

# Support Action for Strengthening PAlestine capabilities for seismic Risk Mitigation

## SASPARM 2.0

### 2013

# Example on the compilation of forms for existing buildings

## STUDENTS



## *Reference Building: CITIZENS*





# Example of how compile the form CITIZENS

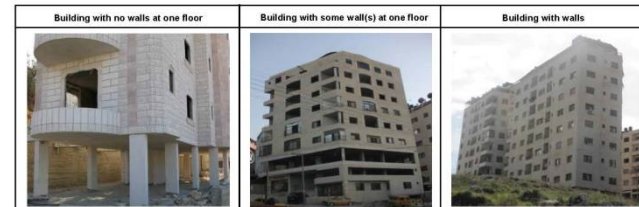
## GENERAL FORM FOR THE BUILDING CITIZENS

Name of the compiler	W A L A A J A J A J A J
Education level	C I V I L E N G I N E E R I N G
Faculty	E N G I N E E R I N G
Department	

<b>1) Identification of the Building</b>	
Municipality N J A B L U S	
Street name	Street number 0 4 9 9
Name of the building 0 7 7	
Geographical Coordinates (WGS 84 System)	
Lat. N 3 2 1 3 2 8 1 0 4	Long. E 1 3 5 1 6 0 3 1 4 3 0
Position of Building :	
<input checked="" type="radio"/> 1 Isolated Building <input type="radio"/> 2 Internal Building <input type="radio"/> 3 End Building <input type="radio"/> 4 Corner Building	

2) Description of the Building																																
N° of floors	Age	Type of Use	N° Units of use	Use - Exposure	Property																											
N° Total floors with basement <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input checked="" type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9 <input type="radio"/> 10 <input type="radio"/> 11 <input type="radio"/> ≥12 N° Basements <input checked="" type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> ≥3	Construction and renovation [max 2] <input type="checkbox"/> 1 ≤ 1919 <input type="checkbox"/> 2 19 + 45 <input type="checkbox"/> 3 46 ÷ 61 <input type="checkbox"/> 4 62 ÷ 71 <input type="checkbox"/> 5 72 ÷ 81 <input type="checkbox"/> 6 82 ÷ 91 <input type="checkbox"/> 7 91 + 02 <input checked="" type="checkbox"/> 8 ≥ 2002	<input checked="" type="checkbox"/> Housing <input type="checkbox"/> Productive <input type="checkbox"/> Trade <input type="checkbox"/> Offices <input type="checkbox"/> Public Service <input type="checkbox"/> Deposit <input type="checkbox"/> Strategic <input type="checkbox"/> Touristic - Accommodation	2 0	% of Use A <input type="radio"/> > 65% B <input type="radio"/> 30÷65% C <input type="radio"/> ≤ 30% D <input checked="" type="radio"/> Under Construction E <input type="radio"/> Unfinished F <input type="radio"/> Abandoned	Occupants <table style="font-size: small;"> <tr><td>100</td><td>10</td><td>1</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </table> A <input type="radio"/> Public B <input checked="" type="radio"/> Private	100	10	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
100	10	1																														
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																														
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																														
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																														

3) Main Material of the Building's Vertical Structure													
Masonry	<input type="radio"/> A	If the building is in reinforced concrete:											
	<input checked="" type="radio"/> B	B.1 <input type="checkbox"/> The building has no walls at floor(s): <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4				B.2 <input type="checkbox"/> The building has partially walls at floor(s): <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4							
	<input type="radio"/> C	<input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8				<input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8							
<input type="radio"/> D		<input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> ≥12				<input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> ≥12							
		B.3 <input type="checkbox"/> The building is composed totally by walls											



<b>4) Notes</b>
Building Code including the street no and building no: 405-0499-077

