates includes for all the tools & plants material, machinery, processes , ;labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete.	Cft	QRO	410.00	
9	Speciality Repairs for the Distressed RCC members or any other elements in the Building to make the Buildings Structurally stable and thereby enhancement of life. All these items of works will be done by using the Speciality Construction chemicals and materials of proven & effective track records in rehabilitating the structure. Manufacturer's recommendation has to be followed very strictly. The work will involve mapping of the opened areas, check with Engineer the methodology etc. Note: The rates includes for all the tools and plants material, machinery, processes, labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete .				-

a.	Grouting with polymer modified cement Slurry wherever required as directed by Engineer. The rate should include fixing of PVC Pipes with appropriate adhesive, preparation of the surface for grout by gravity grout or with Pump. (quantity will be paid as per the cement consumption)	Kg	250	60.00	15,000.00
b.	The distressed area after opening up should be inspected for the Reinforcements corroded or the Cross section is reduced considerably. The reinforcements (opened in such way that it) should have a clearance behind, for proper treatment. Compensatory reinforcements are to be provided by fixing with Coated Shear Connectors of 8mm rods as instructed by the Engineer. Old and new Reinforcements should be cleaned and coated with Phosphating coat/ rust converter followed by Bar Coats (IP Net RB of Krishnaconchem or equivalent). This item is only for the new Reinforcement added as measured. Note : Bar Coat IPNET RB or equivalent for all bars, shear Connectors etc will be paid separately in Item no - 9i and Shear Connectors will be paid as per item 9c) Note : the new supplementary reinforcement should have an adequate Bond length on either side of the heavily corroded bars.	Kg	300	150.00	45,000.00
c.	Provide to Fixing Shear connectors (8 mm dia) coated with Phosphating/Rust converter and Bar Coat as directed by Engineer by drilling holes and the reinforcement including drilling holes, filling the hole with cement polymer paste and fixing with labor tools etc complete as directed by Engineer.	Nos	800	180.00	1,44,000.00
d.	The Slab or Beam Reinforcement if found corroded at the junctions of the Beam or Columns where Compensatory reinforcement bond length not available and not possible then Engineer may decide to use additional structural sections to be provided fixed with adequate nos of Chemical fasteners to make the compensatory bars welded on to those suitably. The old and new Reinforcement and Structural sections should be adequately quoted with Rust Converter and IPnet Rb to ensure adequate bonding of the distressed areas with adjoining Load bearing members. Making holes providing Fasteners, welding of reinforcements will be included in the rates. Note : Bar Coat IPNET RB or equivalent for all bars, shear Connectors etc will be paid separately in Item no - 9h	Kg	40	200.00	8,000.00
e.	The concrete quality in the distressed area, if found to be weak and loose, the area has to be impregnated with low viscose Polymer resin like Monopol of Krihna conchem or equivalent and left for a day before further treatment in the area is taken up. This treatment is to be paid on the basis of Monopal consumption.	Kg	200	900.00	1,80,000.00

f.	The distressed area after removal of distressed layers and cleaning with water spray etc has to be coated with polymer modified cement slurry. After Rebar treatment as per item 9b patch up the area to the depth of the reinforcement with Polymer (Monobond of Krishna Conchem or equivalent) modified concrete with 1:1:2 cement : Quartz Sand : graded and dust free 10mm and down stone metals. It has to be ensured that proper compaction done by pushing with wooden Stick or by hand. The area is kept for a day before further treatment is taken up. Each layer of such Polymar treatment should not be more than 20 to 25mm at a time. Stone metal of 20mm soaked in water may be pushed after each layer for providing adequate bonding of the next layer. If the depth of the fill upto the original surface level is more than 50 mm then after covering the rebars with polymer modified concrete in appropriate layers, the area has to be covered with shuttering and polymer modified Micro concrete (which will be paid separately) may be applied as directed by the Engineer.	Sft	2,429	150.00	3,64,350.00
g.	Providing and creating a corbel in the locations above the Line of the junction of Sheeting and wall by Fixing the Reinforcement (longitudinal 2 bars) fixed onto the existing wall inserting 'U' shaped bars of 8mm dia in drilled and fixed rigidly by polymer modified cement grout and fixing longitudinal bars of 8mm as per the sketch. The whole length of the Corbel is done up with Micro Concrete as instructed including shuttering as necessary. Corbel size 150mm X 100 mm with a drip course below the corbel.	Rft	QRO	150.00	
h.	Use of IPnet Rb krishnaconchem or equivalent to be paid as per the Quantity consumed for the work. Application of Rust Converter will not be paid separately.	litre	100	900.00	90,000.00
i.	Provide and fixing by drilling hole to a depth of 50mm for inserting POWRTHROW (Migratory Corrosion Inhibitor) in case the area of distresses due to excessive corrosion of reinforcement to have a barrier to reinforcement against corrosion.	Nos	85	270.00	22,950.00
j.	Glass Fiber sheets / Carbon Fiber sheets wrapping of unidirectional elements for structural strengthening and seismic retrofitting applications may be done as per direction of Engineer. Surface for Treatment shall be free from oil residues, de-molding agents, curing compounds, Grouting line sand protrusions. The concrete surface to be wrapped shall be structurally repaired prior to treatment for corrosion induced damage / structural damage by epoxy / monomer grouting and epoxy / polymer modified mortar repair systems. Depressions in the concrete shall be filled by specific Putty suggested by the system provider. Differences in concrete levels shall not be more than 1mm. Corners shall be rounded by means of Putty with a radius of 25mm minimum. Application of Superwrap / CF sheet shall be done subsequently over 1st coat application of saturant. Finish coat PU Monopol®-456 or equivalent shall be applied wherever the structures are exposed to sunlight within 2 days of applying the top coat of saturant.	Sqft	QRO	650.00	

10	Waterproofing to chajjas / canopies/ Pump room slab / Lift Mchine Room Roof Slab / Toilets Cleaning the surfaces after removal of Brick Bat Coba / flooring etc as per item no 2, of all loose particles, dust, cement laitance etc. and clean the surface with water jets. Prepare a slurry of Monobond with adequate Cement and water for initial coating over the surface. Make a mortar of Cement and sand with Polymer MONOBOND WP added to the mixture and Recron Fiber and cover the area in desired slope to ensure drainage of water from the surface with proper edge preparation and trowel finish. RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS ".The materials to be used as per the manufacturers instruction, methodology, and specification. The rates includes for all the tools and plants material,machinery, processes , labour,curing,safety measures, disposal measures , disposal of debris , site clearance etc. required for the item to complete .	Sqft	128	110.00	14,080.00
11	Waterproofing to Terrace/ garden/ swimming pool / Machine Room Roof Slab After removal of China Mosaic (to be paid separately) Cleaning the surfaces of all loose particles, dust, cement laitance etc. and clean the surface with water jets. Check for Cracks or hollowness on IPS layer and Brick bat Coba layer. As directed by Engineer Locate the places for injection Grouting, Hollow portions of IPS Flooring & Brick bat Coba to be removed suitably and reinstate the portions as directed by Engineer. The surface should be dry and free from grease, oil, traces of curing compound etc. Remove the Plaster on the parapet as directed and Cuddapah Layer (these are paid in separate items described separately). Prepare the surface for taking the water proofing of the Terrace as per the manufacturer of the system to be applied. Bore Packinvg, Angle Fillet, Vata etc : Parapet wall and Floor Junction should be treated with Angle fillet with polymer modified mortar. Bonding agent as approved should be applied before the fillet is made. Contractor will follow the directions from the Manufacturer for the bonding agent. Bore Packing : Clean the area of the Pipe outlet and the adjoining concrete/Masonry surface. Make the area free from protrusions or unevenness. Appy Bonding agent as suggested by the system provider and free flow non shrink grout for bore packing upto minimum 20 to 25mm all around the sleeves. The Contractor has to give Guarruntee for 10 years from the Manufacturer of the Formulations to be used for water proofing. RATES: Rates to include for the use of construction chemicals and skilled workmen to complete. test by Water ponding and checks. The materials to be used as per the manufacturers instruction,		QRO		

a.	ASIAN PAINTS SYSTEM : After the substrate prepared and slope provided as per Directions of Engineer and agreed by the system provider (Asian paints) the Concrete surface should be primed with 1 coat of PU Primer, , 40 gsm Geo Textile Fleece to be laid over the primer with Hand Roller and 2 coats of undiluted PU Magnum applied in two perpendicular directions (Manufacturers specification and guidance to be taken from Asian Paints for complete operation). Wait for the surface to air and dry cure for some time while the surface is still tacky Quartz sand of size around 1 to 2mm sprinkled over the surface. Allow the Dry cure to continue for full 24 hours and then damp cure for 4 to 5 days. Note : The water proofing system should be taken over the surface of prepared parapet wall upto 300 mm height. Asian Paints should provide a guarantee for 10 years.	Sqft	QRO	75.00	
b	OR BERGER PAINTS SYSTEM : Three Coat System of PU ROOF KOAT : After the substrate prepared and slope provided as per Directions of Engineer and agreed by the system provider (Berger paints) apply 1st coat with PU ROOF KOAT with 1:1 dilution as prime coat over the prepared surface. 2nd Coat with PU ROOF KOAT without dilution after 2 to 3 hrs of application of Prime Coat and apply 40gsm Geotextile Fleece on wet condition with end overlapping of 50mm and stick the Fleece properly as directed by Manufacturer. 3rd Coat of PU ROOF KOAT is applied without dilution over 2nd coat with Geotextile fleece after an interval of 6 hours. 4th Course : Wait for the surface to air and dry cure for some time Quartz sand of size around 1 to 2mm sprinkled over the surface when the surface is still tacky. Allow the Dry cure to continue for full 24 hours and then damp cure for 4 to 5 days. Note : The water proofing system should be taken over the surface prepared parapet wall upto 300 mm	Sqft		90.00	-

11	Waterproofing Watertank- chemical water proofing Providing and laying waterproofing for OH water tanks as per specifications listed below : 1)Checking the overhead water tank by filling it with water fully and marking the defective porous areas. 2)Grouting the porous concrete with cementitious grout 1:4. admixed with non-shrink compound. 3)Treating the cracks and construction joints by making 3/4"*3/4" groove and treating it with a (Berger/pidilite/Krishna Conchem Chemical or equivalent) with cement grout 1:4 admixed with non-shrink compound. 4)Making vata (Gola) inside at the interface joint of the RCC slab and wall with CM 1:4 mixed with waterproofing compound. 5)Sealing /packing all joints of outlet pipes etc. with a specialized non-shrink cementitious grout from outside and inside. 6)Providing and applying coats of Food Grade Acrylic Polymer Modified Cementitious Waterproof Coating as per manufacturer's (Asian/Berger/pidilite/Krishna Conchem/Fosroc etc) specifications or as directed by engineer over the entire RCC slab and inside wall surface. NOTE - Water test will be carried out after completion of all the above by filling the tank water fully and to observe for 7 days for any leakages. Make of waterproofing compound/ non shrinkage compound (Berger/pidilite/Krishna Conchem Chemical or equivalent) 7)Providing and laying CM 1:4 screed admixed with waterproofing compound with cement punning as below. over bottom slab 20mm thick screed, ii) At wall 12 to 15mm thick.				
a.	Apply 2 coats (in Perpendicular direction) of Samartcare Damp Block 2K of Asian Paint's acrylic polymer-modified cementitious high performance coating, as per directions of Manufacturer. Get this surface airdried for 4 to 6 hrs. Apply 2 Coats of Smart care Epoxy TriBlock of Asian Epoxy Cementitious Coating as finish Coat (2nd Coat should be applied in perpendicular to the 1st Coat). Asian Paint should give warranty for 10 years.	Sft	.	60.00	
c	Apply Single Coat of Advance Latex Plus with ration 1:4:7 (Chemical:water:Cement) . After a gap of 6 Hrs 1 Coat of Tank Shield 2K in ratio 1:2 (Liquid Polymer : Cement and Quartz sand Mortar 1:2). After another 6 Hrs 2nd Coat of tank Shield 2K (similar to 1st Coat. These should be coated with Cement slurry after 6 Hrs.	Sft	QRO	60.00	

