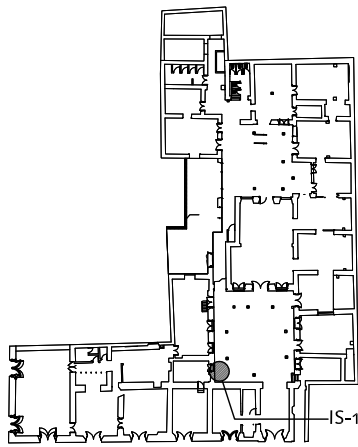


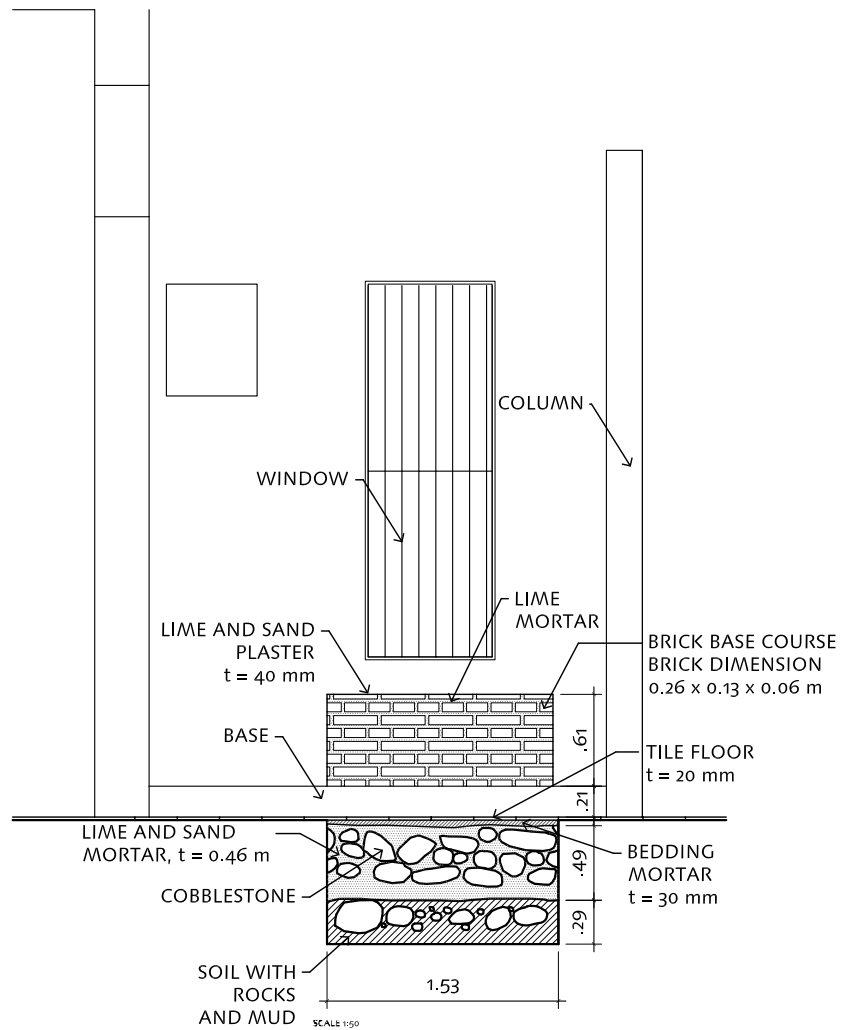
APPENDIX C

Prospection Drawings

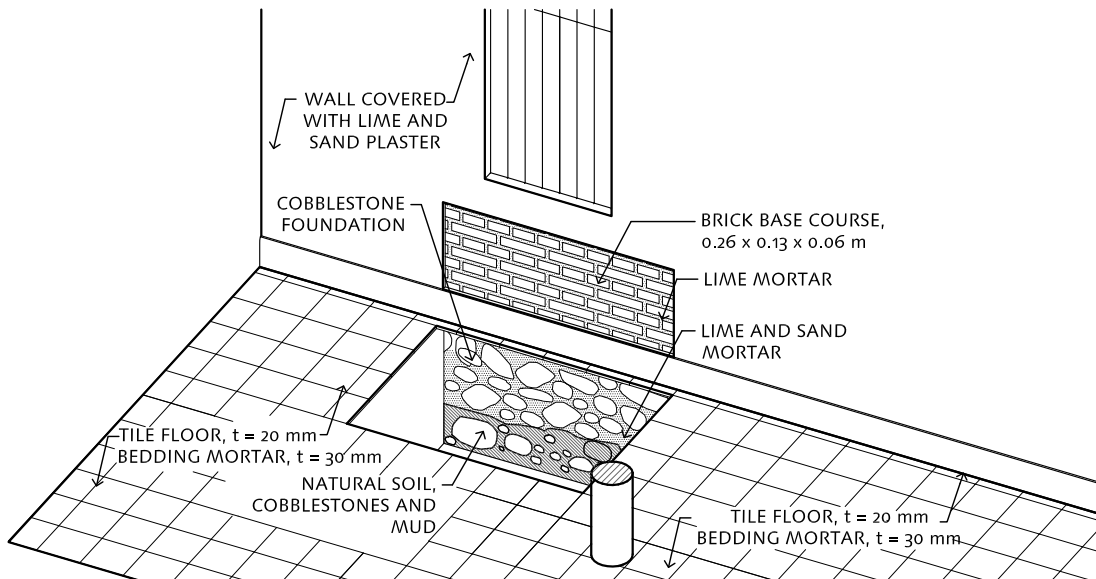


**FIRST FLOOR
REFERENCE PLAN**

NO SCALE



SECTION IS-1
SCALE 1:50



AXONOMETRIC
NO SCALE

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building:
HOTEL COMERCIO
Lima, Perú

Sheet Title:
Structural Prospection
IS-1

Drafted By:
Fernando Olmos

Supervisor:
Arch. Mirna Soto

Facilitator:
Universidad Católica Sedes Sapientiae

Edited and Translated By:
Jabdiel Zapata

Date:
October 2011

Scale:
As noted

Sheet No.:

HC-P-1



IS-1

IS-1

IS-1

THIS OPENING IS LOCATED AT THE FIRST PATIO AND HAS THE OBJECTIVE OF EXPLORING THE FOUNDATIONS.

THE FLOOR IS COVERED WITH CONCRETE TILE SET IN A CEMENT AND SAND MORTAR BED. BELOW THE TILES THERE IS DAMP SOIL WITH A LARGE QUANTITY OF COBBLESTONES HAVING A DIAMETER BETWEEN 0.20 m AND 0.30 m. THIS IS TYPICAL OF SOIL IN LIMA.

THE FOUNDATION OF THE WALL ADJACENT TO THE NORTHEAST SIDE OF PATIO IS ALSO CONSTRUCTED WITH COBBLESTONES SET IN A LIME AND SAND MORTAR AND IS APPROXIMATELY 0.46 m DEEP. BELOW THE FOUNDATION COBBLESTONES THERE IS A NATURAL COMPACTED CLAY SOIL CONTAINING LOTS OF COBBLESTONES.

IT IS IMPORTANT TO NOTE THAT BELOW THE FLOOR TILE, BRICK WALLS WERE FOUND. THE CONFIGURATION OF THESE WALLS IS DIFFERENT FROM THE WALLS OF THE CURRENT BUILDING, SUGGESTING THAT THEY ARE THE REMAINS OF AN EARLIER STRUCTURE ON THE SITE.

AT THE WALL ABOVE, FIRED BRICK SET IN A LIME AND SAND MORTAR WAS OBSERVED IN AN AREA CORRESPONDING TO THE WINDOW SILL. HOWEVER, IN A SMALL OPENING BETWEEN THE WINDOWS, MUD BRICKS WERE OBSERVED AT THE SAME LEVEL AS THE FIRED BRICKS IN THE FIRST OPENING. THIS WOULD INDICATE THAT THE WINDOW OPENINGS ARE REINFORCED WITH FIRED BRICKS. A SIMILAR SITUATION WAS ALSO OBSERVED AT THE WINDOW OPENINGS IN THE SECOND PATIO (NO OPENINGS WERE MADE, AS THE BRICK WAS VISIBLE AS A RESULT OF THE POOR CONDITION OF THE SECOND PATIO).

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



UNIVERSITY OF BATH



PONTIFICIA UNIVERSIDAD CATOLICA DEL PERU

Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IS-1

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

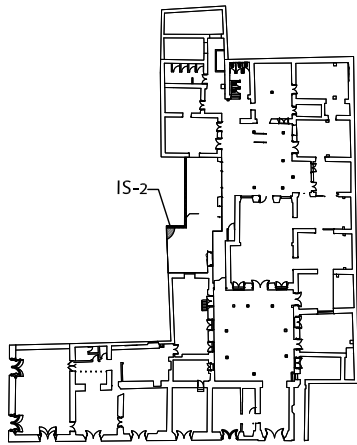
October 2011

Scale:

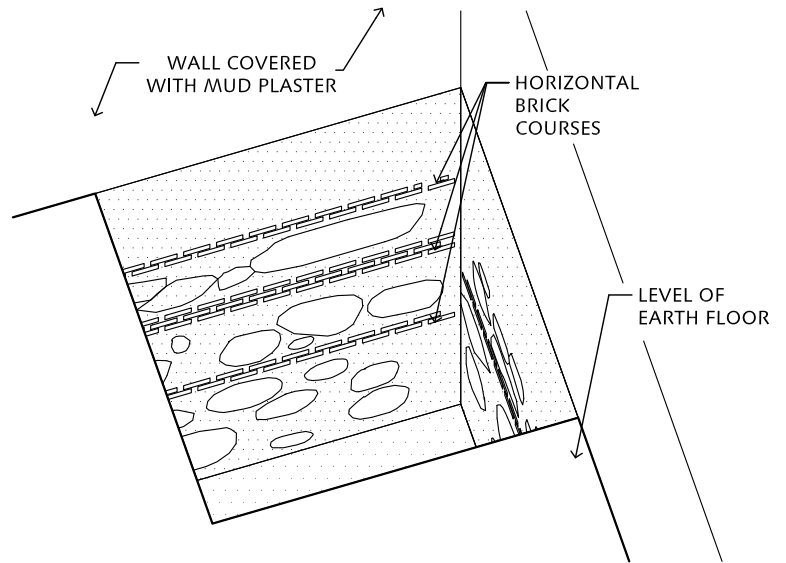
As noted

Sheet No.:

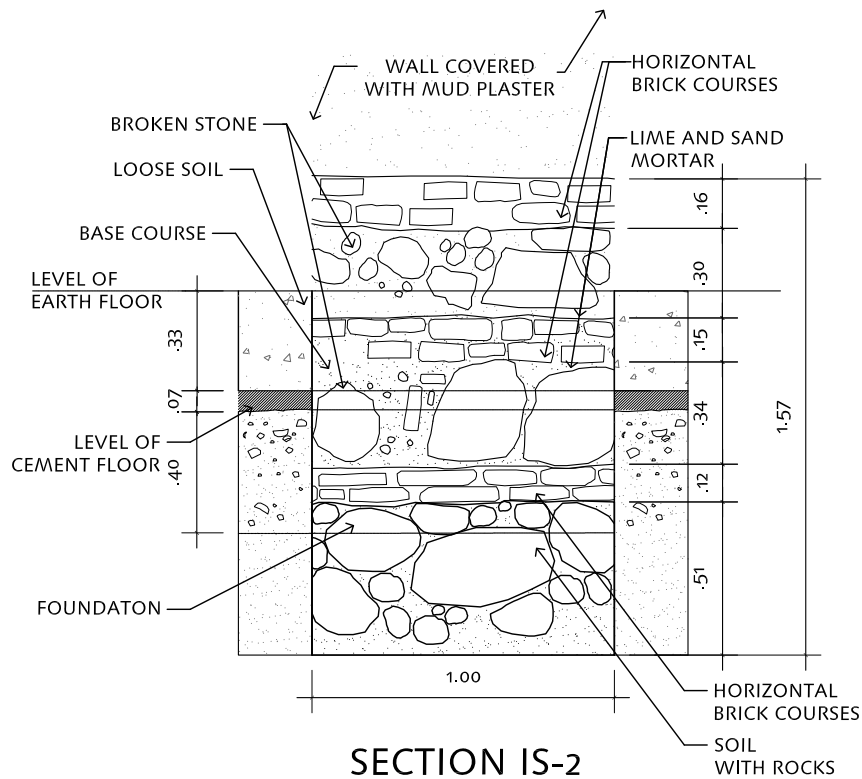
HC-P-2



**FIRST FLOOR
REFERENCE PLAN**
NO SCALE



ISOMETRIC
NO SCALE



SECTION IS-2
SCALE 1:25

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IS-2

Drafted By:

Fernando Olmos

Supervisor:

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Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

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Date:

October 2011

Scale:

As noted

Sheet No.:

HC-P-3



IS-2



IS-2



IS-2

IS-2

THIS OPENING IS LOCATED NEAR THE SECOND PATIO, IN AN AREA OF THE BUILDING THAT HAS COLLAPSED, AND IT ALLOWS ONE TO OBSERVE THE FOUNDATION AT THE PARTY WALL WITH THE BUILDING TO THE SOUTHEAST.

AT THE HIGHEST LEVEL THERE IS A 0.33 m DEEP LAYER OF EARTH ORIGINATING FROM THE COLLAPSE OF THE CEILINGS AND WALLS IN THIS AREA. BELOW THIS IS A CONCRETE SLAB FLOOR, HAVING A DEPTH OF 0.07 m. THIS IS FOLLOWED BY A 0.40 m DEEP LAYER OF DAMP AND LOOSE SOIL, WITH CERAMIC TILE FRAGMENTS DISTRIBUTED THROUGHOUT IT. BELOW THIS IS A LAYER OF COMPACTED SOIL WHICH CORRESPONDS TO THE HISTORIC FLOOR LEVEL.

AT THE BASE OF THE WALL, ONE CAN OBSERVE BOTH THE FOUNDATION AND BASE COURSE, WHICH HAVE AN OVERALL HEIGHT OF 1.57 m AND ARE CONSTRUCTED WITH RUBBLE STONES SET IN A LIME AND SAND MORTAR, INTERSPERSED WITH TWO CONSECUTIVE COURSES OF FIRED BRICK MASONRY SET IN A LIME AND SAND MORTAR. ABOVE THE BASE COURSE, THE WALL IS CONSTRUCTED WITH MUD BRICKS AND MUD MORTAR.

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative

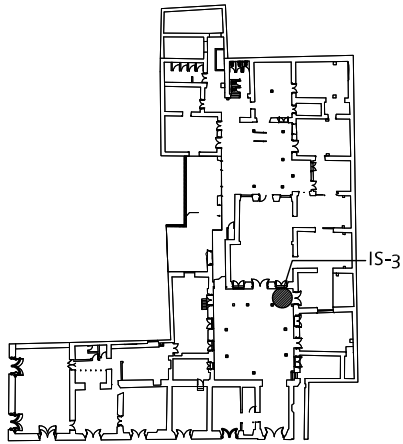


Building: **HOTEL COMERCIO**
Lima, Perú

Sheet Title: **Structural Prospection**
IS-2

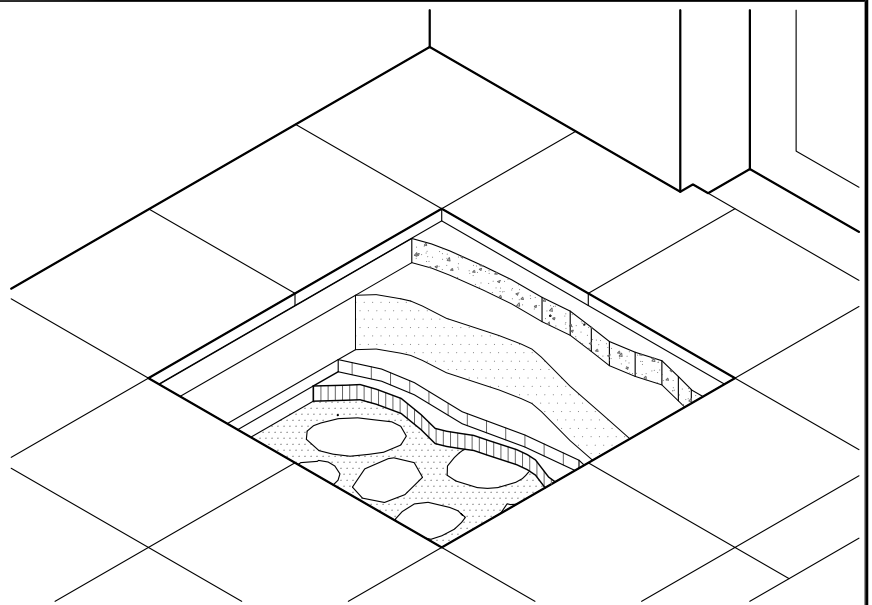
Drafted By: Fernando Olmos
Supervisor: Arch. Mirna Soto
Facilitator: Universidad Católica Sedes Sapientiae
Edited and Translated By: Jabdiel Zapata

Date: October 2011
Scale: As noted
Sheet No.: **HC-P-4**



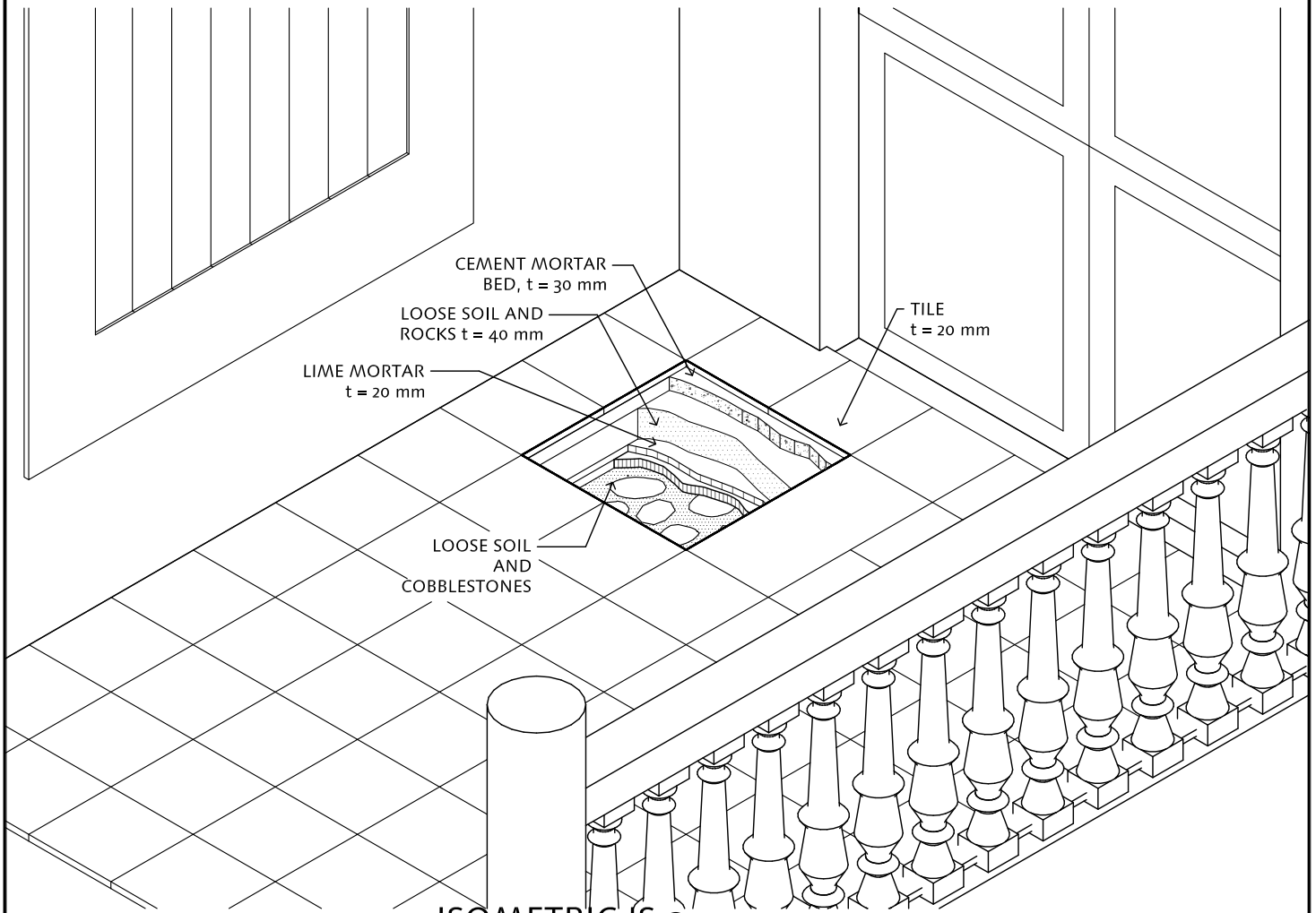
**FIRST FLOOR
REFERENCE PLAN**

NO SCALE



DETAIL OF IS-3

NO SCALE



CEMENT MORTAR BED, t = 30 mm
 LOOSE SOIL AND ROCKS t = 40 mm
 TILE t = 20 mm
 LIME MORTAR t = 20 mm
 LOOSE SOIL AND COBBLESTONES