Date 2 0 1 5 1 0 1 9	The Compiler (Block Letters) W A L A A J A J	Signature of the Compiler
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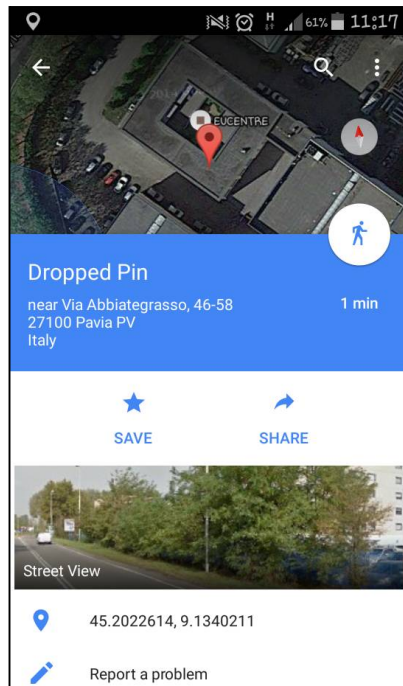




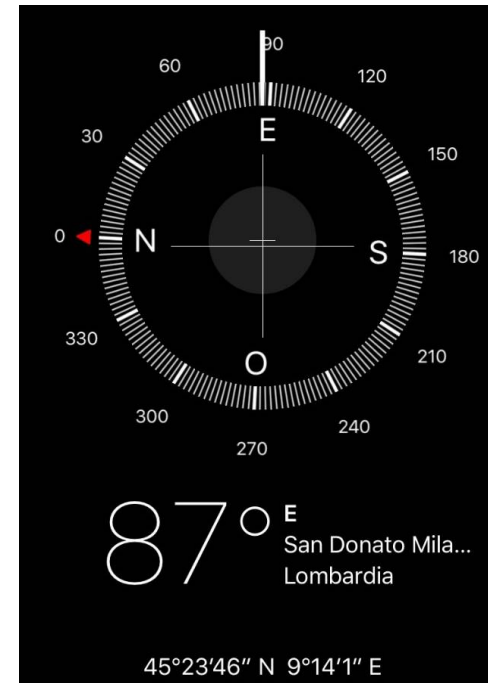
## Identification of the Building: *Geographical Coordinates*

Geographical Coordinates (WGS 84 System)	Lat.   N   3   2   1   3   2   8   ,   1   0   4
	Long.   E   3   5   1   6   0   3   ,   4   3   0

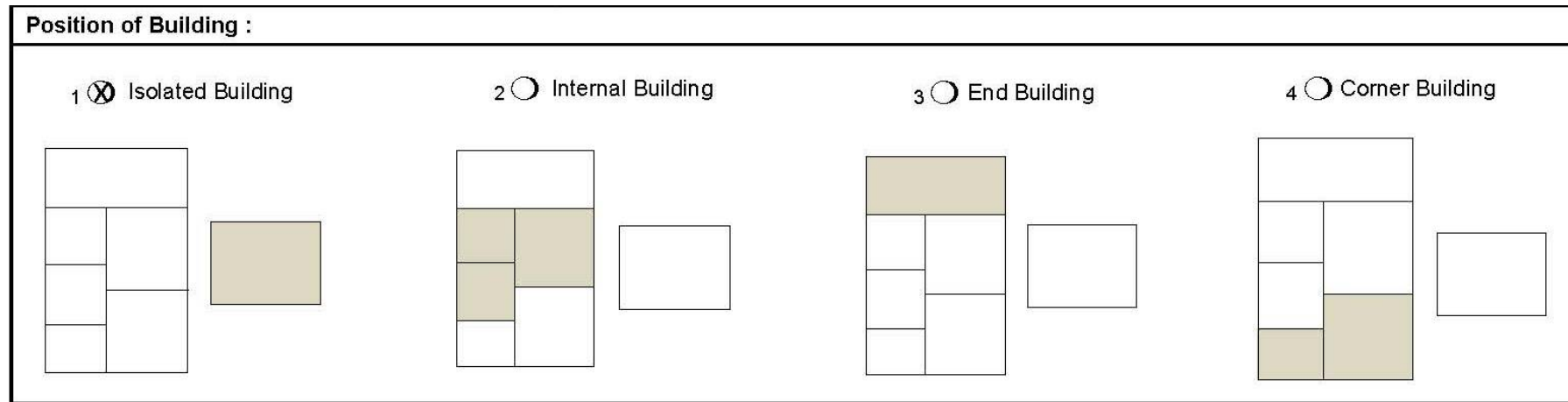
### Geographical Coordinates (Android):



### Geographical Coordinates (IOS):



## Identification of the Building: *Position of Building*



- ✓ To point out link/connection between buildings
- ✓ Useful element to understand structural interaction and evaluate vulnerability