12	MICROCONCRETE : Providing and laying in position Micro-concrete for repairs to RCC Structure where ever necessary using (RENDEROC RG of FOSROC , SIKA, Krishnaconchem or Dr. Fixit or equivalent as approved by the Engineer). having minimum compressive strength of 50 n/mm2 . after 28 days (tested on 75X75X75 mm cubes). Note : This item will only include providing necessary formwork for the Micro Concrete to be laid. All other items Viz; Breaking of unsound and weak areas, removal of Debris, providing reinforcement bars, Bar Coats , necessary polymer modified treatment etc will be paid under separate items. as per directed by Engineer. RATES: The rate includes for all the tools, plants material,machinery, processes , labour, shuttering curing, safety measures, disposal measures , disposal of debris , site clearance etc.	Kg	9,000	100.00	9,00,000.00
13	Removal of old Neeru coating and paint in the areas where seepage marks or water leakages are visible (For Part affected wall painting whole wall has to be scrapped for durable and even painted surface. It may be noted that Primer puutty will not adhere on neeru in seepage patches.) as directed by Engineer.	Sft	QRO	25.00	
14	Providing and applying (inside) Two coats of Plastic Emulsion paint (water based) of approved make and of specific color over a coat of Acrylic Interior Primer in Walls, Ceilings, Beams & projections etc as per specifications and as directed by Engineer. NOTE : 1) The rates include for all the tools plants material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. 2) Rates also should include surface preparations by removing paint by abrasive paper and making surface friendly for application of putty from Asian Paint or equivalent and make the surface to look very even and checked against Torch Light.				
a.	1 coat of primer followed by 2 coats of Apcolite Asian paint or as suggested by the manufacturers	Sft	QRO	50.00	
b.	Equivalent formulations from Berger paint (contractor has to specify the paint being quoted).	Sft	QRO	50.00	
15	Providing and applying (outside) Two coats of finish Coat with Warranty for shade/ color/ water proofing for 10 years of specific color over a coat of suitable exterior Primer in Walls, chajjas & projections etc as per specifications and as directed by Engineer. NOTE : 1) The rates include for all the tools plants material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. 2) Rates also should include surface cleaning by high pressure water jets by using contractors' own pump (owner will provide water in under ground tank and contractor will make arrangement to draw water from there) and surface will be brushed with gunny bags (or others means as contractor may decide) to loosen the surface particles and rewashd to have clean surface for the new paint to adhere with old surface properly. 3) Contractor has to use formulations for hair line cracks etc if appear during washing of the surface with water jet etc.				
a.	Duralife 1 coat (10 year waterproofing Warranty) + ASIAN Paint Ultima Protek 2 Coat (10 Years Paint performance warranty for water proof and color)	sft	QRO	24.00	-

b.	System from Berger Paint: Manufacturer has to give 10 years Water Proofing and color for 10 years Primer : Seal O Prime - One Coat Base Coat : Dampshield Elasto Top Coat : Weather Coat (Longlife 10) + PU	Sft		24.00	-
c.	Providing and applying Waterproofing Paint on Parapet wall (On Both Sides), Two coats of finish Coat with Warranty for shade/ color/ water proofing for 10 years of specific color as Mentioned in 10 (a).	Sft		24.00	-
				Total	34,47,440

			Legends:		
BILL OF QUANTITIES : Building 1					
NAME OF WORK : REPAIR, water Proofing and Plastering and Painting Work			Estimated		
CLIENT : NOOR CHS			DATE : 20-06-2022		
PMC : TAAMRA ENGINEERING CONSULTANTS PVT. LTD , CBD Belapur, Navi Mumbai			Proj No: TEC/PROJ/220401		
TEM NO.	SHORT DESCRIPTION OF ITEM	Unit	Quantity	Rates	Amount
1	Scaffolding – Providing , constructing and erecting Single or double scaffolding for all the works . The scaffolding will include surrounding the vertical area with safety net/ Vardan to protect against scattering out of the area affecting the people passing by.The supports shall be sound and strong, tied together with horizontal pieces (transverse or Longitudinal) over which scaffolding planks / Challis shall be Placed/ fixed. A scaffold supported from the base by a double row of uprights, independent of support from the walls is expected to be provided. The Scaffolding should be held in position by Tieing with members to pass through holes in the walls made or tieing with uprights placed inside the part of the building taken up for Painting or Plasterinbg or Repairing. Rate should include all cost of horizontal platform, horizontal suppots and diagonal bracing. The Scaffolding for repairing has to be kept erected for the entire period of Repairing, Plastering, painting etc. In case Scaffolding is kept in place for more than six months the scaffolding should be chcked for the sturdiness and if required should be made good as directed by Engineer. Rates : The rates should include for all the tools, plants, material, machinery, processes, labour for scaffolding, safety measures, transport to and fro, site clearance etc. complete . Mode of measurement: Actual Scaffolding erected will only be measured and paid limited to the height of the Building including Parapets.				
a.	Bamboo Single Scaffolding (for a period six months and beyond six months Tieing should be renewed at no extra cost)	Sqft		9.00	-
b.	Bamboo Double Scaffolding (for a period six months and beyond six months Tieing should be renewed at no extra cost)	Sqft	12,609	16.00	2,01,750.08
c.	Steel Scaffolding (Double Standards) including horizontal supports from Building to hold the Scaffolding in position	Sqft		60.00	-
2	Removal of existing MS or CI grills, RCC Jally, Poly Carbonate Sheets, GI/Galvalume sheets, Tiles, Rain Sheds, FRP sheets, existing steel members, GI/Cast Iron/ PVC Pipes, Rain water Down comers, Wooden Doors, Aluminium/ wooden Windows etc which are necessary in respect of repair items of work to be taken up as per the directions of Engineer/ in consonance with Flat Owners/ Society members and keeping it in safe custody (in such a way that these materials can be fixed back in position as it was) in discussions with the owner & Engineer.				-
a.	Steel Members	kg	QRO	20.00	
b.	Wooden Doors with Frame or withour Frame	Sft	QRO	40.00	
c.	Aluminium / wooden windows	sft	544	30.00	16,320.00
d.	PVC pipes of any diameters	rft	QRO	40.00	
e.	GI Pipelines of any diameter	rft	QRO	30.00	

f.	MS Grills/ CI/ Concrete Precast Grills	sft	QRO	30.00	
g.	Rain water down comers (CI or PVC) of any diameter	rft	QRO	30.00	
h.	Ventilators	sft	QRO	40.00	
i.	Wall Tiles	sft	-	30.00	
j.	Floor Tiles	sft	539	30.00	16,170.00
k.	Cuddpah Sills and Jambs for Windows	sft	QRO	30.00	
l.	Cuddpah or Kota Tiles laid over Parapet	sft	QRO	30.00	
m.	Removal of WC	Nos	9	2500.00	22,500.00
n	Removal of China Mosaic layer from the Terrace carefully and clearing the area of protrusions and make the area even for further treatment to be carried out. Note: Grouting , Crack filling and other applications will be paid as per the appropriate items provided separately.		QRO		
o	Top Terrace	Sft		20.00	-
p	Removal of defective substrate below China Mosaic or at Bathroom as directed by Engineer and offer for inspection after cleaning the area appropriately.	Sft	320	27.00	8,640.00
q	Removal of Old Paving Area and damaged Drain lines and chambers suitably as per the Direction of the Engineer. Usable Paver Blocks have to be kept at site for reuse.	Sft	QRO	30.00	
3A	Repairing and Fixing in position the removed items appropriately as directed by Engineer / Society. Note: In case of the unsuitability of old items to be reused as decided by the Society and the Engineer new suitable items should be procured by the contractor with approval from Society/Engineer. Such Purchases will be paid as per actuals separately. Fixing the same in replacement of the same will be included.				-
a.	Wooden Doors with Frame or without Frame.	Sft	QRO	180.00	
b.	Aluminium / wooden windows	sft	544	22.00	11,968.00
c	Removal of electrical Wiring and refixing with new Wiring (without cost of wiring or fittings as directed by Engineer. Note: Contractor has to remove electrical fittings as well with the Point Wiring. Payment will be done per Point basis.	No	QRO	22.00	
d.	PVC pipes of any diameters (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	QRO	75.00	
e.	GI Pipelines of any diameter (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	-	150.00	
f.	MS Grills/ CI Grills (repaired and painted).	sft	QRO	80.00	
g.	Rain water down comers (CI or PVC) of any diameter (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	QRO	90.00	
h.	Ventilators (damaged rails or mullions should be replaced with new one and make the window as required for fixing in location, and damaged Glass panes to be replaced as required).	sft	QRO	150.00	

i	Fixing of Wash Basin/WC/other fittings in toilet. Rates to be quoted per Bath Room/WC. Note: The old fittings removed should be checked and reused. Otherwise the Items supplied by Society will be fixed. Contractor has to assist the Society for such purchases.	Nos	9	500.00	4,500.00
j.	Cuddpah Sills and Jambs	Sqft	QRO	90.00	
3B	Providing & Fixing in position (after removal of items) appropriately as directed by Engineer / Society.				
a.	Wall Tiles	Sft	-	200.00	
b	Floor Tiles	Sft	539	20.00	10,780.00
c (i)	Paver blocks Refixing with available removed Blocks	Sqft	QRO	80.00	
c(ii)	Providing and Fixing Paver Blocks matching with existing ones appropriately as per the directions of Engineer.	Sqft	QRO	175.00	
d.	Providing and laying Screed concrete (1:1:2 with 10mm and down stone metal with admixtures of Integral water proofing Compound or Polymer and Recron Fiber) layer over the roof as per the direction of Engineer. (average thickness 40mm). Proper slope to the downcomers has to be provided with proper level pads and checked by Engineer.	Sqft	QRO	100.00	
d.(i)	Providing and fixing China Mosaic layer as per the pattern and color combination provided by the Society as directed by Engineer.	Sqft	-	95.00	-
e.	Providing & fixing Brick bat Coba as per the instruction by engineer at terrace or at bathroom	Sqft	320	105.00	33,600.00
4	6mm thick Ply covering for protection of Windows, Openings, Ventilators etc. while breaking of plaster or breaking of distressed areas or During Painting. Area covered will be measured & paid as directed by Engineer.	sft	600	21.00	12,600.00
5	Breaking and removing of old damaged / deteriorated /debonded PLASTER/CONCRETE/BRICKS/TILES in whole or in patches including removal and disposal of old debris as directed by Engineer. RATES: The rate includes for all the tools, plant,material,machinery,processes, labour, cleaning with water jets,safety measures ,disposal of debris ,site clearances etc. required for the item to complete . MODE OF MEASUREMENT: Initially the Contractor has to mark the areas which require removal and get the approval from Engineer before breaking and removal. The payment will be made as per the actual work done and measured in square metre converted in SqFt.				-
a.	Propping : Before breaking of any area of Structural Cracks or distressed portions of the Structural Members propping the identified members with Steel adjustable Props adequately has to be done. No of Props required will be suggested by the Engineer depending upon the Location of the repair to be taken up. The props should be kept at the place undisturbed till the repair has been completed and sufficient time is allowed for the treated member regained the desired strength. Props will be removed on instruction from the Engineer.	Per No per Location	200	250.00	50,000.00
b.	Breaking and removal of Internal plaster (Mark the areas to be broken and show those to the Engineer & take prior approval) including disposal	SqFt	4,482	15.00	67,230.00
c.	Breaking and removal of External plaster (Mark the areas to be broken and show those to the Engineer & take prior approval) including disposal	SqFt	12,609	22.00	2,77,406.36

d.	Breaking of concrete (irrespective of any thickness as required and dispose the same as directed. (Mark the areas to be broken and show those to the Engineer & take prior approval) .	SqFt	4,482	22.00	98,604.00
e.	Breaking of Masonry wall including plaster along with concrete elements like Lintels or concrete bands or Mullions (Mark the areas to be broken and show those to the Engineer & take prior approval) and dispose the debris as directed.	Cft	QRO	30.00	
f.	Crack Opening: Cracks need to be investigated by going deeper & opening up. Mapping of the cracks and getting these measured and recorded. Cracks should be opened up in 'V' shape and thoroughly cleaned with water and allowed to Touch dry condition. Cracks are to be treated with Polymer modified mortar with Monobond or equivalent with 1:1 cement and Quartz Sand (Monobond to be used as per the manufacturers recommendations) or with Epoxy formulations mixed with Quartz sand of 300 microns.and surface is matched and finished properly . Note: opening of the Cracks will be decided jointly with Engineer and measured.	Rft	450	50.00	22,500.00
6	Providing and applying 10mm to 12mm thick plaster in cement mortar ratio CM 1:4 (1 cement : 4 sand with appropriate Qty of Synthetic Fibre as approved) to internal surfaces of concrete or Masonry work including applying approved chemical bonding coat before dash / Chhaat coat with slurry like mortar added with Polymer and leave the surface for at least 12 hours (curing for creating a positive bond) before main coarse of plaster. Plaster work also will include supply and fixing of wire mesh, if necessary, at the junction of concrete & Masonry followed by treatment of the Jalli area with polymer modified mortar. All grooves, pattas, Vattas, rounding of corners if any, etc. complete are included in the rates as per specifications & instruction of engineer and finished smooth with proper tools at all leads, lifts as required including cleaning of surfaces, curing, etc. complete as per specification and to the approval of the Engineer RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS " or as decided by the Engineer. The materials to be used as per the manufacturers instruction, methodology, and specification. The rates include for all the tools and plants, material, machinery, processes , labour, scaffolding, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete. Mortar mixing will be done in a tray by using Hand Electrically operated Mixer to ensure homogenous Mortar. Note : Breaking of Plaster and removal of Debris will be paid separately as per item 5b.	SqFt	4,482	90.00	4,03,380.00
a.	OR Plastering may be done with Ready Mix Plaster of approved make. All the specification and scope same as in item no 5 above.	Sft	QRO	120.00	
b.	Providing and applying Cement Sand Plaster on Ceiling of 6 to 8 mm thickness following same procedure and scope as in item no 5 above.	Sft	1,152	85.00	97,920.00
c.	Do - Using Ready Mix plaster following the specifications as above	Sft	QRO	110.00	