ISOMETRIC IS-3

NO SCALE

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building: **HOTEL COMERCIO**
Lima, Perú

Sheet Title: **Structural Prospection**
IS-3

Drafted By:
Fernando Olmos

Supervisor:
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Facilitator:
Universidad Católica Sedes Sapientiae

Edited and Translated By:
Jabdiel Zapata

Date:
October 2011

Scale:
As noted

Sheet No.:

HC-P-5



IS-3

IS-3

IS-3

THIS OPENING IS LOCATED AT THE ELEVATED PLATFORM AT THE SOUTHWEST SIDE OF THE PRINCIPAL PATIO. THE FLOOR IS CONSTRUCTED WITH CONCRETE TILE SET IN A LIME AND SAND MORTAR BED. BELOW THIS IS A 0.04 m DEEP LAYER OF LOOSE SOIL, FOLLOWED BY A LAYER OF COMPACTED SOIL, AND A LAYER OF MUD AND LIME MORTAR. AT A TOTAL DEPTH OF 0.15 m, THERE ARE COBBLESTONES SET IN MUD, WHICH ACTS AS A FILLING MATERIAL FOR THE PLATFORM.

True scale when printed on 8-1/2" x 11" sheet.

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The Earthen Architecture Initiative



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Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IS-3

Drafted By:

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Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:
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Date:

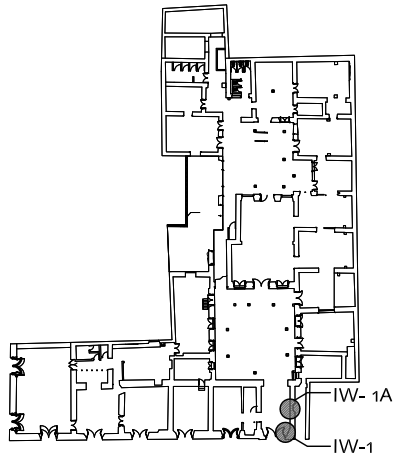
October 2011

Scale:

As noted

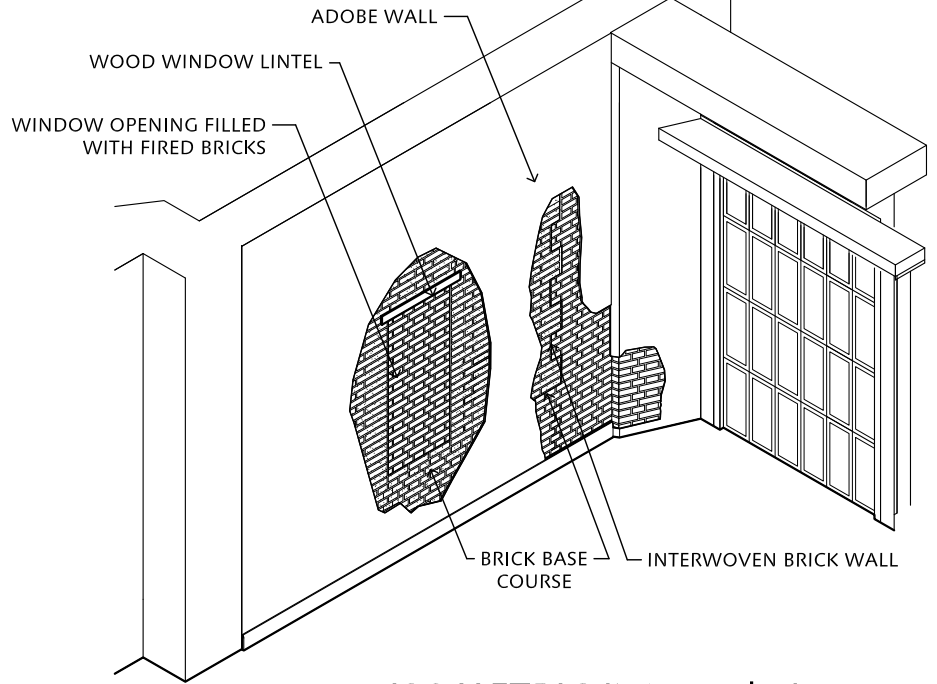
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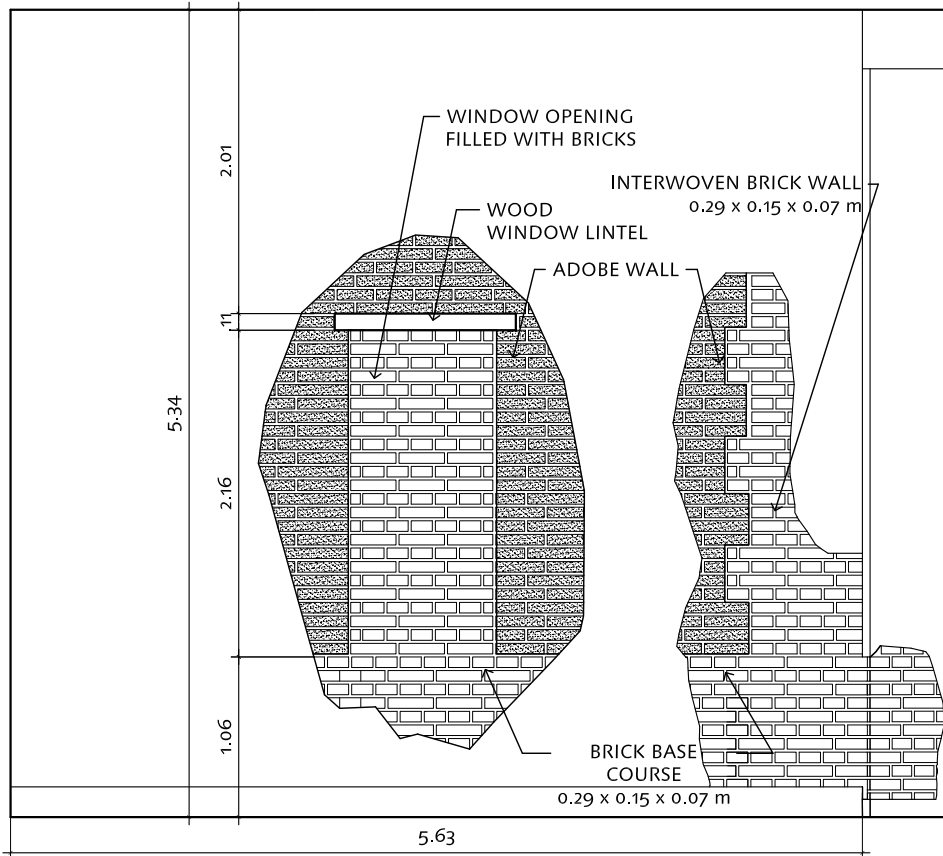
**FIRST FLOOR
REFERENCE PLAN**

NO SCALE



ISOMETRIC IW-1 and 1A

NO SCALE



ELEVATION IW-1 and 1A

SCALE 1:50

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building:
HOTEL COMERCIO
Lima, Perú

Sheet Title:
Structural Prospections
IW-1 and 1A

Drafted By:
Fernando Olmos

Supervisor:
Arch. Mirna Soto

Facilitator:
Universidad Católica Sedes Sapientiae

Edited and Translated By:
Jabdiel Zapata

Date:
October 2011

Scale:
As noted

Sheet No.:

HC-P-7



IW- 1



IW- 1



IW- 1



IW- 1



IW- 1

IW-1 - 1A

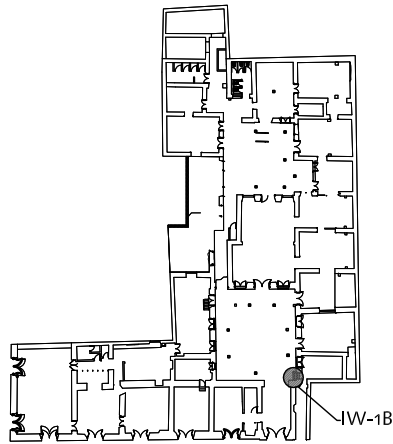
THESE OPENINGS ARE LOCATED IN THE WEST CORNER OF THE ENTRY HALL, NEAR THE ENTRANCE PORTAL. THEY SHOW A FIRED BRICK BASE WITH A MUD BRICK AND MORTAR WALL ABOVE. THE ENTRANCE PORTAL IS CONSTRUCTED WITH FIRED BRICKS SET IN A LIME AND SAND MORTAR, AND THE BRICKS CONTINUE INTO THE WALL THAT IS PERPENDICULAR TO THE PORTAL AND ARE THEN INTERWOVEN WITH THE ADJACENT MUD BRICKS.

IN THE CENTER OF THE SOUTHWEST WALL THERE IS WINDOW OPENING THAT HAS BEEN INFILLED WITH FIRED BRICKS. THE INFILLED OPENING HAS A FIRED BRICK SURROUND ABOVE THE BASE COURSE AND A WOOD LINTEL.