## Identification of the Building: *Position of Building*

 **Isolated Building**

 **End Building**

 **Internal Buildings**

 **Corner Buildings**



## Section 2: Description of Building

### Metrics, Age of construction, Use – Exposure, Property

2) Description of the Building																																				
N° of floors		Age	Use - Exposure			Property																														
N° Total floors with basement		Construction and renovation [max 2]	Type of Use	N° Units of use	% of Use	Occupants																														
<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input checked="" type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9 <input type="radio"/> 10 <input type="radio"/> 11 <input type="radio"/> ≥12 N° Basements <input checked="" type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> ≥3	1 <input type="checkbox"/> ≤ 1919 2 <input type="checkbox"/> 19 ÷ 45 3 <input type="checkbox"/> 46 ÷ 61 4 <input type="checkbox"/> 62 ÷ 71 5 <input type="checkbox"/> 72 ÷ 81 6 <input type="checkbox"/> 82 ÷ 91 7 <input type="checkbox"/> 91 ÷ 02 8 <input checked="" type="checkbox"/> ≥ 2002						<input checked="" type="checkbox"/> Housing <input type="checkbox"/> Productive <input type="checkbox"/> Trade <input type="checkbox"/> Offices <input type="checkbox"/> Public Service <input type="checkbox"/> Deposit <input type="checkbox"/> Strategic <input type="checkbox"/> Touristic - Accomodation	2   0   	A <input type="radio"/> > 65% B <input type="radio"/> 30÷65% C <input type="radio"/> < 30% D <input checked="" type="radio"/> Under Construction E <input type="radio"/> Unfinished F <input type="radio"/> Abandoned	100    10    1 <table border="1"> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td><td>2</td></tr> <tr><td>3</td><td>3</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td><td>6</td></tr> <tr><td>7</td><td>7</td><td>7</td></tr> <tr><td>8</td><td>8</td><td>8</td></tr> <tr><td>9</td><td>9</td><td>9</td></tr> </table>	0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8
0	0	0																																		
1	1	1																																		
2	2	2																																		
3	3	3																																		
4	4	4																																		
5	5	5																																		
6	6	6																																		
7	7	7																																		
8	8	8																																		
9	9	9																																		



## Description of Building: *N° of floor*

N° of floors		
N° Total floors with basement		
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
<input type="radio"/> 4	<input type="radio"/> 5	<input checked="" type="radio"/> 6
<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
<input type="radio"/> 10	<input type="radio"/> 11	<input type="radio"/> ≥12
N° Basements		
<input checked="" type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2
<input type="radio"/> ≥3		



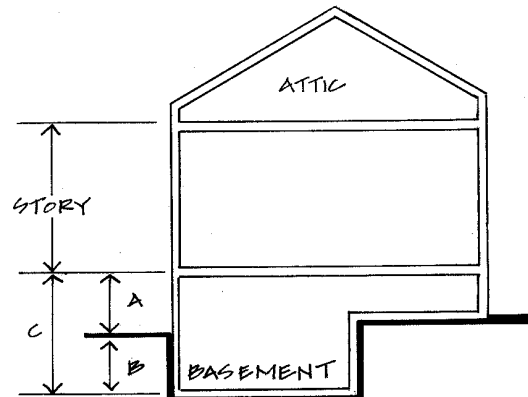
6th  
5th  
4th  
3rd  
2nd  
1st



**NO**

**BASEMENT**

If  $A < B \rightarrow$  C basement



## Description of Building: Age

Age	
Construction and renovation [max 2]	
1	<input type="checkbox"/> ≤ 1919
2	<input type="checkbox"/> 19 ÷ 45
3	<input type="checkbox"/> 46 ÷ 61
4	<input type="checkbox"/> 62 ÷ 71
5	<input type="checkbox"/> 72 ÷ 81
6	<input type="checkbox"/> 82 ÷ 91
7	<input type="checkbox"/> 91 ÷ 02
8	<input checked="" type="checkbox"/> ≥ 2002

Period in which building was built or when it has been subjected to a **significant restoration** (structural part).