7	Providing and applying minimum 20 mm thick double coat cement sand plaster, comprising of a Dash / Chhat Coat (Polymer modified 1:4 Cement sand Mortar slurry) left for min 12 hours & curing for proper bond, followed by first coat of 12 mm thick plaster of mix ratio 1:4 (1 cement : 4 sand+ Synthetic Fibre) and Second coat 8 mm thick of mix ratio 1:3 (1 cement : 3 sand) Mixed with Recron fibre or equivalent and integral water proofing compound with sand face finishing matching with existing surface or as required to receive specified architectural external finish, to the correct line, plumb and level to external faces of walls, soffits/ceiling if any, including addition of approved wire mesh fixed at the junction of concrete and Masonry, making drip moulds, grooves and pattas as per specifications and engineer's instructions ; RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS "or/ and as approved by Engineer.The materials to be used as per the manufacturers instruction, methodology, and specification. The rate includes for all the tools and plants, material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete . Rate should include raking out junctions of masonry and concrete and other dissimilar materials, hacking closely concrete surfaces, applying chemical adhesive if any. Note :Breaking of Plaster and removal of Debris will be paid separately as per item 5c.	Sft	12,609	100.00	12,60,938.02
a.	OR Alternatively the Plastering may be done with Ready Mix Plaster of approved make. All the specification and scope same as in item no 3 above.	Sft	QRO	140.00	
8	Providing and constructing burnt clay brick masonry with conventional/ IS type or Modular bricks having minimum crushing strength 35 Kg/Sq. cm and maximum water absorption 20%, in cement mortar 1:6 in 9" thick (Nine inches) brick walls or as per instruction of engineer including raking out joints, filling up gap between brick work and structural members with 1:3:6 concrete using expandable grout admixture, curing, etc. complete at all leads and height as specified. RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS " and as approved by Engineer .The materials to be used as per the manufacturers instruction, methodology, and specification. The rates includes for all the tools & plants material, machinery, processes , ;labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete.	Cft	QRO	410.00	
9	Speciality Repairs for the Distressed RCC members or any other elements in the Building to make the Buildings Structurally stable and thereby enhancement of life. All these items of works will be done by using the Speciality Construction chemicals and materials of proven & effective track records in rehabilitating the structure. Manufacturer's recommendation has to be followed very strictly. The work will involve mapping of the opened areas, check with Engineer the methodology etc. Note: The rates includes for all the tools and plants material, machinery, processes, labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete .				-

a.	Grouting with polymer modified cement Slurry wherever required as directed by Engineer. The rate should include fixing of PVC Pipes with appropriate adhesive, preparation of the surface for grout by gravity grout or with Pump. (quantity will be paid as per the cement consumption)	Kg	250	60.00	15,000.00
b.	The distressed area after opening up should be inspected for the Reinforcements corroded or the Cross section is reduced considerably. The reinforcements (opened in such way that it) should have a clearance behind, for proper treatment. Compensatory reinforcements are to be provided by fixing with Coated Shear Connectors of 8mm rods as instructed by the Engineer. Old and new Reinforcements should be cleaned and coated with Phosphating coat/ rust converter followed by Bar Coats (IP Net RB of Krishnaconchem or equivalent). This item is only for the new Reinforcement added as measured. Note : Bar Coat IPNET RB or equivalent for all bars, shear Connectors etc will be paid separately in Item no - 9i and Shear Connectors will be paid as per item 9c) Note : the new supplementary reinforcement should have an adequate Bond length on either side of the heavily corroded bars.	Kg	300	150.00	45,000.00
c.	Provide to Fixing Shear connectors (8 mm dia) coated with Phosphating/Rust converter and Bar Coat as directed by Engineer by drilling holes and the reinforcement including drilling holes, filling the hole with cement polymer paste and fixing with labor tools etc complete as directed by Engineer.	Nos	800	180.00	1,44,000.00
d.	The Slab or Beam Reinforcement if found corroded at the junctions of the Beam or Columns where Compensatory reinforcement bond length not available and not possible then Engineer may decide to use additional structural sections to be provided fixed with adequate nos of Chemical fasteners to make the compensatory bars welded on to those suitably. The old and new Reinforcement and Structural sections should be adequately quoted with Rust Converter and IPnet Rb to ensure adequate bonding of the distressed areas with adjoining Load bearing members. Making holes providing Fasteners, welding of reinforcements will be included in the rates. Note : Bar Coat IPNET RB or equivalent for all bars, shear Connectors etc will be paid separately in Item no - 9h	Kg	40	200.00	8,000.00
e.	The concrete quality in the distressed area, if found to be weak and loose, the area has to be impregnated with low viscose Polymer resin like Monopol of Krihna conchem or equivalent and left for a day before further treatment in the area is taken up. This treatment is to be paid on the basis of Monopal consumption.	Kg	200	900.00	1,80,000.00

f.	The distressed area after removal of distressed layers and cleaning with water spray etc has to be coated with polymer modified cement slurry. After Rebar treatment as per item 9b patch up the area to the depth of the reinforcement with Polymer (Monobond of Krishna Conchem or equivalent) modified concrete with 1:1:2 cement : Quartz Sand : graded and dust free 10mm and down stone metals. It has to be ensured that proper compaction done by pushing with wooden Stick or by hand. The area is kept for a day before further treatment is taken up. Each layer of such Polymar treatment should not be more than 20 to 25mm at a time. Stone metal of 20mm soaked in water may be pushed after each layer for providing adequate bonding of the next layer. If the depth of the fill upto the original surface level is more than 50 mm then after covering the rebars with polymer modified concrete in appropriate layers, the area has to be covered with shuttering and polymer modified Micro concrete (which will be paid separately) may be applied as directed by the Engineer.	Sft	4,482	150.00	6,72,300.00
g.	Providing and creating a corbel in the locations above the Line of the junction of Sheeting and wall by Fixing the Reinforcement (longitudinal 2 bars) fixed onto the existing wall inserting 'U' shaped bars of 8mm dia in drilled and fixed rigidly by polymer modified cement grout and fixing longitudinal bars of 8mm as per the sketch. The whole length of the Corbel is done up with Micro Concrete as instructed including shuttering as necessary. Corbel size 150mm X 100 mm with a drip course below the corbel.	Rft	QRO	150.00	
h.	Use of IPnet Rb krishnaconchem or equivalent to be paid as per the Quantity consumed for the work. Application of Rust Converter will not be paid separately.	litre	100	900.00	90,000.00
i.	Provide and fixing by drilling hole to a depth of 50mm for inserting POWRTHROW (Migratory Corrosion Inhibitor) in case the area of distresses due to excessive corrosion of reinforcement to have a barrier to reinforcement against corrosion.	Nos	85	270.00	22,950.00
j.	Glass Fiber sheets / Carbon Fiber sheets wrapping of unidirectional elements for structural strengthening and seismic retrofitting applications may be done as per direction of Engineer. Surface for Treatment shall be free from oil residues, de-molding agents, curing compounds, Grouting line sand protrusions. The concrete surface to be wrapped shall be structurally repaired prior to treatment for corrosion induced damage / structural damage by epoxy / monomer grouting and epoxy / polymer modified mortar repair systems. Depressions in the concrete shall be filled by specific Putty suggested by the system provider. Differences in concrete levels shall not be more than 1mm. Corners shall be rounded by means of Putty with a radius of 25mm minimum. Application of Superwrap / CF sheet shall be done subsequently over 1st coat application of saturant. Finish coat PU Monopol®-456 or equivalent shall be applied wherever the structures are exposed to sunlight within 2 days of applying the top coat of saturant.	Sqft	QRO	650.00	

10	Waterproofing to chajjas / canopies/ Pump room slab / Lift Mchine Room Roof Slab / Toilets Cleaning the surfaces after removal of Brick Bat Coba / flooring etc as per item no 2, of all loose particles, dust, cement laitance etc. and clean the surface with water jets. Prepare a slurry of Monobond with adequate Cement and water for initial coating over the surface. Make a mortar of Cement and sand with Polymer MONOBOND WP added to the mixture and Recron Fiber and cover the area in desired slope to ensure drainage of water from the surface with proper edge preparatioon and trowel finish. RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS ".The materials to be used as per the manufacturers instruction, methodology, and specification. The rates includes for all the tools and plants material,machinery, processes , labour,curing,safety measures, disposal measures , disposal of debris , site clearance etc. required for the item to complete .	Sqft	320	110.00	35,200.00
11	Waterproofing to Terrace/ garden/ swimming pool / Machine Room Roof Slab After removal of China Mosaic (to be paid separately) Cleaning the surfaces of all loose particles, dust, cement laitance etc. and clean the surface with water jets. Check for Cracks or hollowness on IPS layer and Brick bat Coba layer. As directed by Engineer Locate the places for injection Grouting, Hollow portions of IPS Flooring & Brick bat Coba to be removed suitably and reinstate the portions as directed by Engineer. The surface should be dry and free from grease, oil, traces of curing compound etc. Remove the Plaster on the parapet as directed and Cuddapah Layer (these are paid in separate items described separately). Prepare the surface for taking the water proofing of the Terrace as per the manufacturer of the system to be applied. Bore Packinvg, Angle Fillet, Vata etc : Parapet wall and Floor Junction should be treated with Angle fillet with polymer modified mortar. Bonding agent as approved should be applied before the fillet is made. Contractor will follow the directions from the Manufacturer for the bonding agent. Bore Packing : Clean the area of the Pipe outlet and the adjoining concrete/Masonry surface. Make the area free from protrusions or unevenness. Appy Bonding agent as suggested by the system provider and free flow non shrink grout for bore packing upto minimum 20 to 25mm all around the sleeves. The Contractor has to give Guarruntee for 10 years from the Manufacturer of the Formulations to be used for water proofing. RATES: Rates to include for the use of construction chemicals and skilled workmen to complete. test by Water ponding and checks. The materials to be used as per the manufacturers instruction,		QRO		

a.	ASIAN PAINTS SYSTEM : After the substrate prepared and slope provided as per Directions of Engineer and agreed by the system provider (Asian paints) the Concrete surface should be primed with 1 coat of PU Primer, , 40 gsm Geo Textile Fleece to be laid over the primer with Hand Roller and 2 coats of undiluted PU Magnum applied in two perpendicular directions (Manufacturers specification and guidance to be taken from Asian Paints for complete operation). Wait for the surface to air and dry cure for some time while the surface is still tacky Quartz sand of size around 1 to 2mm sprinkled over the surface. Allow the Dry cure to continue for full 24 hours and then damp cure for 4 to 5 days. Note : The water proofing system should be taken over the surface of prepared parapet wall upto 300 mm height. Asian Paints should provide a guarantee for 10 years.	Sqft	QRO	75.00	
b	OR BERGER PAINTS SYSTEM : Three Coat System of PU ROOF KOAT : After the substrate prepared and slope provided as per Directions of Engineer and agreed by the system provider (Berger paints) apply 1st coat with PU ROOF KOAT with 1:1 dilution as prime coat over the prepared surface. 2nd Coat with PU ROOF KOAT without dilution after 2 to 3 hrs of application of Prime Coat and apply 40gsm Geotextile Fleece on wet condition with end overlapping of 50mm and stick the Fleece properly as directed by Manufacturer. 3rd Coat of PU ROOF KOAT is applied without dilution over 2nd coat with Geotextile fleece after an interval of 6 hours. 4th Course : Wait for the surface to air and dry cure for some time Quartz sand of size around 1 to 2mm sprinkled over the surface when the surface is still tacky. Allow the Dry cure to continue for full 24 hours and then damp cure for 4 to 5 days. Note : The water proofing system should be taken over the surface prepared parapet wall upto 300 mm	Sqft		90.00	-