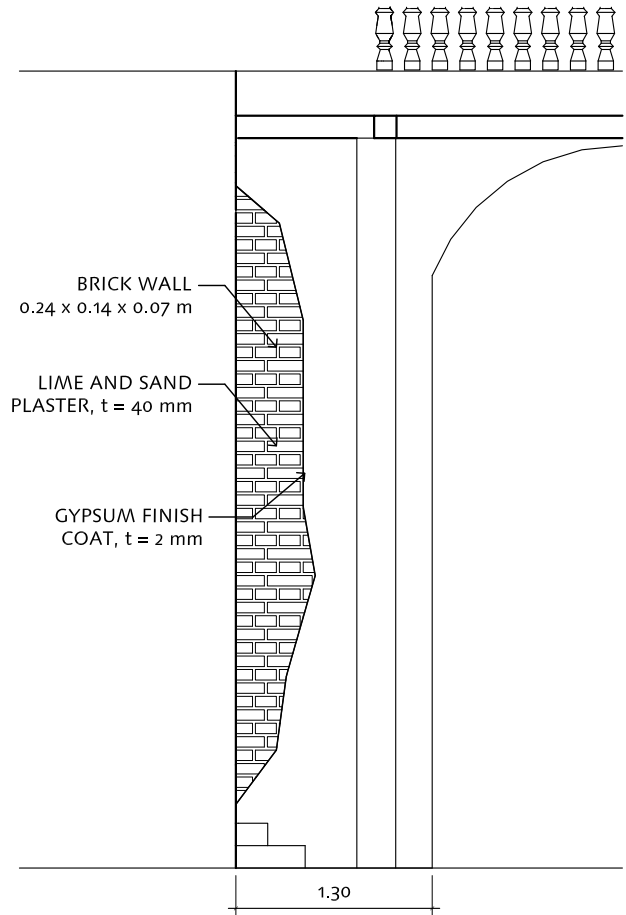
ALL OF THESE MATERIALS ARE COVERED WITH A THICK PLASTER OF LIME, SAND, AND CEMENT.

True scale when printed on 8-1/2" x 11" sheet.

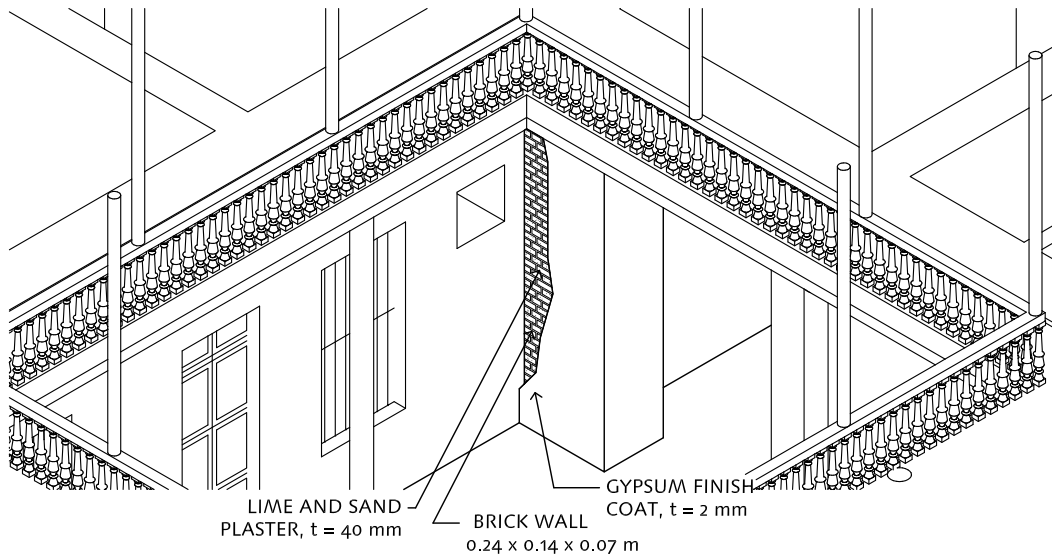
SEISMIC RETROFITTING PROJECT The Earthen Architecture Initiative 	Building: HOTEL COMERCIO Lima, Perú	Drafted By: Fernando Olmos	Date: October 2011
	Sheet Title: Structural Prospections IW-1 and IA	Supervisor: Arch. Mirna Soto	Scale: As noted



**FIRST FLOOR
REFERENCE PLAN**
NO SCALE



ELEVATION IW-1B
SCALE 1:50



ISOMETRIC IW-1B
NO SCALE

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building:
HOTEL COMERCIO
Lima, Perú

Sheet Title:
**Structural Prospection
IW- 1B**

Drafted By:
Fernando Olmos

Supervisor:
Arch. Mirna Soto

Facilitator:
Universidad Católica Sedes Sapientiae

Edited and Translated By:
Jabdiel Zapata

Date:
October 2011

Scale:
As noted

Sheet No.:

HC-P-9



IW- 1B

IW-1B

THIS DETAIL IS LOCATED ON THE WALL THAT SEPARATES THE ENTRY HALL FROM THE FIRST PATIO. A SERIES OF SMALL HOLES REVEALED PILLARS AND AN ARCH CONSTRUCTED OF FIRED BRICK SET IN A LIME AND SAND MORTAR. THE 40 mm THICK PLASTER CONSISTS OF LIME AND SAND WITH SOME CEMENT COVERED BY A GYPSUM FINISH COAT AND PAINT.

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Drafted By:

Fernando Olmos

Date:

October 2011

Supervisor:

Arch. Mirna Soto

Scale:

As noted

Sheet Title:

Structural Prospection
IW-IB

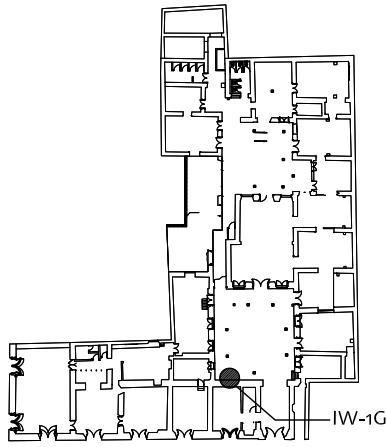
Facilitator:

Universidad Católica Sedes Sapientiae

Sheet No.:

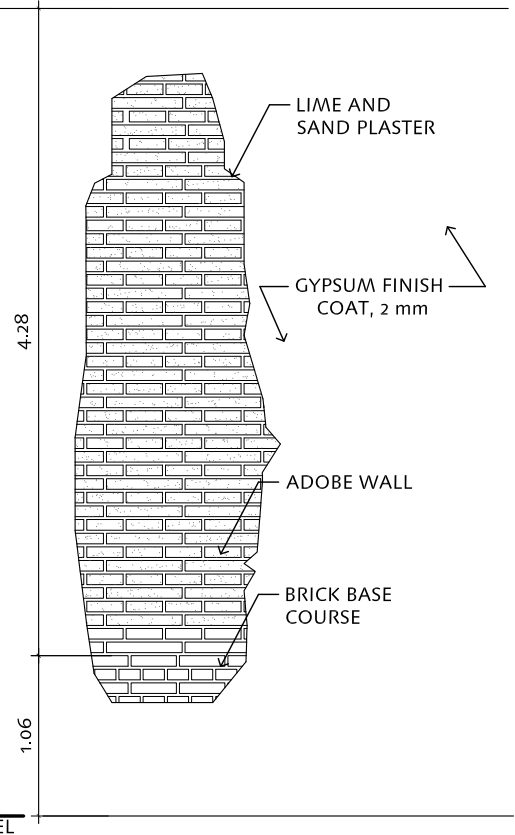
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HC-P-10



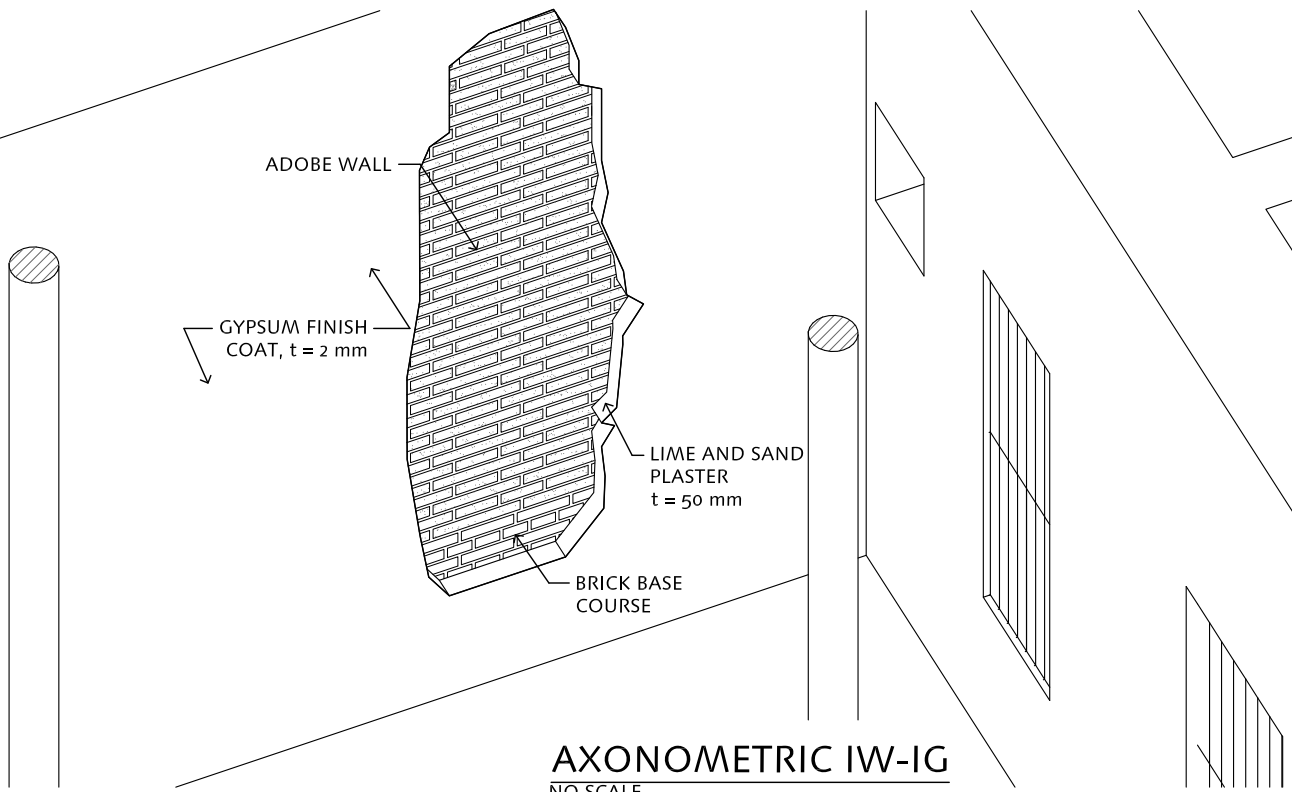
**FIRST FLOOR
REFERENCE PLAN**

NO SCALE



ELEVATION

SCALE 1:50



AXONOMETRIC IW-1G

NO SCALE

True scale when printed on 8-1/2" x 11" sheet.