**Remember: max 2 choices!**



## Description of Building: Use – Exposure and Property

- ✓ Select all kind of use taking place in the building and its related number of units.
- ✓ % Use: indicate % use for spatial and/or temporal term according to 3 levels or, if building is not used, choose among 3 alternatives.
- ✓ Occupants: indicate the number of persons that are usually present in the building.
- ✓ Type of Property: public or private.

Use - Exposure			Property		
Type of Use	N° Units of use	% of Use	Occupants		
			100	10	1
<input checked="" type="checkbox"/> Housing	20	A <input type="radio"/> > 65%	0	0	0
<input type="checkbox"/> Productive		B <input type="radio"/> 30÷65%	1	1	1
<input type="checkbox"/> Trade		C <input type="radio"/> < 30%	2	2	2
<input type="checkbox"/> Offices		D <input checked="" type="radio"/> Under Construction	3	3	3
<input type="checkbox"/> Public Service		E <input type="radio"/> Unfinished	4	4	4
<input type="checkbox"/> Deposit		F <input type="radio"/> Abandoned	5	5	5
<input type="checkbox"/> Strategic			6	6	6
<input type="checkbox"/> Touristic - Accomodation			7	7	7
			8	8	8
			9	9	9

A  Public

B  Private



## Section 3: Main Material of the Building's Vertical Structure

3) Main Material of the Building's Vertical Structure	
Masonry	<p>If the building is in reinforced concrete:</p> <p>B.1 <input type="checkbox"/> The building has no walls at floor(s):</p> <p><input checked="" type="checkbox"/> 1    <input type="checkbox"/> 2    <input type="checkbox"/> 3    <input type="checkbox"/> 4</p> <p><input type="checkbox"/> 5    <input type="checkbox"/> 6    <input type="checkbox"/> 7    <input type="checkbox"/> 8</p>
	<p>B.2 <input type="checkbox"/> The building has partially walls at floor(s):</p> <p><input type="checkbox"/> 1    <input type="checkbox"/> 2    <input type="checkbox"/> 3    <input type="checkbox"/> 4</p> <p><input type="checkbox"/> 5    <input type="checkbox"/> 6    <input type="checkbox"/> 7    <input type="checkbox"/> 8</p> <p><input type="checkbox"/> 9    <input type="checkbox"/> 10    <input type="checkbox"/> 11    <input type="checkbox"/> ≥12</p>
A <input type="radio"/>	<p>B <input checked="" type="radio"/></p> <p>B.3 <input type="checkbox"/> The building is composed totally by walls</p>

1 Reinforced Concrete

2 No Walls at 1st Floor



## *Reference Building: PRACTITIONERS*







## Section 1: Identification of the Building

Name of the compiler	J   A   L   A   L   A   L   D   A   B   B   E   E   K
Education level	P   H   D

1) Identification of the Building			
Municipality	N   A   B   L   U   S		
Street name	Street number   0   9   8   2		
Name of the building	0   0   3		
Geographical Coordinates (WGS 84 System)	Lat.   N   3   2   1   3   1   4   0   7   1   Long.   E   3   5   1   4   1   3   8   5   1		
Position of Building :			
1 <input checked="" type="radio"/> Isolated Building	2 <input type="radio"/> Internal Building	3 <input type="radio"/> End Building	4 <input type="radio"/> Corner Building