11	Waterproofing Watertank- chemical water proofing Providing and laying waterproofing for OH water tanks as per specifications listed below : 1)Checking the overhead water tank by filling it with water fully and marking the defective porous areas. 2)Grouting the porous concrete with cementitious grout 1:4. admixed with non -shrink compound. 3)Treating the cracks and construction joints by making 3/4"*3/4" groove and treating it with a (Berger/pidilite/Krishna Conchem Chemical or equivalent) with cement grout 1:4 admixed with non -shrink compound. 4)Making vata (Gola) inside at the interface joint of the RCC slab and wall with CM 1:4 mixed with waterproofing compound. 5)Sealing /packing all joints of outlet pipes etc. with a specialized non-shrink cementitious grout from outside and inside. 6)Providing and applying coats of Food Grade Acrylic Polymer Modified Cementitious Waterproof Coating as per manufacturer's (Asian/Berger/pidilite/Krishna Conchem/Fosroc etc) specifications or as directed by engineer over the entire RCC slab and inside wall surface. NOTE - Water test will be carried out after completion of all the above by filling the tank water fully and to observe for 7 days for any leakages. Make of waterproofing compound/ non shrinkage compound (Berger/pidilite/Krishna Conchem Chemical or equivalent) 7)Providing and laying CM 1:4 screed admixed with waterproofing compound with cement punning as below. over bottom slab 20mm thick screed, ii) At wall 12 to 15mm thick.				
a.	Apply 2 coats (in Perpendicular direction) of Samartcare Damp Block 2K of Asian Paint's acrylic polymer-modified cementitious high performance coating, as per directions of Manufacturer. Get this surface airdryed for 4 to 6 hrs. Apply 2 Coats of Smart care Epoxy TriBlock of Asian Epoxy Cementitious Coating as finish Coat (2nd Coat should be applied in perpendicular to the 1st Coat). Asian Paint should give warranty for 10 years.	Sft	.	60.00	
c	Apply Single Coat of Advance Latex Plus with ration 1:4:7 (Chemical:water:Cement) . After a gap of 6 Hrs 1 Coat of Tank Shield 2K in ratio 1:2 (Liquid Polymer : Cement and Quartz sand Mortar 1:2). After another 6 Hrs 2nd Coat of tank Shield 2K (similar to 1st Coat. These should be coated with Cement slurry after 6 Hrs.	Sft	QRO	60.00	

12	MICROCONCRETE : Providing and laying in position Micro-concrete for repairs to RCC Structure where ever necessary using (RENDEROC RG of FOSROC , SIKA, Krishnaconchem or Dr. Fixit or equivalent as approved by the Engineer). having minimum compressive strength of 50 n/mm2 . after 28 days (tested on 75X75X75 mm cubes). Note : This item will only include providing necessary formwork for the Micro Concrete to be laid. All other items Viz; Breaking of unsound and weak areas, removal of Debris, providing reinforcement bars, Bar Coats , necessary polymer modified treatment etc will be paid under separate items. as per directed by Engineer. RATES: The rate includes for all the tools, plants material,machinery, processes , labour, shuttering curing, safety measures, disposal measures , disposal of debris , site clearance etc.	Kg	9,000	100.00	9,00,000.00
13	Removal of old Neeru coating and paint in the areas where seepage marks or water leakages are visible (For Part affected wall painting whole wall has to be scrapped for durable and even painted surface. It may be noted that Primer puutty will not adhere on neeru in seepage patches.) as directed by Engineer.	Sft	QRO	25.00	
14	Providing and applying (inside) Two coats of Plastic Emulsion paint (water based) of approved make and of specific color over a coat of Acrylic Interior Primer in Walls, Ceilings, Beams & projections etc as per specifications and as directed by Engineer. NOTE : 1) The rates include for all the tools plants material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. 2) Rates also should include surface preparations by removing paint by abrasive paper and making surface friendly for application of putty from Asian Paint or equivalent and make the surface to look very even and checked against Torch Light.				
a.	1 coat of primer followed by 2 coats of Apcolite Asian paint or as suggested by the manufacturers	Sft	QRO	50.00	
b.	Equivalent formulations from from Berger paint (contractor has to specify the paint being quoted).	Sft	QRO	50.00	
15	Providing and applying (outside) Two coats of finish Coat with Warranty for shade/ color/ water proofing for 10 years of specific color over a coat of suitable exterior Primer in Walls, chajjas & projections etc as per specifications and as directed by Engineer. NOTE : 1) The rates include for all the tools plants material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. 2) Rates also should include surface cleaning by high pressure water jets by using contractors' own pump (owner will provide water in under ground tank and contractor will make arrangement to draw water from there) and surface will be brushed with gunny bags (or others means as contractor may decide) to loosen the surface particles and rewashed to have clean surface for the new paint to adhere with old surface properly. 3) Contractor has to use formulations for hair line cracks etc if appear during washing of the surface with water jet etc.				

a.	Duralife 1 coat (10 year waterproofing Warranty) + ASIAN Paint Ultima Protek 2 Coat (10 Years Paint performance warranty for water proof and color)	sft	QRO	24.00	-
b.	System from Berger Paint: Manufacturer has to give 10 years Water Proofing and color for 10 years Primer : Seal O Prime - One Coat Base Coat : Dampshield Elasto Top Coat : Weather Coat (Longlife 10) + PU	Sft		24.00	-
c.	Providing and applying Waterproofing Paint on Parapet wall (On Both Sides), Two coats of finish Coat with Warranty for shade/ color/ water proofing for 10 years of specific color as Mentioned in 10 (a).	Sft		24.00	-
				Total	47,29,256

				Legends:	
BILL OF QUANTITIES : Building 2					
NAME OF WORK : REPAIR, water Proofing and Plastering and Painting Work			Estimated		
CLIENT : NOOR CHS			DATE : 20-06-2022		
PMC : TAAMRA ENGINEERING CONSULTANTS PVT. LTD , CBD Belapur, Navi Mumbai			Proj No: TEC/PROJ/220401		
ITEM NO.	SHORT DESCRIPTION OF ITEM	Unit	Quantity	Rates	Amount
1	Scaffolding – Providing , constructing and erecting Single or double scaffolding for all the works . The scaffolding will include surrounding the vertical area with safety net/ Vardan to protect against scattering out of the area affecting the people passing by.The supports shall be sound and strong, tied together with horizontal pieces (transverse or Longitudinal) over which scaffolding planks / Challis shall be Placed/ fixed. A scaffold supported from the base by a double row of uprights, independent of support from the walls is expected to be provided. The Scaffolding should be held in position by Tieing with members to pass through holes in the walls made or tieing with uprights placed inside the part of the building taken up for Painting or Plasterinbg or Repairing. Rate should include all cost of horizontal platform, horizontal suppots and diagonal bracing. The Scaffolding for repairing has to be kept erected for the entire period of Repairing, Plastering, painting etc. In case Scaffolding is kept in place for more than six months the scaffolding should be ckcd for the sturdiness and if required should be made good as directed by Engineer. Rates : The rates should include for all the tools, plants, material, machinery, processes, labour for scaffolding, safety measures, transport to and fro, site clearance etc. complete . Mode of measurement: Actual Scaffolding erected will only be measured and paid limited to the height of the Building including Parapets.				
a.	Bamboo Single Scaffolding (for a period six months and beyond six months Tieing should be renewed at no extra cost)	Sqft		9.00	-
b.	Bamboo Double Scaffolding (for a period six months and beyond six months Tieing should be renewed at no extra cost)	Sqft	12,609	16.00	2,01,750.08
c.	Steel Scaffolding (Double Standards) including horizontal supports from Building to hold the Scaffolding in position	Sqft		60.00	-
2	Removal of existing MS or CI grills, RCC Jally, Poly Carbonate Sheets, GI/Galvalume sheets, Tiles, Rain Sheds, FRP sheets, existing steel members, GI/Cast Iron/ PVC Pipes, Rain water Down comers, Wooden Doors, Aluminium/ wooden Windows etc which are necessary in respect of repair items of work to be taken up as per the directions of Engineer/ in consonance with Flat Owners/ Society members and keeping it in safe custody (in such a way that these materials can be fixed back in position as it was) in discussions with the owner & Engineer.				-
a.	Steel Members	kg	QRO	20.00	
b.	Wooden Doors with Frame or without Frame	Sft	QRO	40.00	
c.	Aluminium / wooden windows	sft	490	40.00	19,584.00
d.	PVC pipes of any diameters	rft	QRO	40.00	

e.	GI Pipelines of any diameter	rft	QRO	30.00	
f.	MS Grills/ CI/ Concrete Precast Grills	sft	QRO	30.00	
g.	Rain water down comers (CI or PVC) of any diameter	rft	QRO	30.00	
h.	Ventilators	sft	QRO	40.00	
i.	Wall Tiles	sft	-	30.00	
j.	Floor Tiles	sft	440	30.00	13,200.00
k.	Cuddpah Sills and Jambs for Windows	sft	QRO	30.00	
l.	Cuddapah or Kota Tiles laid over Parapet	sft	QRO	30.00	
m.	Removal of WC	Nos	9	2500.00	22,500.00
n	Removal of China Mosaic layer from the Terrace carefully and clearing the area of protrusions and make the area even for further treatment to be carried out. Note: Grouting , Crack filling and other applications will be paid as per the appropriate items provided separately.		QRO		
o	Top Terrace	Sft		20.00	-
p	Removal of defective substrate below China Mosaic or at Bathroom as directed by Engineer and offer for inspection after cleaning the area appropriately.	Sft	240	27.00	6,480.00
q	Removal of Old Paving Area and damaged Drain lines and chambers suitably as per the Direction of the Engineer. Usable Paver Blocks have to be kept at site for reuse.	Sft	QRO	30.00	
3A	Repairing and Fixing in position the removed items appropriately as directed by Engineer / Society. Note: In case of the unsuitability of old items to be reused as decided by the Society and the Engineer new suitable items should be procured by the contractor with approval from Society/Engineer. Such Purchases will be paid as per actuals separately. Fixing the same in replacement of the same will be included.				
a.	Wooden Doors with Frame or without Frame.	Sft	QRO	180.00	
b.	Aluminium / wooden windows	sft	490	22.00	10,771.20
c.	Removal of electrical Wiring and refixing with new Wiring (without cost of wiring or fittings as directed by Engineer. Note: Contractor has to remove electrical fittings as well with the Point Wiring. Payment will be done per Point basis.	No of	QRO	22.00	
d.	PVC pipes of any diameters (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	QRO	150.00	
e.	GI Pipelines of any diameter (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	-	150.00	
f.	MS Grills/ CI Grills (repaired and painted).	sft	QRO	80.00	
g.	Rain water down comers (CI or PVC) of any diameter (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	QRO	90.00	
h.	Ventilators (damaged rails or mullions should be replaced with new one and make the window as required for fixing in location, and damaged Glass panes to be replaced as required).	sft	QRO	150.00	