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Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IW- 1G

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

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Edited and Translated By:

Jabdiel Zapata

Date:

October 2011

Scale:

As noted

Sheet No.:

HC-P-11



IW-1G

IW-1G

THIS DETAIL IS LOCATED IN THE FIRST PATIO, ON A WALL OPPOSITE THE STAIRCASE. IT SHOWS A BRICK BASE COURSE, SET IN A LIME AND SAND MORTAR, RISING TO A HEIGHT OF 1.06 m ABOVE THE FLOOR LEVEL IN THE PATIO. ABOVE THIS ARE MUD BRICKS SET IN A MUD MORTAR. IT WAS ALSO POSSIBLE TO OBSERVE THE OPPOSITE SIDE OF THIS WALL FROM THE SMALL AREA BELOW THE STAIR LANDING. HERE, ONE COULD OBSERVE THE TOP OF THE FOUNDATION WHICH CONSISTS OF COBBLESTONES SET IN A LIME AND SAND MORTAR, OVER WHICH ARE THREE COURSES OF BRICK (WHICH ARE ALSO SEEN FROM THE OPPOSITE SIDE), AND OVER THIS ARE ADOBE BRICKS SET IN A MUD MORTAR.

True scale when printed on 8-1/2" x 11" sheet.

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Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IW- 1G

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

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Edited and Translated By:

Jabdiel Zapata

Date:

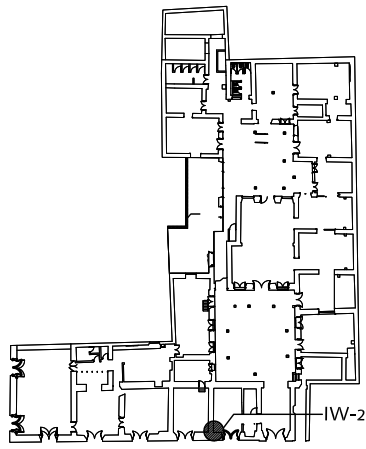
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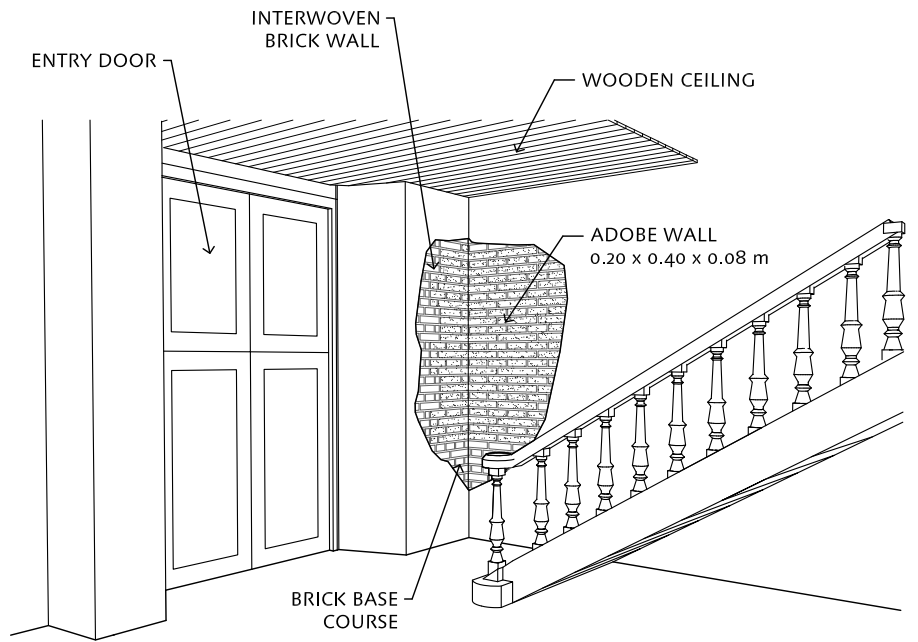
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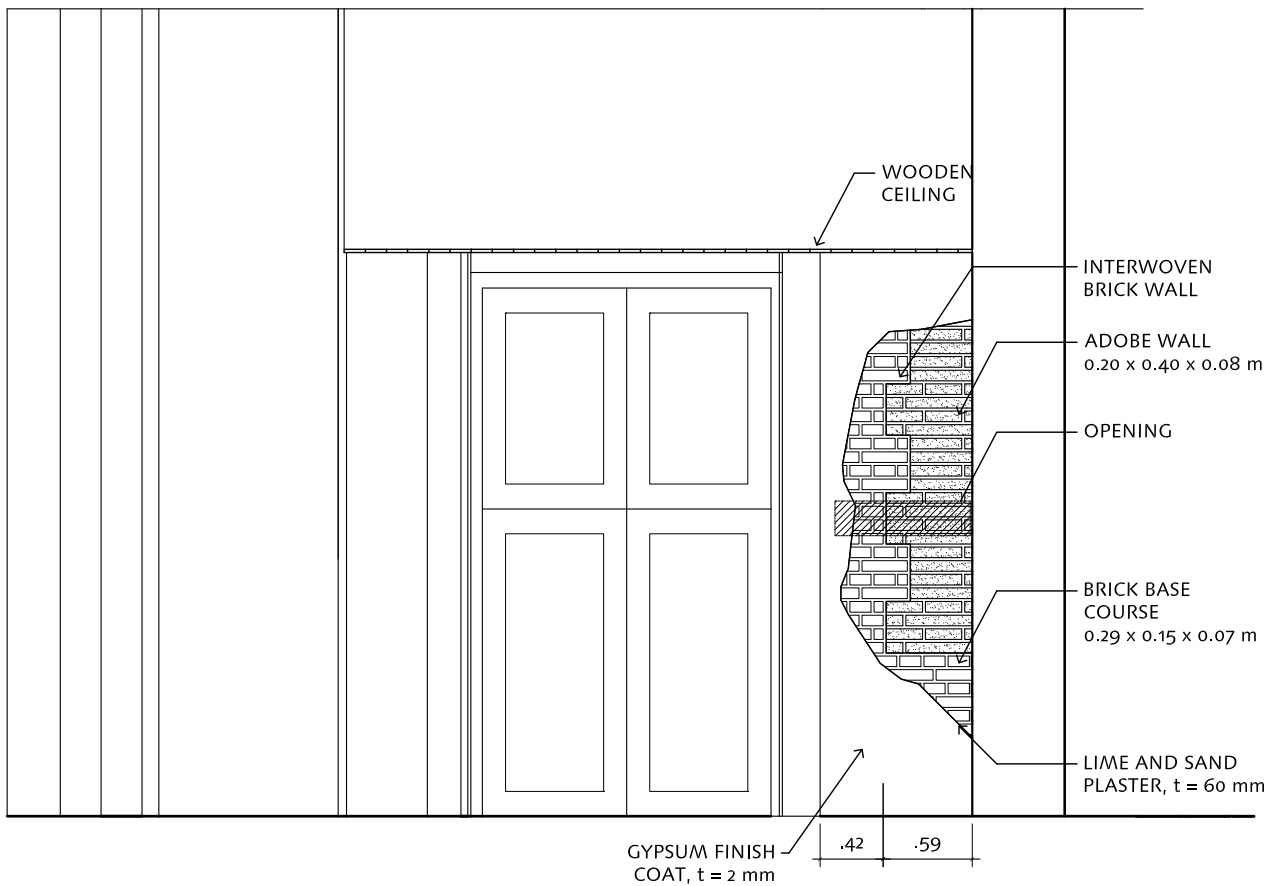
**FIRST FLOOR
REFERENCE PLAN**

NO SCALE



PERSPECTIVE

NO SCALE



SECTION IW-2

SCALE 1:50

True scale when printed on 8-1/2" x 11" sheet.

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The Earthen Architecture Initiative



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Building:
HOTEL COMERCIO
Lima, Perú

Sheet Title:
Structural Prospection
IW-2

Drafted By:
Fernando Olmos

Supervisor:
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Date:
October 2011

Scale:
As noted

Sheet No.:

HC-P-13



IW- 2

IW- 2

THIS DETAIL IS LOCATED IN THE ENTRY HALL (STAIR HALL 131) THAT PROVIDES ACCESS TO THE RESIDENCES, BETWEEN THE FAÇADE WALL AND THE PERPENDICULAR WALL THAT SEPARATES THE HALL FROM THE ADJACENT SHOP. ONE CAN OBSERVE THAT THE CHAMFERED DOOR JAMB IS CONSTRUCTED WITH FIRED BRICK FOR THE FULL THICKNESS OF THE WALL. THIS BRICK MASONRY IS FOUND AROUND ALL OF THE OPENINGS ON THE FRONT FAÇADE, AND BETWEEN THE OPENINGS AND BRICK SURROUNDS THERE ARE MUD BRICK WALLS. THE FIRED BRICK IS INTERWOVEN WITH THE MUD BRICKS, WITH INDENTATIONS EVERY THREE TO FOUR COURSES. THE FAÇADE WALL ALSO HAS A BRICK BASE COURSE RISING TO A HEIGHT OF 0.70 - 0.80 m, AS MEASURED FROM THE FLOOR LEVEL IN THE HALL. THE MUD BRICK FAÇADE AND LATERAL WALLS ARE CONNECTED BY INTERWOVEN BRICKS.