This section is **EQUAL** to the one of the form for **CITIZENS**





## Section 2: Description of Building

### Metrics, Age of construction, Use – Exposure, Property

2) Description of the Building										
Metrics				Age	Use - Exposure					
N° Total floors with basement	Average of floor height [m]	Average of floor area [m <sup>2</sup> ]		Construction and renovation [max 2]	Type of Use	N° units of use	% of Use	Occupants		
		A	I					100	10	1
<input type="radio"/> 1 <input checked="" type="radio"/> 9	1 <input type="radio"/> < 2.50	A <input type="radio"/> < 50	I <input type="radio"/> 401 ÷ 500	1 <input type="checkbox"/> ≤ 1919	<input checked="" type="checkbox"/> Housing	<input type="text" value="1"/> <input type="text" value="9"/>	A <input type="radio"/> > 65%	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checked="" type="text" value="1"/>
<input type="radio"/> 2 <input type="radio"/> 10	2 <input checked="" type="radio"/> 2.50 ÷ 3.50	B <input type="radio"/> 51 ÷ 70	L <input checked="" type="radio"/> 501 ÷ 650	2 <input type="checkbox"/> 19 ÷ 45	<input type="checkbox"/> Productive	<input type="text"/>	B <input checked="" type="radio"/> 30 ÷ 65%	<input checked="" type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
<input type="radio"/> 3 <input type="radio"/> 11	3 <input type="radio"/> 3.51 ÷ 5.0	C <input type="radio"/> 71 ÷ 100	M <input type="radio"/> 651 ÷ 900	3 <input type="checkbox"/> 46 ÷ 61	<input type="checkbox"/> Trade	<input type="text"/>	C <input type="radio"/> < 30%	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="2"/>
<input type="radio"/> 4 <input type="radio"/> 12	4 <input type="radio"/> > 5.0	D <input type="radio"/> 101 ÷ 130	N <input type="radio"/> 901 ÷ 1200	4 <input type="checkbox"/> 62 ÷ 71	<input type="checkbox"/> Offices	<input type="text"/>	D <input type="radio"/> Under Construction	<input type="text" value="3"/>	<input type="text" value="3"/>	<input type="text" value="3"/>
<input type="radio"/> 5 <input type="radio"/> > 12	N° Basements	E <input type="radio"/> 131 ÷ 170	O <input type="radio"/> 1201 ÷ 1600	5 <input type="checkbox"/> 72 ÷ 81	<input type="checkbox"/> Public Service	<input type="text"/>	E <input type="radio"/> Unfinished	<input type="text" value="4"/>	<input type="text" value="4"/>	<input type="text" value="4"/>
<input type="radio"/> 6		A <input checked="" type="radio"/> 0 C <input type="radio"/> 2	F <input type="radio"/> 171 ÷ 230	P <input type="radio"/> 1601 ÷ 2200	6 <input type="checkbox"/> 81 ÷ 91	<input checked="" type="checkbox"/> Deposit	<input type="text" value="5"/>	F <input type="radio"/> Abandoned	<input type="text" value="5"/>	<input type="text" value="5"/>
<input type="radio"/> 7	B <input type="radio"/> 1 D <input type="radio"/> ≥ 3	G <input type="radio"/> 231 ÷ 300	Q <input type="radio"/> 2201 ÷ 3000	7 <input type="checkbox"/> 91 ÷ 02	<input type="checkbox"/> Strategic	<input type="text"/>		<input type="text" value="6"/>	<input type="text" value="6"/>	<input type="text" value="6"/>
<input type="radio"/> 8		H <input type="radio"/> 301 ÷ 400	R <input type="radio"/> > 3000	8 <input checked="" type="checkbox"/> ≥ 2002	<input type="checkbox"/> Touristic - Accomodation	<input type="text"/>		<input type="text" value="7"/>	<input type="text" value="7"/>	<input type="text" value="7"/>
					Property		A <input type="radio"/> Public	B <input checked="" type="radio"/> Private		

✓ Indicate the average floor height

✓ Indicate the floor area



## Section 3: Structural Data – Vertical Structure of the Building

3) Structural Data	
Vertical Structure of the Building	
Masonry	Reinforced Concrete
	<p>If the building is in reinforced concrete:</p> <p>B.1 <input type="checkbox"/> The building has no walls at floors:</p> <p><input type="checkbox"/> 1    <input type="checkbox"/> 2    <input type="checkbox"/> 3    <input type="checkbox"/> 4</p> <p><input type="checkbox"/> 5    <input type="checkbox"/> 6    <input type="checkbox"/> 7    <input type="checkbox"/> 8</p> <p><input type="checkbox"/> 9    <input type="checkbox"/> 10    <input type="checkbox"/> 11    <input type="checkbox"/> ≥12</p> <p>B.2 <input checked="" type="checkbox"/> The building has partially walls at floors:</p> <p><input type="checkbox"/> 1    <input checked="" type="checkbox"/> 2    <input checked="" type="checkbox"/> 3    <input type="checkbox"/> 4</p> <p><input type="checkbox"/> 5    <input type="checkbox"/> 6    <input type="checkbox"/> 7    <input type="checkbox"/> 8</p> <p><input type="checkbox"/> 9    <input type="checkbox"/> 10    <input type="checkbox"/> 11    <input type="checkbox"/> ≥12</p> <p>B.3 <input type="checkbox"/> The building is composed totally by walls</p> <p>B.4 <input type="checkbox"/> The building has RC shear walls</p>
A <input type="radio"/>	B <input checked="" type="radio"/>