I.	Fixing of Wash Basin/WC/other fittings in toilet. Rates to be quoted per Bath Room/WC. Note: The old fittings removed should be checked and reused. Otherwise the Items supplied by Society will be fixed. Contractor has to assist the Society for such purchases.	Nos	9	90.00	810.00
J.	Cuddpah Sills and Jambs	Sqft	QRO	90.00	
3B	Providing & Fixing in position (after removal of items) appropriately as directed by Engineer / Society.				-
a.	Wall Tiles	Sft	-	200.00	
b	Floor Tiles		440	20.00	8,800.00
b (i)	Paver blocks Refixing with available removed Blocks	Sqft	QRO	80.00	
b(ii)	Providing and Fixing Paver Blocks matching with existing ones appropriately as per the directions of Engineer.	Sqft	QRO	175.00	
c(i)	Providing and laying Screed concrete (1:1:2 with 10mm and down stone metal with admixtures of Integral water proofing Compound or Polymer and Recron Fiber) layer over the roof as per the direction of Engineer. (average thickness 40mm). Proper slope to the downcomers has to be provided with proper level pads and checked by	Sqft	QRO	100.00	
d.	Providing and fixing China Mosaic layer as per the pattern and color combination provided by the Society as directed by Engineer.	Sqft	-	95.00	
e.	Providing & fixing Brick bat Coba as per the instruction by engineer at terrace or at bathroom	Sqft	240	105.00	25,200.00
4	6mm thick Ply covering for protection of Windows, Openings, Ventilators etc. while breaking of plaster or breaking of distressed areas or During Painting. Area covered will be measured & paid as directed by Engineer.	sft		21.00	-
5	Breaking and removing of old damaged / deteriorated /debonded PLASTER/CONCRETE/BRICKS/TILES in whole or in patches including removal and disposal of old debris as directed by Engineer. RATES: The rate includes for all the tools, plant,material,machinery,processes, labour, cleaning with water jets,safety measures ,disposal of debris ,site clearances etc. required for the item to complete . MODE OF MEASUREMENT: Initially the Contractor has to mark the areas which require removal and get the approval from Engineer before breaking and removal. The payment will be made as per the actual work done and measured in square metre converted in SqFt.				
a.	Propping : Before breaking of any area of Structural Cracks or distressed portions of the Structural Members propping the identified members with Steel adjustable Props adequately has to be done. No of Props required will be suggested by the Engineer depending upon the Location of the repair to be taken up. The props should be kept at the place undisturbed till the repair has been completed and sufficient time is allowed for the treated member regained the desired strength. Props will be removed on instruction from the Engineer.	Per No per Location	150	250.00	37,500.00
b.	Breaking and removal of Internal plaster (Mark the areas to be broken and show those to the Engineer & take prior approval) including disposal	SqFt	5,816	15.00	87,240.00
c.	Breaking and removal of External plaster (Mark the areas to be broken and show those to the Engineer & take prior approval) including disposal	SqFt	12,609	22.00	2,77,406.36

d.	Breaking of concrete (irrespective of any thickness as required and dispose the same as directed. (Mark the areas to be broken and show those to the Engineer & take prior approval) .	SqFt	5,132	22.00	1,12,904.00
e.	Breaking of Masonry wall including plaster along with concrete elements like Lintels or concrete bands or Mullions (Mark the areas to be broken and show those to the Engineer & take prior approval) and dispose the debris as directed.	Cft	QRO	30.00	
f.	Crack Opening: Cracks need to be investigated by going deeper & opening up. Mapping of the cracks and getting these measured and recorded. Cracks should be opened up in 'V' shape and thoroughly cleaned with water and allowed to Touch dry condition. Cracks are to be treated with Polymer modified mortar with Monobond or equivalent with 1:1 cement and Quartz Sand (Monobond to be used as per the manufacturers recommendations) or with Epoxy formulations mixed with Quartz sand of 300 microns.and surface is matched and finished properly . Note: opening of the Cracks will be decided jointly with Engineer and measured.	Rft	450	50.00	22,500.00
6	Providing and applying 10mm to 12mm thick plaster in cement mortar ratio CM 1:4 (1 cement : 4 sand with appropriate Qty of Synthetic Fibre as approved) to internal surfaces of concrete or Masonry work including applying approved chemical bonding coat before dash / Chhaat coat with slurry like mortar added with Polymer and leave the surface for at least 12 hours (curing for creating a positive bond) before main coarse of plaster. Plaster work also will include supply and fixing of wire mesh, if necessary, at the junction of concrete & Masonry followed by treatment of the Jalli area with polymer modified mortar. All grooves, pattas, Vattas, rounding of corners if any, etc. complete are included in the rates as per specifications & instruction of engineer and finished smooth with proper tools at all leads, lifts as required including cleaning of surfaces, curing, etc. complete as per specification and to the approval of the Engineer RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS " or as decided by the Engineer. The materials to be used as per the manufacturers instruction, methodology, and specification. The rates include for all the tools and plants, material, machinery, processes , labour, scaffolding, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete. Mortar mixing will be done in a tray by using Hand Electrically operated Mixer to ensure homogenous Mortar. Note : Breaking of Plaster and removal of Debris will be paid separately as per item 5b.	SqFt	5,720	90.00	5,14,800.00
a.	OR Plastering may be done with Ready Mix Plaster of approved make. All the specification and scope same as in item no 5 above.	Sft	QRO	120.00	
b.	Providing and applying Cement Sand Plaster on Ceiling of 6 to 8 mm thickness following same procedure and scope as in item no 5 above.	Sft	1,791	85.00	1,52,235.00
c.	Do - Using Ready Mix plaster following the specifications as above	Sft	QRO	110.00	

7	Providing and applying minimum 20 mm thick double coat cement sand plaster, comprising of a Dash / Chhat Coat (Polymer modified 1:4 Cement sand Mortar slurry) left for min 12 hours & curing for proper bond, followed by first coat of 12 mm thick plaster of mix ratio 1:4 (1 cement : 4 sand+ Synthetic Fibre) and Second coat 8 mm thick of mix ratio 1:3 (1 cement : 3 sand) Mixed with Recron fibre or equivalent and integral water proofing compound with sand face finishing matching with existing surface or as required to receive specified architectural external finish, to the correct line, plumb and level to external faces of walls, soffits/ceiling if any, including addition of approved wire mesh fixed at the junction of concrete and Masonry, making drip moulds, grooves and pattas as per specifications and engineer's instructions ; RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS "or/ and as approved by Engineer.The materials to be used as per the manufacturers instruction, methodology, and specification. The rate includes for all the tools and plants, material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete . Rate should include raking out junctions of masonry and concrete and other dissimilar materials, hacking closely concrete surfaces, applying chemical adhesive if any. Note :Breaking of Plaster and removal of Debris will be paid separately as per item 5c.	Sft	12,609	100.00	12,60,938.02
a.	OR Alternatively the Plastering may be done with Ready Mix Plaster of approved make. All the specification and scope same as in item no 3 above.	Sft	QRO	140.00	
8	Providing and constructing burnt clay brick masonry with conventional/ IS type or Modular bricks having minimum crushing strength 35 Kg/Sq. cm and maximum water absorption 20%, in cement mortar 1:6 in 9" thick (Nine inches) brick walls or as per instruction of engineer including raking out joints, filling up gap between brick work and structural members with 1:3:6 concrete using expandable grout admixture, curing, etc. complete at all leads and height as specified. RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS " and as approved by Engineer .The materials to be used as per the manufacturers instruction, methodology, and specification. The rates includes for all the tools & plants material, machinery, processes , ;labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete.	Cft	QRO	410.00	
9	Speciality Repairs for the Distressed RCC members or any other elements in the Building to make the Buildings Structurally stable and thereby enhancement of life. All these items of works will be done by using the Speciality Construction chemicals and materials of proven & effective track records in rehabilitating the structure. Manufacturer's recommendation has to be followed very strictly. The work will involve mapping of the opened areas, check with Engineer the methodology etc. Note: The rates includes for all the tools and plants material, machinery, processes, labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete .				
a.	Grouting with polymer modified cement Slurry wherever required as directed by Engineer. The rate should include fixing of PVC Pipes with appropriate adhesive, preparation of the surface for grout by gravity grout or with Pump. (quantity will be paid as per the cement consumption)	Kg	250	60.00	15,000.00

b.	The distressed area after opening up should be inspected for the Reinforcements corroded or the Cross section is reduced considerably. The reinforcements (opened in such way that it) should have a clearance behind, for proper treatment. Compensatory reinforcements are to be provided by fixing with Coated Shear Connectors of 8mm rods as instructed by the Engineer. Old and new Reinforcements should be cleaned and coated with Phosphating coat/ rust converter followed by Bar Coats (IP Net RB of Krishnaconchem or equivalent). This item is only for the new Reinforcement added as measured. Note : Bar Coat IPNET RB or equivalent for all bars, shear Connectors etc will be paid separately in Item no - 9i and Shear Connectors will be paid as per item 9c) Note : the new supplementary reinforcement should have an adequate Bond length on either side of the heavily corroded bars.	Kg	300	150.00	45,000.00
c.	Provide to Fixing Shear connectors (8 mm dia) coated with Phosphating/Rust converter and Bar Coat as directed by Engineer by drilling holes and the reinforcement including drilling holes, filling the hole with cement polymer paste and fixing with labor tools etc complete as directed by Engineer.	Nos	800	180.00	1,44,000.00
d.	The Slab or Beam Reinforcement if found corroded at the junctions of the Beam or Columns where Compensatory reinforcement bond length not available and not possible then Engineer may decide to use additional structural sections to be provided fixed with adequate nos of Chemical fasteners to make the compensatory bars welded on to those suitably. The old and new Reinforcement and Structural sections should be adequately quoted with Rust Converter and IPnet Rb to ensure adequate bonding of the distressed areas with adjoining Load bearing members. Making holes providing Fasteners, welding of reinforcements will be included in the rates. Note : Bar Coat IPNET RB or equivalent for all bars, shear Connectors etc will be paid separately in Item no - 9h	Kg	40	200.00	8,000.00
e.	The concrete quality in the distressed area, if found to be weak and loose, the area has to be impregnated with low viscose Polymer resin like Monopol of Krihna conchem or equivalent and left for a day before further treatment in the area is taken up. This treatment is to be paid on the basis of Monopal consumption.	Kg	200	900.00	1,80,000.00
f.	The distressed area after removal of distressed layers and cleaning with water spray etc has to be coated with polymer modified cement slurry. After Rebar treatment as per item 9b patch up the area to the depth of the reinforcement with Polymer (Monobond of Krishna Conchem or equivalent) modified concrete with 1:1:2 cement : Quartz Sand : graded and dust free 10mm and down stone metals. It has to be ensured that proper compaction done by pushing with wooden Stick or by hand. The area is kept for a day before further treatment is taken up. Each layer of such Polymar treatment should not be more than 20 to 25mm at a time. Stone metal of 20mm soaked in water may be pushed after each layer for providing adequate bonding of the next layer. If the depth of the fill upto the original surface level is more than 50 mm then after covering the rebars with polymer modified concrete in appropriate layers, the area has to be covered with shuttering and polymer modified Micro concrete (which will be paid separately) may be applied as directed by the Engineer.	Sft	5,132	150.00	7,69,800.00

g.	Providing and creating a corbel in the locations above the Line of the junction of Sheeting and wall by Fixing the Reinforcement (longitudinal 2 bars) fixed onto the existing wall inserting 'U' shaped bars of 8mm dia in drilled and fixed rigidly by polymer modified cement grout and fixing longitudinal bars of 8mm as per the sketch. The whole length of the Corbel is done up with Micro Concrete as instructed including shuttering as necessary. Corbel size 150mm X 100 mm with a drip course below the corbel.	Rft	QRO	150.00	
h.	Use of IPnet Rb krishnaconchem or equivalent to be paid as per the Quantity consumed for the work. Application of Rust Converter will not be paid separately.	litre	100	900.00	90,000.00
i.	Provide and fixing by drilling hole to a depth of 50mm for inserting POWRTHROW (Migratory Corrosion Inhibitor) in case the area of distresses due to excessive corrosion of reinforcement to have a barrier to reinforcement against corrosion.	Nos	85	270.00	22,950.00
j.	Glass Fiber sheets / Carbon Fiber sheets wrapping of unidirectional elements for structural strengthening and seismic retrofitting applications may be done as per direction of Engineer. Surface for Treatment shall be free from oil residues, de-molding agents, curing compounds, Grouting line sand protrusions. The concrete surface to be wrapped shall be structurally repaired prior to treatment for corrosion induced damage / structural damage by epoxy / monomer grouting and epoxy / polymer modified mortar repair systems. Depressions in the concrete shall be filled by specific Putty suggested by the system provider. Differences in concrete levels shall not be more than 1mm. Corners shall be rounded by means of Putty with a radius of 25mm minimum. Application of Superwrap / CF sheet shall be done subsequently over 1st coat application of saturant. Finish coat PU Monopol®-456 or equivalent shall be applied wherever the structures are exposed to sunlight within 2 days of applying the top coat of saturant.	Sqft	QRO	650.00	
10	Waterproofing to chajjas / canopies/ Pump room slab / Lift Machine Room Roof Slab / Toilets Cleaning the surfaces after removal of Brick Bat Coba / flooring etc as per item no 2, of all loose particles, dust, cement laitance etc. and clean the surface with water jets. Prepare a slurry of Monobond with adequate Cement and water for initial coating over the surface. Make a mortar of Cement and sand with Polymer MONOBOND WP added to the mixture and Recron Fiber and cover the area in desired slope to ensure drainage of water from the surface with proper edge preparation and trowel finish. RATES: Rates to include for the use of construction chemicals as mentioned in the "DETAILS OF MATERIALS". The materials to be used as per the manufacturers instruction, methodology, and specification. The rates includes for all the tools and plants material, machinery, processes, labour, curing, safety measures, disposal measures, disposal of debris, site clearance etc. required for the item to complete.	Sft	240	110.00	26,400.00