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IW-2

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

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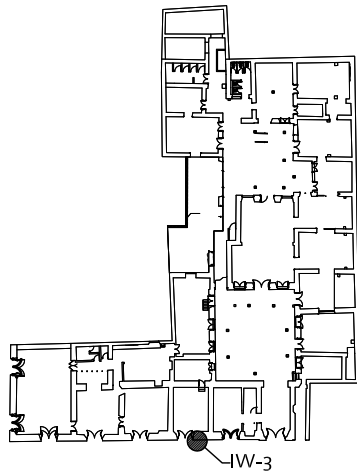
October 2011

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As noted

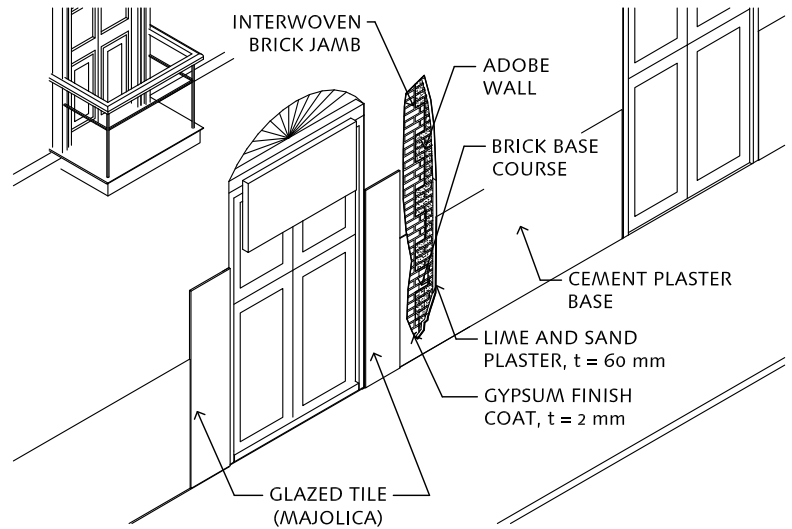
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HC-P-14



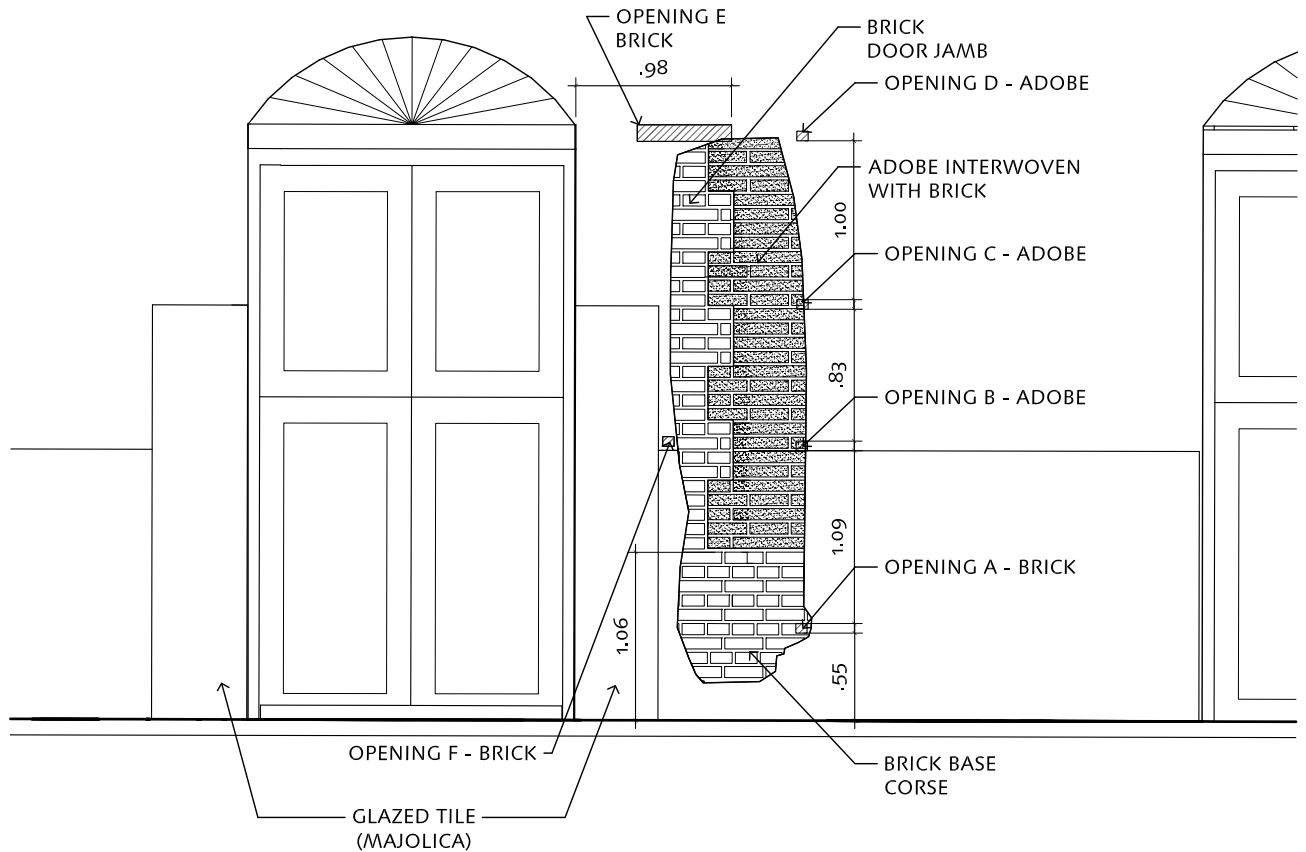
**FIRST FLOOR
REFERENCE PLAN**

NO SCALE



AXONOMETRIC

NO SCALE



ELEVATION IW-3

NO SCALE

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building:
HOTEL COMERCIO
Lima, Perú

Sheet Title:
Structural Prospection
IW-3

Drafted By:
Fernando Olmos

Supervisor:
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Facilitator:
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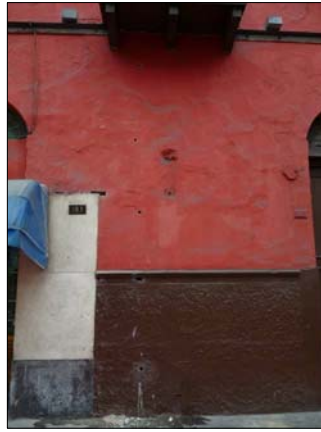
Edited and Translated By:
Jabdiel Zapata

Date:
October 2011

Scale:
As noted

Sheet No.:

HC-P-15



IW- 3

IW-3

THESE OPENINGS ARE LOCATED ON THE FAÇADE WALL, NEXT TO THE ENTRANCE TO SHOE STORE. THE OPENINGS SHOW THAT THE BRICK BASE COURSE RISES TO A HEIGHT OF 1.00 m ABOVE THE SIDEWALK. BRICK MASONRY IS ALSO USED FOR THE SHOP ENTRY SURROUND. THE WIDTH OF THE FIRED BRICK JAMB IS 0.96 m, AND THE MASONRY CONSTRUCTION EXTENDS ACROSS THE FULL THICKNESS OF THE WALL. ABOVE THE FIRED BRICK BASE COURSE IS A MUD BRICK WALL CONSTRUCTION, EXTENDING TO THE UNDERSIDE OF THE SECOND FLOOR. THE MUD BRICKS ARE INTERWOVEN WITH THE FIRED BRICK SURROUNDS AT THE OPENINGS.

A THICK LIME AND SAND PLASTER INTEGRATES THE DIFFERENT MATERIALS.

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building: **HOTEL COMERCIO**
Lima, Perú

Sheet Title: **Structural Prospection**
IW- 3

Drafted By:
Fernando Olmos

Supervisor:
Arch. Mirna Soto

Facilitator:
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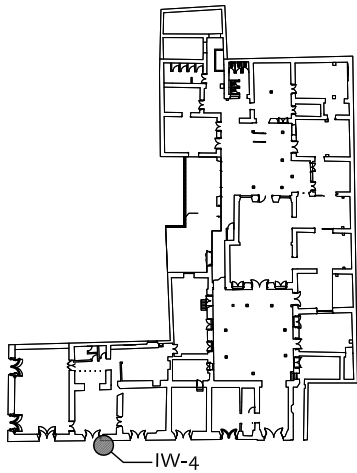
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Date:
October 2011

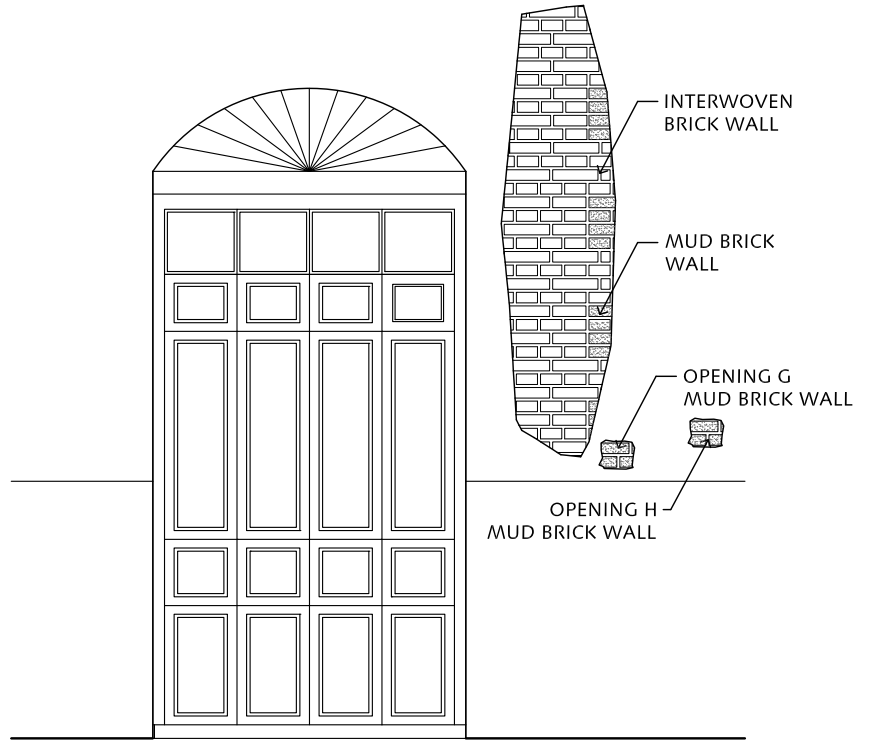
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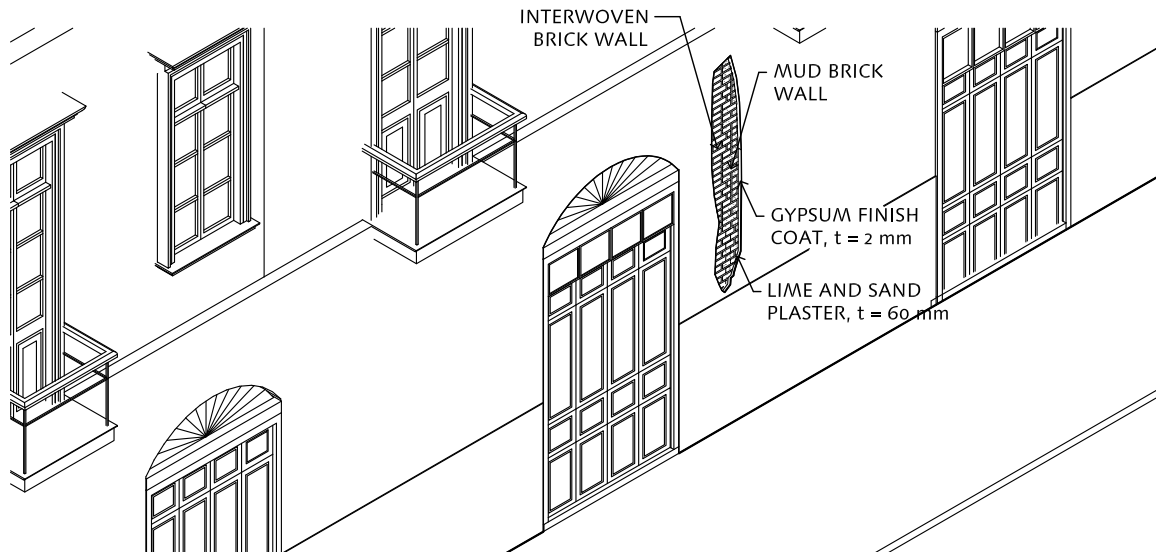
HC-P-16