1 Reinforced Concrete

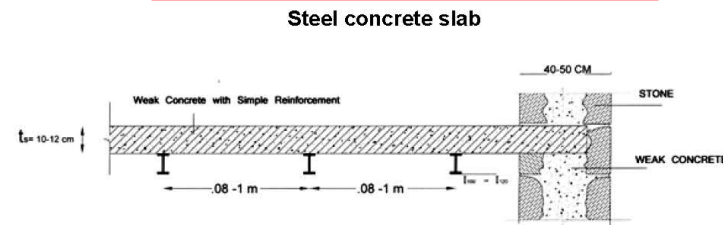
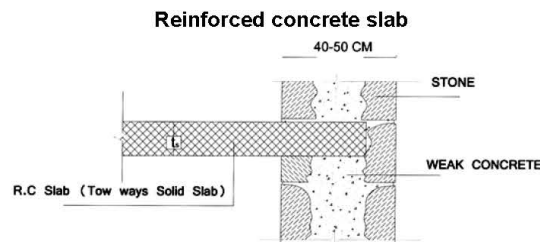
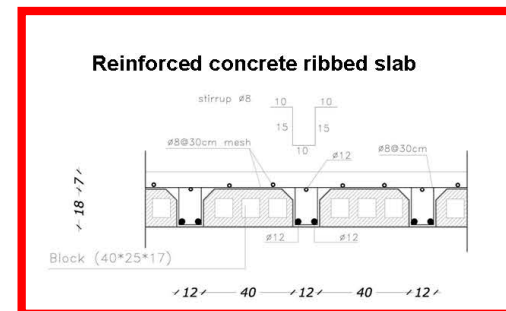
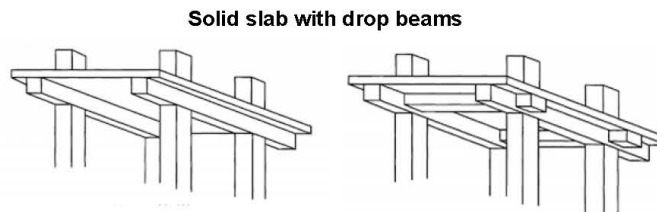
2 The building has partially walls at 2<sup>nd</sup> and 3<sup>rd</sup> floors



## Section 3: Horizontal Structure

Horizontal Structure				
Not identified	Solid slab with drop beams	Reinforced concrete ribbed slab	Reinforced concrete slab	Steel concrete slab
○	□	☒	□	□

### Type of slabs



## Section 3: *Horizontal Structure*

Roof			
Heavy and flat	Heavy and sloped	Light and flat	Light and sloped
⊗	○	○	○



**Heavy:** reinforced concrete roof or roof with water tanks

**Light:** steel or wood roof without water tanks and/or heavy plates/tiles such as natural stone

**Flat**



**Sloped**



## Section 4: Regularity (UNI EN 1998-1:2005)

4) Regularity			
In plan		In elevation	
Regular	Not regular	Regular	Not regular
○	⊗	○	⊗



### In plan: Not regular

- ✓ The building plan is not symmetrical, with respect to two orthogonal axes.
- ✓ The building plan has re-entrant corners and edge recesses.

### In elevation: Not regular

- ✓ Soft story at 2nd and 3th floors.
- ✓ Vertical structural elements are not continuous from foundation to roof or reduce gradually, from the base to the top of the building



## Section 5: Geomorphological Data

5) Geomorphological Data						
Morphology site				Landslides		Category of soil foundation
Ridge	Strong slope	Slight slope	Lowland	Absent	Existing	
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	[C]

### Category of soil foundation

- ✓ **UNI EN 1998-1:2005**
- ✓ **Jordanian Building Code (in accordance with UBC97)**



## Notes

- ✓ **Section 4** (Form for Citizens)
- ✓ **Section 6** (Form for Practitioners)
- ✓ Optional Field, if you want to describe building's features in more details.
- ✓ Remember to input the date and your signature.
- ✓ At the end of the form, quick information and the meaning of each section are available.



# Thank you for your attention!