11	Waterproofing to Terrace/ garden/ swimming pool / Machine Room Roof Slab After removal of China Mosaic (to be paid separately) Cleaning the surfaces of all loose particles, dust, cement laitance etc. and clean the surface with water jets. Check for Cracks or hollowness on IPS layer and Brick bat Coba layer. As directed by Engineer Locate the places for injection Grouting, Hollow portions of IPS Flooring & Brick bat Coba to be removed suitably and reinstate the portions as directed by Engineer. The surface should be dry and free from grease, oil, traces of curing compound etc. Remove the Plaster on the parapet as directed and Cuddapah Layer (these are paid in separate items described separately). Prepare the surface for taking the water proofing of the Terrace as per the manufacturer of the system to be applied. Bore Packing, Angle Fillet, Vata etc : Parapet wall and Floor Junction should be treated with Angle fillet with polymer modified mortar. Bonding agent as approved should be applied before the fillet is made. Contractor will follow the directions from the Manufacturer for the bonding agent. Bore Packing : Clean the area of the Pipe outlet and the adjoining concrete/Masonry surface. Make the area free from protrusions or unevenness. Apply Bonding agent as suggested by the system provider and free flow non shrink grout for bore packing upto minimum 20 to 25mm all around the sleeves. The Contractor has to give Guarantee for 10 years from the Manufacturer of the Formulations to be used for water proofing. RATES: Rates to include for the use of construction chemicals and skilled workmen to complete. test by		QRO		
a.	ASIAN PAINTS SYSTEM : After the substrate prepared and slope provided as per Directions of Engineer and agreed by the system provider (Asian paints) the Concrete surface should be primed with 1 coat of PU Primer, , 40 gsm Geo Textile Fleece to be laid over the primer with Hand Roller and 2 coats of undiluted PU Magnum applied in two perpendicular directions (Manufacturers specification and guidance to be taken from Asian Paints for complete operation). Wait for the surface to air and dry cure for some time while the surface is still tacky Quartz sand of size around 1 to 2mm sprinkled over the surface. Allow the Dry cure to continue for full 24 hours and then damp cure for 4 to 5 days. Note : The water proofing system should be taken over the surface of prepared parapet wall upto 300 mm height. Asian Paints should provide a guarantee for 10 years.	Sft	QRO	75	-

b	OR BERGER PAINTS SYSTEM : Three Coat System of PU ROOF KOAT : After the substrate prepared and slope provided as per Directions of Engineer and agreed by the system provider (Berger paints) apply 1st coat with PU ROOF KOAT with 1:1 dilution as prime coat over the prepared surface. 2nd Coat with PU ROOF KOAT without dilution after 2 to 3 hrs of application of Prime Coat and apply 40gsm Geotextile Fleece on wet condition with end overlapping of 50mm and stick the Fleece properly as directed by Manufacturer. 3rd Coat of PU ROOF KOAT is applied without dilution over 2nd coat with Geotextile fleece after an interval of 6 hours. 4th Course : Wait for the surface to air and dry cure for some time Quartz sand of size around 1 to 2mm sprinkled over the surface when the surface is still tacky. Allow the Dry cure to continue for full 24 hours and then damp cure for 4 to 5 days. Note : The water proofing system should be taken over the surface prepared parapet wall upto 300 mm	Sft		90	-
11	Waterproofing Watertank- chemical water proofing Providing and laying waterproofing for OH water tanks as per specifications listed below : 1)Checking the overhead water tank by filling it with water fully and marking the defective porous areas. 2)Grouting the porous concrete with cementitious grout 1:4. admixed with non -shrink compound. 3)Treating the cracks and construction joints by making 3/4"*3/4" groove and treating it with a (Berger/pidilite/Krishna Conchem Chemical or equivalent) with cement grout 1:4 admixed with non -shrink compound. 4)Making vata (Gola) inside at the interface joint of the RCC slab and wall with CM 1:4 mixed with waterproofing compound. 5)Sealing /packing all joints of outlet pipes etc. with a specialized non-shrink cementitious grout from outside and inside. 6)Providing and applying coats of Food Grade Acrylic Polymer Modified Cementitious Waterproof Coating as per manufacturer's (Asian/Berger/pidilite/Krishna Conchem/Fosroc etc) specifications or as directed by engineer over the entire RCC slab and inside wall surface. NOTE - Water test will be carried out after completion of all the above by filling the tank water fully and to observe for 7 days for any leakages. Make of waterproofing compound/ non shrinkage compound (Berger/pidilite/Krishna Conchem Chemical or equivalent) 7)Providing and laying CM 1:4 screed admixed with waterproofing compound with cement punning as below. over bottom slab 20mm thick screed, ii) At wall 12 to 15mm thick.				-

a.	Apply 2 coats (in Perpendicular direction) of Samartcare Damp Block 2K of Asian Paint's acrylic polymer-modified cementitious high performance coating, as per directions of Manufacturer. Get this surface airdried for 4 to 6 hrs. Apply 2 Coats of Smart care Epoxy TriBlock of Asian Epoxy Cementitious Coating as finish Coat (2nd Coat should be applied in perpendicular to the 1st Coat). Asian Paint should give warranty for 10 years.	Sft	.	60.00	
c	Apply Single Coat of Advance Latex Plus with ration 1:4:7 (Chemical:water:Cement) . After a gap of 6 Hrs 1 Coat of Tank Shield 2K in ratio 1:2 (Liquid Polymer : Cement and Quartz sand Mortar 1:2). After another 6 Hrs 2nd Coat of tank Shield 2K (similar to 1st Coat. These should be coated with Cement slurry after 6 Hrs.	Sft	QRO	60.00	-
12	MICROCONCRETE : Providing and laying in position Micro-concrete for repairs to RCC Structure where ever necessary using (RENDEROC RG of FOSROC , SIKA, Krishnaconchem or Dr. Fixit or equivalent as approved by the Engineer). having minimum compressive strength of 50 n/mm ² . after 28 days (tested on 75X75X75 mm cubes). Note : This item will only include providing necessary formwork for the Micro Concrete to be laid. All other items Viz; Breaking of unsound and weak areas, removal of Debris, providing reinforcement bars, Bar Coats , necessary polymer modified treatment etc will be paid under separate items. as per directed by Engineer. RATES: The rate includes for all the tools, plants material,machinery, processes , labour, shuttering curing, safety measures, disposal measures , disposal of debris , site clearance etc.	Kg	9,000	100.00	9,00,000.00
13	Removal of old Neeru coating and paint in the areas where seepage marks or water leakages are visible (For Part affected wall painting whole wall has to be scrapped for durable and even painted surface. It may be noted that Primer puutty will not adhere on neeru in seepage patches.) as directed by Engineer.	Sft	QRO	25.00	
14	Providing and applying (inside) Two coats of Plastic Emulsion paint (water based) of approved make and of specific color over a coat of Acrylic Interior Primer in Walls, Ceilings, Beams & projections etc as per specifications and as directed by Engineer. NOTE : 1) The rates include for all the tools plants material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. 2) Rates also should include surface preparations by removing paint by abrasive paper and making surface friendly for application of putty from Asian Paint or equivalent and make the surface to look very even and checked against Torch Light.				-
a.	1 coat of primer followed by 2 coats of Apcolite Asian paint or as suggested by the manufacturers	Sft	QRO	50.00	
d.	Equivalent formulations from Berger paint (contractor has to specify the paint being quoted).	Sft	QRO	50.00	

15	Providing and applying (outside) Two coats of finish Coat with Warranty for shade/ color/ water proofing for 10 years of specific color over a coat of suitable exterior Primer in Walls, chajjas & projections etc as per specifications and as directed by Engineer. NOTE : 1) The rates include for all the tools plants material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. 2) Rates also should include surface cleaning by high pressure water jets by using contractors' own pump (owner will provide water in under ground tank and contractor will make arrangement to draw water from there) and surface will be brushed with gunny bags (or others means as contractor may decide) to loosen the surface particles and rewashed to have clean surface for the new paint to adhere with old surface properly. 3) Contractor has to use formulations for hair line cracks etc if appear during washing of the surface with water jet etc.				
a.	Duralife 1 coat (10 year waterproofing Warranty) + ASIAN Paint Ultima Protek 2 Coat (10 Years Paint performance warranty for water proof and color)	sft	QRO	24.00	
b.	System from Berger Paint: Manufacturer has to give 10 years Water Proofing and color for 10 years Primer : Seal O Prime - One Coat Base Coat : Dampshield Elasto Top Coat : Weather Coat (Longlife 10) + PU	Sft		24.00	-
d.	Providing and applying Waterproofing Paint on Parapet wall (On Both Sides), Two coats of finish Coat with Warranty for shade/ color/ water proofing for 10 years of specific color as Mentioned in 10 (a).	Sft		24.00	-
				Total	49,75,769
Total: /-					

				Legends:	
BILL OF QUANTITIES : Building 3B					
NAME OF WORK : REPAIR, water Proofing and Plastering and Painting Work			Estimated		
CLIENT : NOOR CHS			DATE : 20-06-2022		
PMC : TAAMRA ENGINEERING CONSULTANTS PVT. LTD , CBD Belapur, Navi Mumbai			Proj No: TEC/PROJ/220401		
TEM NO.	SHORT DESCRIPTION OF ITEM	Unit	Quantity	Rates	Amount
1	Scaffolding – Providing , constructing and erecting Single or double scaffolding for all the works . The scaffolding will include surrounding the vertical area with safety net/ Vardan to protect against scattering out of the area affecting the people passing by.The supports shall be sound and strong, tied together with horizontal pieces (transverse or Longitudinal) over which scaffolding planks / Challis shall be Placed/ fixed. A scaffold supported from the base by a double row of uprights, independent of support from the walls is expected to be provided. The Scaffolding should be held in position by Tieing with members to pass through holes in the walls made or tieing with uprights placed inside the part of the building taken up for Painting or Plasterinbg or Repairing. Rate should include all cost of horizontal platform, horizontal suppots and diagonal bracing. The Scaffolding for repairing has to be kept erected for the entire period of Repairing, Plastering, painting etc. In case Scaffolding is kept in place for more than six months the scaffolding should be chcked for the sturdiness and if required should be made good as directed by Engineer. Rates : The rates should include for all the tools, plants, material, machinery, processes, labour for scaffolding, safety measures, transport to and fro, site clearance etc. complete . Mode of measurement: Actual Scaffolding erected will only be measured and paid limited to the height of the Building including Parapets.				
a.	Bamboo Single Scaffolding (for a period six months and beyond six months Tieing should be renewed at no extra cost)	Sqft		9.00	-
b.	Bamboo Double Scaffolding (for a period six months and beyond six months Tieing should be renewed at no extra cost)	Sqft		16.00	-
c.	Steel Scaffolding (Double Standards) including horizontal supports from Building to hold the Scaffolding in position	Sqft		60.00	-
2	Removal of existing MS or CI grills, RCC Jally, Poly Carbonate Sheets, GI/Galvalume sheets, Tiles, Rain Sheds, FRP sheets, existing steel members, GI/Cast Iron/ PVC Pipes, Rain water Down comers, Wooden Doors, Aluminium/ wooden Windows etc which are necessary in respect of repair items of work to be taken up as per the directions of Engineer/ in consonance with Flat Owners/ Society members and keeping it in safe custody (in such a way that these materials can be fixed back in position as it was) in discussions with the owner & Engineer.				-
a.	Steel Members	kg	QRO	20.00	
b.	Wooden Doors with Frame or without Frame	Sft	QRO	40.00	
c.	Aluminium / wooden windows	sft	163	30.00	4,896.00
d.	PVC pipes of any diameters	rft	QRO	40.00	
e.	GI Pipelines of any diameter	rft	QRO	30.00	