**FIRST FLOOR
REFERENCE PLAN**
NO SCALE



ELEVATION VIEW IW-4
SCALE 1:50



ISOMETRIC VIEW IW-4
SCALE 1:100

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The Earthen Architecture Initiative



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Building:
HOTEL COMERCIO
Lima, Perú

Sheet Title:
**Structural Prospection
IW-4**

Drafted By:
Fernando Olmos

Supervisor:
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Facilitator:
Universidad Católica Sedes Sapientiae

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October 2011

Scale:
As noted

Sheet No.:

HC-P-17



IW-4

IW-4

THE CONSTRUCTION OBSERVED THROUGH THIS PROSPECTION IS THE SAME AS THAT DESCRIBED FOR PROSPECTION IW-3.

True scale when printed on 8-1/2" x 11" sheet.

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The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IW-4

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Supervisor:

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Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

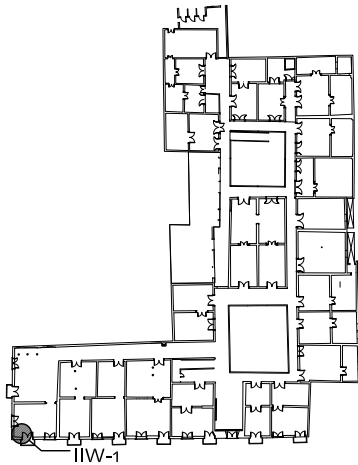
October 2011

Scale:

As noted

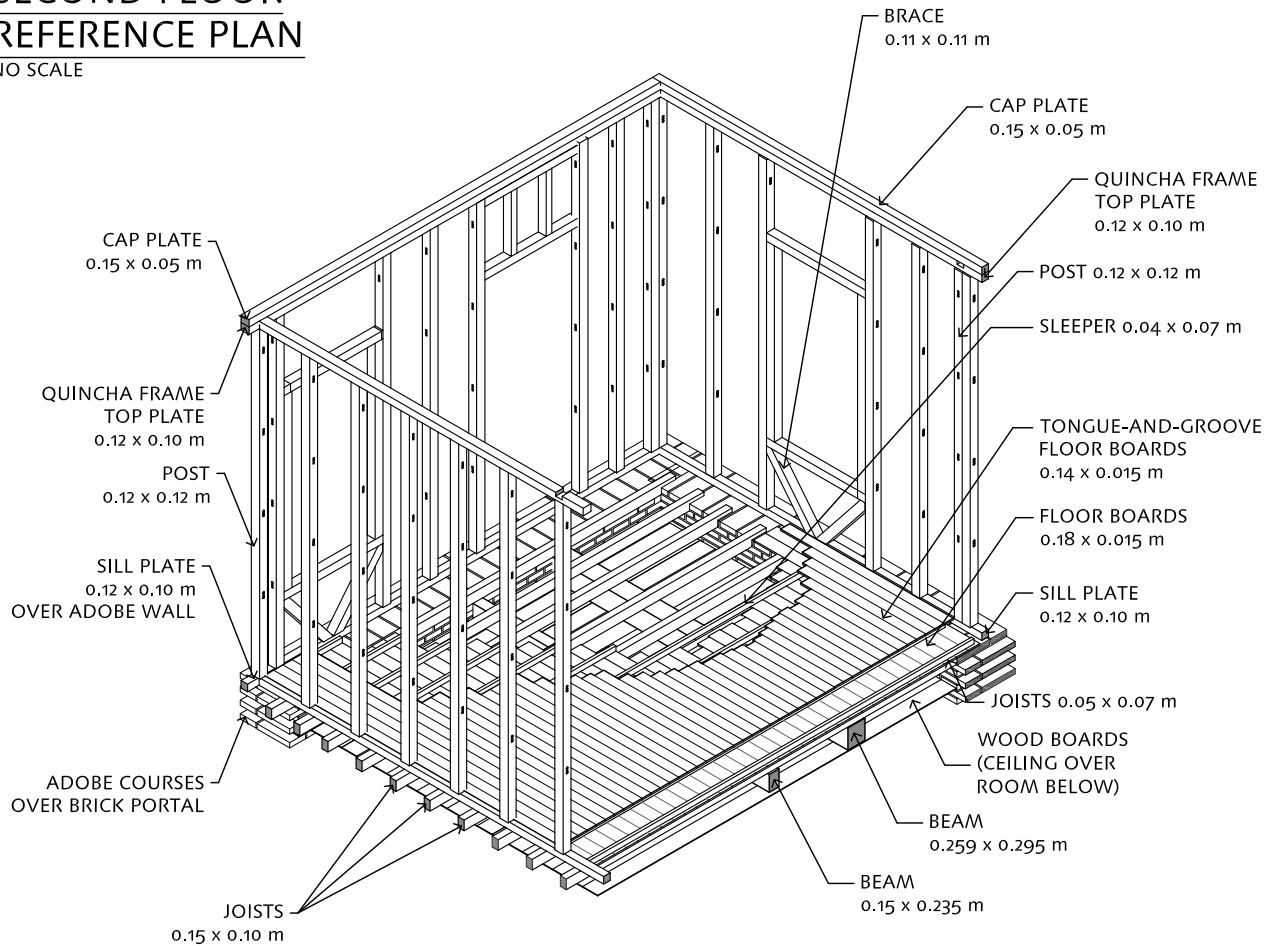
Sheet No.:

HC-P-18



SECOND FLOOR REFERENCE PLAN

NO SCALE



ISOMETRIC II-W1

NO SCALE

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IIW-1

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

October 2011

Scale:

As noted

Sheet No.:

HC-P-19



IIW-1

IIW-1

THIS OPENING IS LOCATED ON THE SECOND FLOOR, IN THE CORNER ROOM, ABOVE BAR CORDANO.

THE SECOND FLOOR CONSTRUCTION (FROM BOTTOM TO TOP) IS AS FOLLOWS:

A FALSE CEILING, CONSTRUCTED OF WOOD BOARDS, WHICH IS A FEATURE OF BAR CORDANO. THIS CEILING IS NAILED TO TWO LARGE WOOD BEAMS THAT SPAN THE DEPTH OF THE BAR. THE WOOD BEAMS MEASURE APPROXIMATELY 0.26 x 0.30 m, AND ONE END OF THE BEAMS RESTS ON THE MUD BRICKS AT THE FRONT FAÇADE AND THE OTHER END IS SUPPORTED BY TRANSVERSE BEAMS. THE REMOVAL OF AN ADOBE WALL BETWEEN AREAS 127 AND 128 OF BAR CORDANO, FOR THE PURPOSES OF OPENING UP THE BAR'S FLOOR AREA, LED TO THE SOLUTION OF TRANSVERSE BEAMS SUPPORTING BEAMS. FLOOR JOISTS SIT ON TOP OF THE TWO BEAMS; AND THESE JOISTS RUN PERPENDICULARLY TO THE BEAMS. THE JOIST ENDS REST ON ADOBE WALLS: THE LATERAL FAÇADE WALL AND THE PARALLEL WALL. THE SPACE BETWEEN THE JOIST ENDS IS FILLED WITH MUD BRICKS. OVER THE JOISTS IS WOOD DECKING, AND WOOD SLEEPERS SIT ON TOP OF THE DECKING. THE SPACE BETWEEN THE SLEEPERS IS FILLED WITH A MORTAR OF EARTH AND LIME. ANOTHER LAYER OF WOOD DECKING, WHICH FORMS THE FINISH FLOOR OF THE ROOM, IS NAILED TO THE SLEEPERS.

BY EXTENDING THE OPENING TO THE QUINCHA WALL CONSTRUCTION, THE FOLLOWING STRUCTURE WAS OBSERVED:

AT THE TOP OF THE ADOBE WALL, THERE IS A 0.12 x 0.10 m SILL PLATE, WHICH SERVES AS THE BASE OF THE QUINCHA FRAME. ABOVE THIS ARE WOOD POSTS, CONNECTED WITH MORTISE-AND-TENON JOINTS. THE BOTTOM PART OF THE QUINCHA FRAME IS FILLED ("CITARA") WITH DIAGONAL WOOD BRACES, WITH MUD BRICKS IN THE SPACES BETWEEN THE DIAGONALS. AT THE TOP OF THE BRICKS, THERE IS NOT A HORIZONTAL WOOD PLATE TO RECEIVE THE ENDS OF THE VERTICAL CANES ABOVE. SUCH A PLATE ONLY OCCURS AT THE WINDOW SILLS.

THE VERTICAL CANES (A TYPE OF CANE WITH A FILLED CENTER, CALLED "CAÑA BRAVA") EXTEND THE FULL HEIGHT OF THE WALL FRAME AND ARE WOVEN THROUGH THREE HORIZONTAL CANES. THESE HORIZONTAL CANES PASS THROUGH HOLES IN THE WOOD POSTS. AT THE TOP OF THE FRAME, THERE ARE FOUR HORIZONTALS OF THIS TYPE.