f.	MS Grills/ CI/ Concrete Precast Grills	sft	QRO	30.00	
g.	Rain water down comers (CI or PVC) of any diameter	rft	QRO	30.00	
h.	Ventilators	sft	QRO	40.00	
i.	Wall Tiles	sft	-	30.00	
j.	Floor Tiles	sft	158	30.00	4,740.00
k.	Cuddpah Sills and Jambs for Windows	sft	QRO	30.00	
l.	Cuddpah or Kota Tiles laid over Parapet	sft	QRO	30.00	
m.	Removal of WC	Nos	3	2500.00	7,500.00
n	Removal of China Mosaic layer from the Terrace carefully and clearing the area of protrusions and make the area even for further treatment to be carried out. Note: Grouting , Crack filling and other applications will be paid as per the appropriate items provided separately.		QRO		
o	Top Terrace	Sft		20.00	-
p	Removal of defective substrate below China Mosaic or at Bathroom as directed by Engineer and offer for inspection after cleaning the area appropriately.	Sft	-	27.00	-
q	Removal of Old Paving Area and damaged Drain lines and chambers suitably as per the Direction of the Engineer. Usable Paver Blocks have to be kept at site for reuse.	Sft	QRO	30.00	
3A	Repairing and Fixing in position the removed items appropriately as directed by Engineer / Society. Note: In case of the unsuitability of old items to be reused as decided by the Society and the Engineer new suitable items should be procured by the contractor with approval from Society/Engineer. Such Purchases will be paid as per actuals separately. Fixing the same in replacement of the same will be included.				-
a.	Wooden Doors with Frame or without Frame.	Sft	QRO	180.00	
b.	Aluminium / wooden windows	sft	163	22.00	3,590.40
c	Removal of electrical Wiring and refixing with new Wiring (without cost of wiring or fittings as directed by Engineer. Note: Contractor has to remove electrical fittings as well with the Point Wiring. Payment will be done per Point basis.	No	QRO	22.00	
d.	PVC pipes of any diameters (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	QRO	75.00	
e.	GI Pipelines of any diameter (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	-	150.00	
f.	MS Grills/ CI Grills (repaired and painted).	sft	QRO	80.00	
g.	Rain water down comers (CI or PVC) of any diameter (generally old pipes may not be usable. However decision to be taken as per direction of Engineer/ Society).	rft	QRO	90.00	
h.	Ventilators (damaged rails or mullions should be replaced with new one and make the window as required for fixing in location, and damaged Glass panes to be replaced as required).	sft	QRO	150.00	

i	Fixing of Wash Basin/WC/other fittings in toilet. Rates to be quoted per Bath Room/WC. Note: The old fittings removed should be checked and reused. Otherwise the Items supplied by Society will be fixed. Contractor has to assist the Society for such purchases.	Nos	3	500.00	1,500.00
j.	Cuddpah Sills and Jambs	Sqft	QRO	90.00	
3B	Providing & Fixing in position (after removal of items) appropriately as directed by Engineer / Society.				
a.	Wall Tiles	Sft	-	200.00	
b	Floor Tiles	Sft	140	20.00	2,800.00
c (i)	Paver blocks Refixing with available removed Blocks	Sqft	QRO	80.00	
c(ii)	Providing and Fixing Paver Blocks matching with existing ones appropriately as per the directions of Engineer.	Sqft	QRO	175.00	
d.	Providing and laying Screed concrete (1:1:2 with 10mm and down stone metal with admixtures of Integral water proofing Compound or Polymer and Recron Fiber) layer over the roof as per the direction of Engineer. (average thickness 40mm). Proper slope to the downcomers has to be provided with proper level pads and checked by Engineer.	Sqft	QRO	100.00	
d.(i)	Providing and fixing China Mosaic layer as per the pattern and color combination provided by the Society as directed by Engineer.	Sqft	-	95.00	-
e.	Providing & fixing Brick bat Coba as per the instruction by engineer at terrace or at bathroom	Sqft	96	105.00	10,080.00
4	6mm thick Ply covering for protection of Windows, Openings, Ventilators etc. while breaking of plaster or breaking of distressed areas or During Painting. Area covered will be measured & paid as directed by Engineer.	sft		21.00	-
5	Breaking and removing of old damaged / deteriorated /debonded PLASTER/CONCRETE/BRICKS/TILES in whole or in patches including removal and disposal of old debris as directed by Engineer. RATES: The rate includes for all the tools, plant,material,machinery,processes, labour, cleaning with water jets,safety measures ,disposal of debris ,site clearances etc. required for the item to complete . MODE OF MEASUREMENT: Initially the Contractor has to mark the areas which require removal and get the approval from Engineer before breaking and removal. The payment will be made as per the actual work done and measured in square metre converted in SqFt.				-
a.	Propping : Before breaking of any area of Structural Cracks or distressed portions of the Structural Members propping the identified members with Steel adjustable Props adequately has to be done. No of Props required will be suggested by the Engineer depending upon the Location of the repair to be taken up. The props should be kept at the place undisturbed till the repair has been completed and sufficient time is allowed for the treated member regained the desired strength. Props will be removed on instruction from the Engineer.	Per No per Location	150	250.00	37,500.00
b.	Breaking and removal of Internal plaster (Mark the areas to be broken and show those to the Engineer & take prior approval) including disposal	SqFt	3,530	15.00	52,950.00
c.	Breaking and removal of External plaster (Mark the areas to be broken and show those to the Engineer & take prior approval) including disposal	SqFt	-	22.00	-
d.	Breaking of concrete (irrespective of any thickness as required and dispose the same as directed. (Mark the areas to be broken and show those to the Engineer & take prior approval) .	SqFt	3,530	22.00	77,660.00

e.	Breaking of Masonry wall including plaster along with concrete elements like Lintels or concrete bands or Mullions (Mark the areas to be broken and show those to the Engineer & take prior approval) and dispose the debris as directed.	Cft	QRO	30.00	
f.	Crack Opening: Cracks need to be investigated by going deeper & opening up. Mapping of the cracks and getting these measured and recorded. Cracks should be opened up in 'V' shape and thoroughly cleaned with water and allowed to Touch dry condition. Cracks are to be treated with Polymer modified mortar with Monobond or equivalent with 1:1 cement and Quartz Sand (Monobond to be used as per the manufacturers recommendations) or with Epoxy formulations mixed with Quartz sand of 300 microns.and surface is matched and finished properly . Note: opening of the Cracks will be decided jointly with Engineer and measured.	Rft	450	50.00	22,500.00
6	Providing and applying 10mm to 12mm thick plaster in cement mortar ratio CM 1:4 (1 cement : 4 sand with appropriate Qty of Synthetic Fibre as approved) to internal surfaces of concrete or Masonry work including applying approved chemical bonding coat before dash / Chhaat coat with slurry like mortar added with Polymer and leave the surface for at least 12 hours (curing for creating a positive bond) before main coarse of plaster. Plaster work also will include supply and fixing of wire mesh, if necessary, at the junction of concrete & Masonry followed by treatment of the Jalli area with polymer modified mortar. All grooves, pattas, Vattas, rounding of corners if any, etc. complete are included in the rates as per specifications & instruction of engineer and finished smooth with proper tools at all leads, lifts as required including cleaning of surfaces, curing, etc. complete as per specification and to the approval of the Engineer RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS " or as decided by the Engineer. The materials to be used as per the manufacturers instruction, methodology, and specification. The rates include for all the tools and plants, material, machinery, processes , labour, scaffolding, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete. Mortar mixing will be done in a tray by using Hand Electrically operated Mixer to ensure homogenous Mortar. Note : Breaking of Plaster and removal of Debris will be paid separately as per item 5b.	SqFt	3,530	90.00	3,17,700.00
a.	OR Plastering may be done with Ready Mix Plaster of approved make. All the specification and scope same as in item no 5 above.	Sft	QRO	120.00	
b.	Providing and applying Cement Sand Plaster on Ceiling of 6 to 8 mm thickness following same procedure and scope as in item no 5 above.	Sft	672	85.00	57,120.00
c.	Do - Using Ready Mix plaster following the specifications as above	Sft	QRO	110.00	

7	Providing and applying minimum 20 mm thick double coat cement sand plaster, comprising of a Dash / Chhat Coat (Polymer modified 1:4 Cement sand Mortar slurry) left for min 12 hours & curing for proper bond, followed by first coat of 12 mm thick plaster of mix ratio 1:4 (1 cement : 4 sand+ Synthetic Fibre) and Second coat 8 mm thick of mix ratio 1:3 (1 cement : 3 sand) Mixed with Recron fibre or equivalent and integral water proofing compound with sand face finishing matching with existing surface or as required to receive specified architectural external finish, to the correct line, plumb and level to external faces of walls, soffits/ceiling if any, including addition of approved wire mesh fixed at the junction of concrete and Masonry, making drip moulds, grooves and pattas as per specifications and engineer's instructions ; RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS "or/ and as approved by Engineer.The materials to be used as per the manufacturers instruction, methodology, and specification. The rate includes for all the tools and plants, material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete . Rate should include raking out junctions of masonry and concrete and other dissimilar materials, hacking closely concrete surfaces, applying chemical adhesive if any. Note :Breaking of Plaster and removal of Debris will be paid separately as per item 5c.	Sft	-	100.00	-
a.	OR Alternatively the Plastering may be done with Ready Mix Plaster of approved make. All the specification and scope same as in item no 3 above.	Sft	QRO	140.00	
8	Providing and constructing burnt clay brick masonry with conventional/ IS type or Modular bricks having minimum crushing strength 35 Kg/Sq. cm and maximum water absorption 20%, in cement mortar 1:6 in 9" thick (Nine inches) brick walls or as per instruction of engineer including raking out joints, filling up gap between brick work and structural members with 1:3:6 concrete using expandable grout admixture, curing, etc. complete at all leads and height as specified. RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS " and as approved by Engineer .The materials to be used as per the manufacturers instruction, methodology, and specification. The rates includes for all the tools & plants material, machinery, processes , ;labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete.	Cft	QRO	410.00	
9	Speciality Repairs for the Distressed RCC members or any other elements in the Building to make the Buildings Structurally stable and thereby enhancement of life. All these items of works will be done by using the Speciality Construction chemicals and materials of proven & effective track records in rehabilitating the structure. Manufacturer's recommendation has to be followed very strictly. The work will involve mapping of the opened areas, check with Engineer the methodology etc. Note: The rates includes for all the tools and plants material, machinery, processes, labour, curing, safety measures, disposal of debris , site clearance etc. required for the item to complete .				-

a.	Grouting with polymer modified cement Slurry wherever required as directed by Engineer. The rate should include fixing of PVC Pipes with appropriate adhesive, preparation of the surface for grout by gravity grout or with Pump. (quantity will be paid as per the cement consumption)	Kg	250	60.00	15,000.00
b.	The distressed area after opening up should be inspected for the Reinforcements corroded or the Cross section is reduced considerably. The reinforcements (opened in such way that it) should have a clearance behind, for proper treatment. Compensatory reinforcements are to be provided by fixing with Coated Shear Connectors of 8mm rods as instructed by the Engineer. Old and new Reinforcements should be cleaned and coated with Phosphating coat/ rust converter followed by Bar Coats (IP Net RB of Krishnaconchem or equivalent). This item is only for the new Reinforcement added as measured. Note : Bar Coat IPNET RB or equivalent for all bars, shear Connectors etc will be paid separately in Item no - 9i and Shear Connectors will be paid as per item 9c) Note : the new supplementary reinforcement should have an adequate Bond length on either side of the heavily corroded bars.	Kg	300	150.00	45,000.00
c.	Provide to Fixing Shear connectors (8 mm dia) coated with Phosphating/Rust converter and Bar Coat as directed by Engineer by drilling holes and the reinforcement including drilling holes, filling the hole with cement polymer paste and fixing with labor tools etc complete as directed by Engineer.	Nos	800	180.00	1,44,000.00
d.	The Slab or Beam Reinforcement if found corroded at the junctions of the Beam or Columns where Compensatory reinforcement bond length not available and not possible then Engineer may decide to use additional structural sections to be provided fixed with adequate nos of Chemical fasteners to make the compensatory bars welded on to those suitably. The old and new Reinforcement and Structural sections should be adequately quoted with Rust Converter and IPnet Rb to ensure adequate bonding of the distressed areas with adjoining Load bearing members. Making holes providing Fasteners, welding of reinforcements will be included in the rates. Note : Bar Coat IPNET RB or equivalent for all bars, shear Connectors etc will be paid separately in Item no - 9h	Kg	40	200.00	8,000.00
e.	The concrete quality in the distressed area, if found to be weak and loose, the area has to be impregnated with low viscose Polymer resin like Monopol of Krihna conchem or equivalent and left for a day before further treatment in the area is taken up. This treatment is to be paid on the basis of Monopal consumption.	Kg	200	900.00	1,80,000.00

f.	The distressed area after removal of distressed layers and cleaning with water spray etc has to be coated with polymer modified cement slurry. After Rebar treatment as per item 9b patch up the area to the depth of the reinforcement with Polymer (Monobond of Krishna Conchem or equivalent) modified concrete with 1:1:2 cement : Quartz Sand : graded and dust free 10mm and down stone metals. It has to be ensured that proper compaction done by pushing with wooden Stick or by hand. The area is kept for a day before further treatment is taken up. Each layer of such Polymar treatment should not be more than 20 to 25mm at a time. Stone metal of 20mm soaked in water may be pushed after each layer for providing adequate bonding of the next layer. If the depth of the fill upto the original surface level is more than 50 mm then after covering the rebars with polymer modified concrete in appropriate layers, the area has to be covered with shuttering and polymer modified Micro concrete (which will be paid separately) may be applied as directed by the Engineer.	Sft	3,530	150.00	5,29,500.00
g.	Providing and creating a corbel in the locations above the Line of the junction of Sheeting and wall by Fixing the Reinforcement (longitudinal 2 bars) fixed onto the existing wall inserting 'U' shaped bars of 8mm dia in drilled and fixed rigidly by polymer modified cement grout and fixing longitudinal bars of 8mm as per the sketch. The whole length of the Corbel is done up with Micro Concrete as instructed including shuttering as necessary. Corbel size 150mm X 100 mm with a drip course below the corbel.	Rft	QRO	150.00	
h.	Use of IPnet Rb krishnaconchem or equivalent to be paid as per the Quantity consumed for the work. Application of Rust Converter will not be paid separately.	litre	100	900.00	90,000.00
i.	Provide and fixing by drilling hole to a depth of 50mm for inserting POWRTHROW (Migratory Corrosion Inhibitor) in case the area of distresses due to excessive corrosion of reinforcement to have a barrier to reinforcement against corrosion.	Nos	85	270.00	22,950.00
j.	Glass Fiber sheets / Carbon Fiber sheets wrapping of unidirectional elements for structural strengthening and seismic retrofitting applications may be done as per direction of Engineer. Surface for Treatment shall be free from oil residues, de-molding agents, curing compounds, Grouting line sand protrusions. The concrete surface to be wrapped shall be structurally repaired prior to treatment for corrosion induced damage / structural damage by epoxy / monomer grouting and epoxy / polymer modified mortar repair systems. Depressions in the concrete shall be filled by specific Putty suggested by the system provider. Differences in concrete levels shall not be more than 1mm. Corners shall be rounded by means of Putty with a radius of 25mm minimum. Application of Superwrap / CF sheet shall be done subsequently over 1st coat application of saturant. Finish coat PU Monopol®-456 or equivalent shall be applied wherever the structures are exposed to sunlight within 2 days of applying the top coat of saturant.	Sqft	QRO	650.00	

10	Waterproofing to chajjas / canopies/ Pump room slab / Lift Mchine Room Roof Slab / Toilets Cleaning the surfaces after removal of Brick Bat Coba / flooring etc as per item no 2, of all loose particles, dust, cement laitance etc. and clean the surface with water jets. Prepare a slurry of Monobond with adequate Cement and water for initial coating over the surface. Make a mortar of Cement and sand with Polymer MONOBOND WP added to the mixture and Recron Fiber and cover the area in desired slope to ensure drainage of water from the surface with proper edge preparatioon and trowel finish. RATES: Rates to include for the use of construction chemicals as mentioned in the " DETAILS OF MATERIALS ".The materials to be used as per the manufacturers instruction, methodology, and specification. The rates includes for all the tools and plants material,machinery, processes , labour,curing,safety measures, disposal measures , disposal of debris , site clearance etc. required for the item to complete .	Sqft	96	110.00	10,560.00
11	Waterproofing to Terrace/ garden/ swimming pool / Machine Room Roof Slab After removal of China Mosaic (to be paid separately) Cleaning the surfaces of all loose particles, dust, cement laitance etc. and clean the surface with water jets. Check for Cracks or hollowness on IPS layer and Brick bat Coba layer. As directed by Engineer Locate the places for injection Grouting, Hollow portions of IPS Flooring & Brick bat Coba to be removed suitably and reinstate the portions as directed by Engineer. The surface should be dry and free from grease, oil, traces of curing compound etc. Remove the Plaster on the parapet as directed and Cuddapah Layer (these are paid in separate items described separately). Prepare the surface for taking the water proofing of the Terrace as per the manufacturer of the system to be applied. Bore Packinvg, Angle Fillet, Vata etc : Parapet wall and Floor Junction should be treated with Angle fillet with polymer modified mortar. Bonding agent as approved should be applied before the fillet is made. Contractor will follow the directions from the Manufacturer for the bonding agent. Bore Packing : Clean the area of the Pipe outlet and the adjoining concrete/Masonry surface. Make the area free from protrusions or unevenness. Appy Bonding agent as suggested by the system provider and free flow non shrink grout for bore packing upto minimum 20 to 25mm all around the sleeves. The Contractor has to give Guarruntee for 10 years from the Manufacturer of the Formulations to be used for water proofing. RATES: Rates to include for the use of construction chemicals and skilled workmen to complete. test by Water ponding and checks. The materials to be used as per the manufacturers instruction,		QRO		

a.	ASIAN PAINTS SYSTEM : After the substrate prepared and slope provided as per Directions of Engineer and agreed by the system provider (Asian paints) the Concrete surface should be primed with 1 coat of PU Primer, , 40 gsm Geo Textile Fleece to be laid over the primer with Hand Roller and 2 coats of undiluted PU Magnum applied in two perpendicular directions (Manufacturers specification and guidance to be taken from Asian Paints for complete operation). Wait for the surface to air and dry cure for some time while the surface is still tacky Quartz sand of size around 1 to 2mm sprinkled over the surface. Allow the Dry cure to continue for full 24 hours and then damp cure for 4 to 5 days. Note : The water proofing system should be taken over the surface of prepared parapet wall upto 300 mm height. Asian Paints should provide a guarantee for 10 years.	Sqft	QRO	75.00	
b	OR BERGER PAINTS SYSTEM : Three Coat System of PU ROOF KOAT : After the substrate prepared and slope provided as per Directions of Engineer and agreed by the system provider (Berger paints) apply 1st coat with PU ROOF KOAT with 1:1 dilution as prime coat over the prepared surface. 2nd Coat with PU ROOF KOAT without dilution after 2 to 3 hrs of application of Prime Coat and apply 40gsm Geotextile Fleece on wet condition with end overlapping of 50mm and stick the Fleece properly as directed by Manufacturer. 3rd Coat of PU ROOF KOAT is applied without dilution over 2nd coat with Geotextile fleece after an interval of 6 hours. 4th Course : Wait for the surface to air and dry cure for some time Quartz sand of size around 1 to 2mm sprinkled over the surface when the surface is still tacky. Allow the Dry cure to continue for full 24 hours and then damp cure for 4 to 5 days. Note : The water proofing system should be taken over the surface prepared parapet wall upto 300 mm	Sqft		90.00	-

11	Waterproofing Watertank- chemical water proofing Providing and laying waterproofing for OH water tanks as per specifications listed below : 1)Checking the overhead water tank by filling it with water fully and marking the defective porous areas. 2)Grouting the porous concrete with cementitious grout 1:4. admixed with non -shrink compound. 3)Treating the cracks and construction joints by making 3/4"*3/4" groove and treating it with a (Berger/pidilite/Krishna Conchem Chemical or equivalent) with cement grout 1:4 admixed with non -shrink compound. 4)Making vata (Gola) inside at the interface joint of the RCC slab and wall with CM 1:4 mixed with waterproofing compound. 5)Sealing /packing all joints of outlet pipes etc. with a specialized non-shrink cementitious grout from outside and inside. 6)Providing and applying coats of Food Grade Acrylic Polymer Modified Cementitious Waterproof Coating as per manufacturer's (Asian/Berger/pidilite/Krishna Conchem/Fosroc etc) specifications or as directed by engineer over the entire RCC slab and inside wall surface. NOTE - Water test will be carried out after completion of all the above by filling the tank water fully and to observe for 7 days for any leakages. Make of waterproofing compound/ non shrinkage compound (Berger/pidilite/Krishna Conchem Chemical or equivalent) 7)Providing and laying CM 1:4 screed admixed with waterproofing compound with cement punning as below. over bottom slab 20mm thick screed, ii) At wall 12 to 15mm thick.				
a.	Apply 2 coats (in Perpendicular direction) of Samartcare Damp Block 2K of Asian Paint's acrylic polymer-modified cementitious high performance coating, as per directions of Manufacturer. Get this surface airdryed for 4 to 6 hrs. Apply 2 Coats of Smart care Epoxy TriBlock of Asian Epoxy Cemetitious Coating as finish Coat (2nd Coat should be applied in perpendicular to the 1st Coat). Asian Paint should give warranty for 10 years.	Sft	.	60.00	
c	Apply Single Coat of Advance Latex Plus with ration 1:4:7 (Chemical:water:Cement) . After a gap of 6 Hrs 1 Coat of Tank Shield 2K in ratio 1:2 (Liquid Polymer : Cement and Quartz sand Mortar 1:2). After another 6 Hrs 2nd Coat of tank Shield 2K (similar to 1st Coat. These should be coated with Cement slurry after 6 Hrs.	Sft	QRO	60.00	

12	MICROCONCRETE : Providing and laying in position Micro-concrete for repairs to RCC Structure where ever necessary using (RENDEROC RG of FOSROC , SIKA, Krishnaconchem or Dr. Fixit or equivalent as approved by the Engineer). having minimum compressive strength of 50 n/mm2 . after 28 days (tested on 75X75X75 mm cubes). Note : This item will only include providing necessary formwork for the Micro Concrete to be laid. All other items Viz; Breaking of unsound and weak areas, removal of Debris, providing reinforcement bars, Bar Coats , necessary polymer modified treatment etc will be paid under separate items. as per directed by Engineer. RATES: The rate includes for all the tools, plants material,machinery, processes , labour, shuttering curing, safety measures, disposal measures , disposal of debris , site clearance etc.	Kg	9,000	100.00	9,00,000.00
13	Removal of old Neeru coating and paint in the areas where seepage marks or water leakages are visible (For Part affected wall painting whole wall has to be scrapped for durable and even painted surface. It may be noted that Primer puutty will not adhere on neeru in seepage patches.) as directed by Engineer.	Sft	QRO	25.00	
14	Providing and applying (inside) Two coats of Plastic Emulsion paint (water based) of approved make and of specific color over a coat of Acrylic Interior Primer in Walls, Ceilings, Beams & projections etc as per specifications and as directed by Engineer. NOTE : 1) The rates include for all the tools plants material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. 2) Rates also should include surface preparations by removing paint by abrasive paper and making surface friendly for application of putty from Asian Paint or equivalent and make the surface to look very even and checked against Torch Light.				
a.	1 coat of primer followed by 2 coats of Apcolite Asian paint or as suggested by the manufacturers	Sft	QRO	50.00	
b.	Equivalent formulations from from Berger paint (contractor has to specify the paint being quoted).	Sft	QRO	50.00	
15	Providing and applying (outside) Two coats of finish Coat with Warranty for shade/ color/ water proofing for 10 years of specific color over a coat of suitable exterior Primer in Walls, chajjas & projections etc as per specifications and as directed by Engineer. NOTE : 1) The rates include for all the tools plants material, machinery, processes , labour, curing, safety measures, disposal of debris , site clearance etc. 2) Rates also should include surface cleaning by high pressure water jets by using contractors' own pump (owner will provide water in under ground tank and contractor will make arrangement to draw water from there) and surface will be brushed with gunny bags (or others means as contractor may decide) to loosen the surface particles and rewashed to have clean surface for the new paint to adhere with old surface properly. 3) Contractor has to use formulations for hair line cracks etc if appear during washing of the surface with water jet etc.				

a.	Duralife 1 coat (10 year waterproofing Warranty) + ASIAN Paint Ultima Protek 2 Coat (10 Years Paint performance warranty for water proof and color)	sft	QRO	24.00	-
b.	System from Berger Paint: Manufacturer has to give 10 years Water Proofing and color for 10 years Primer : Seal O Prime - One Coat Base Coat : Dampshield Elasto Top Coat : Weather Coat (Longlife 10) + PU	Sft		24.00	-
c.	Providing and applying Waterproofing Paint on Parapet wall (On Both Sides), Two coats of finish Coat with Warranty for shade/ color/ water proofing for 10 years of specific color as Mentioned in 10 (a).	Sft		24.00	-
				Total	25,45,546