AT THE HIGHEST PART OF THE FRAME THERE IS A WOOD BEAM, CALLED A "CARRERA" OR TOP PLATE. THE TOP OF THE WOOD POSTS ARE CONNECTED TO THIS TOP PLATE WITH MORTISE-AND-TENON JOINTS. ABOVE THE TOP PLATE IS ANOTHER PLATE, CALLED THE "VIGA DE AMARRE" OR CAP PLATE.

AT THE CORNERS, WHERE THE FAÇADE WALL AND PERPENDICULAR WALL SEPARATING THE ROOMS CONVERGE, THE TOP PLATES OF THE TWO FRAMES ARE CONNECTED WITH HALF-LAP JOINTS.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



UNIVERSITY OF BATH



PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ

Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IIW-1

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

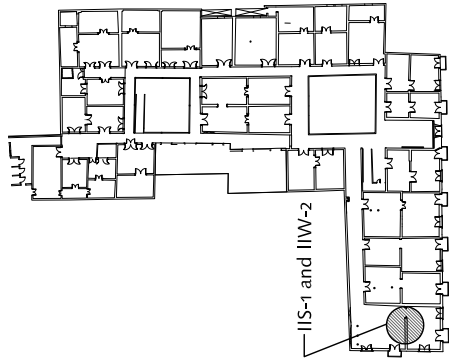
October 2011

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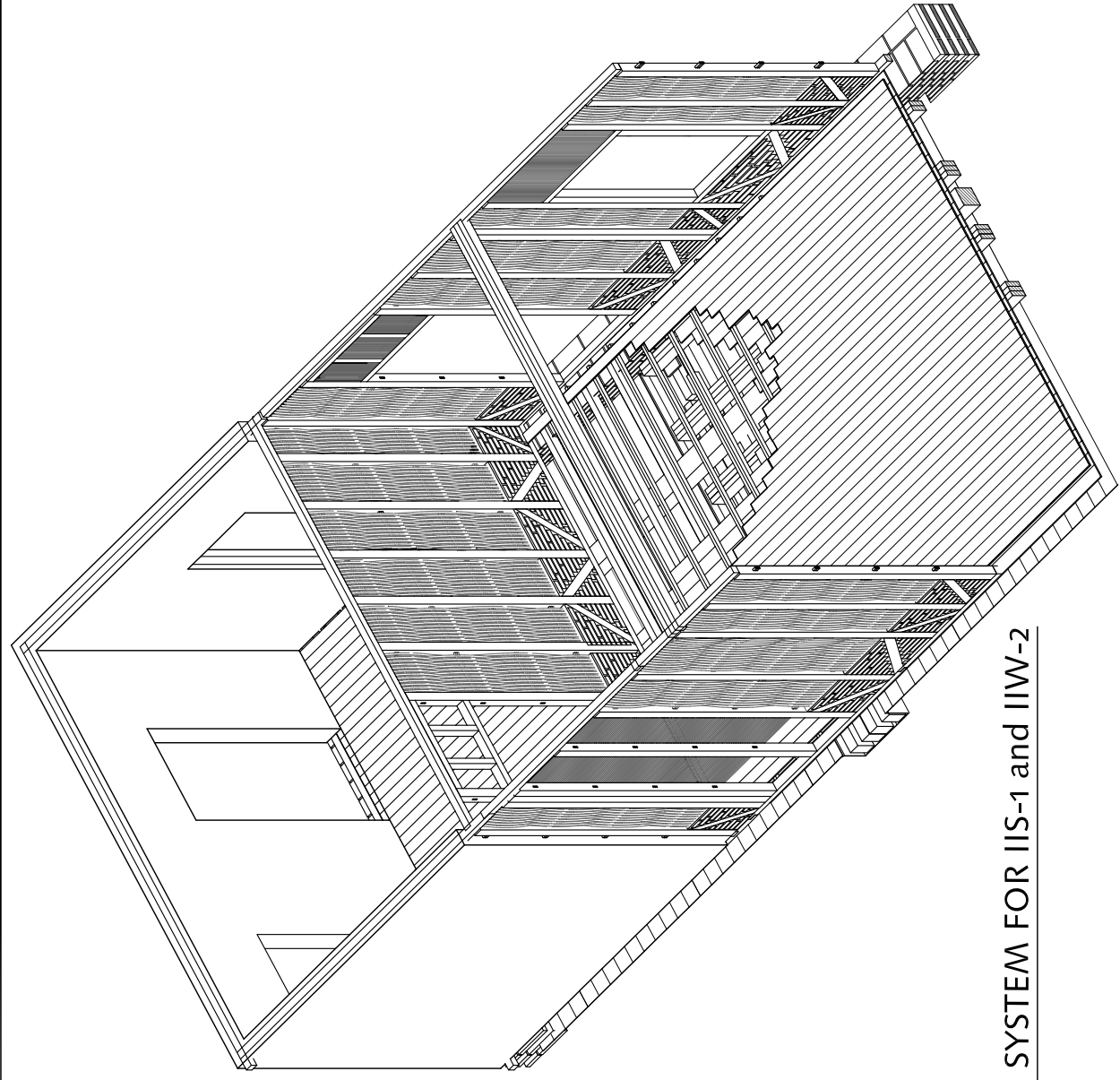
As noted

Sheet No.:

HC-P-20

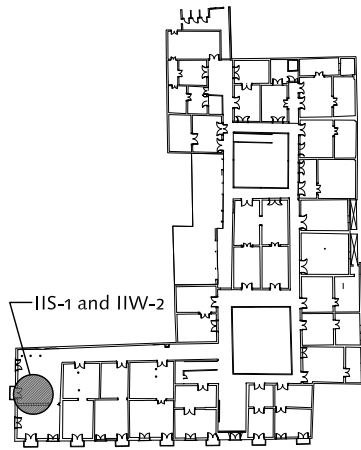


**SECOND FLOOR
REFERENCE PLAN**
NO SCALE



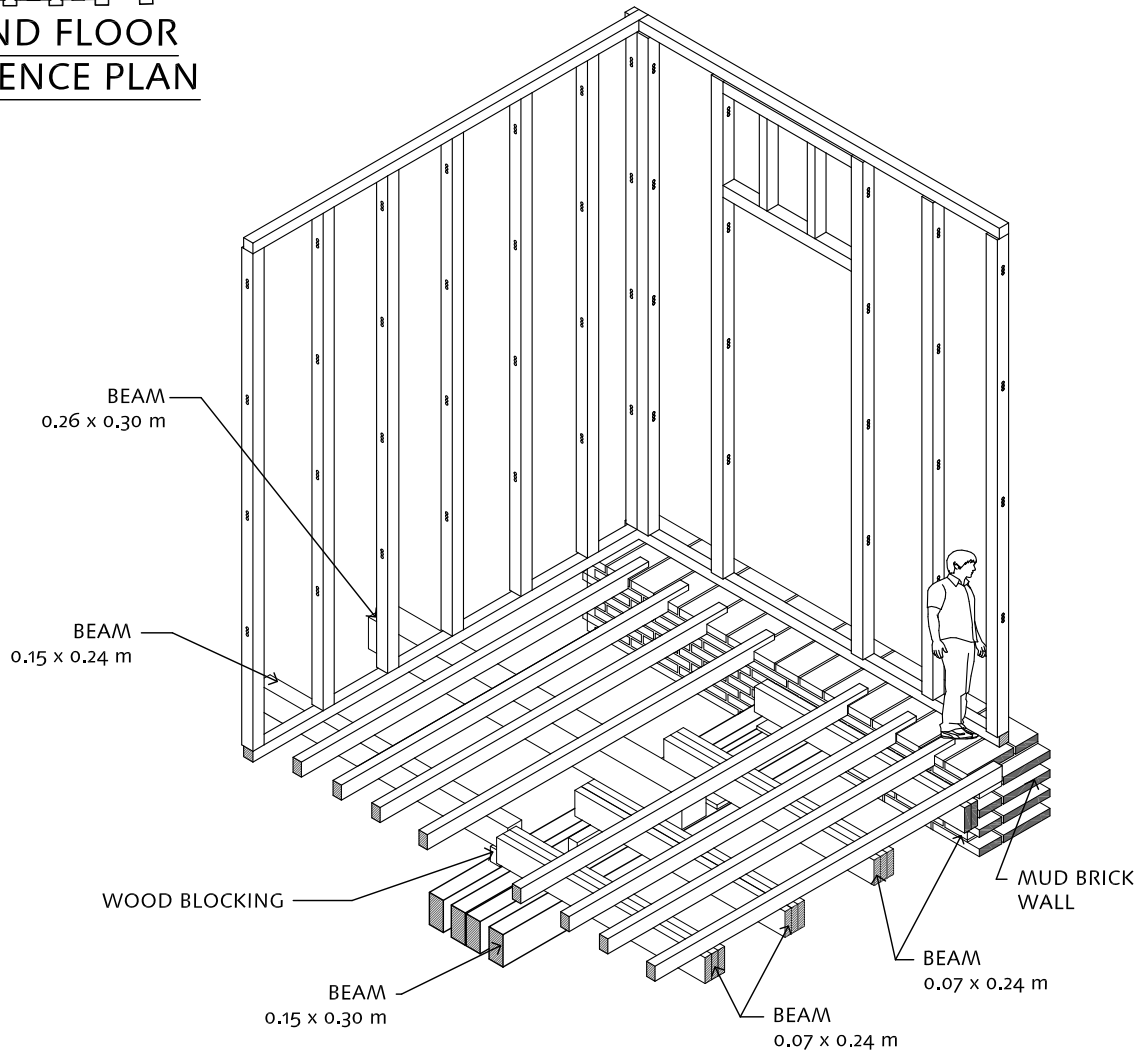
AXONOMETRIC ILLUSTRATING BEAM SYSTEM FOR IIS-1 and IIV-2
NO SCALE

<p>SEISMIC RETROFITTING PROJECT The Earthen Architecture Initiative</p>	<p>Building: HOTEL COMERCIO Lima, Perú</p> <p>Sheet Title: Structural Prospections IIS-1 and IIV-1</p>	<p>Drafted By: Fernando Olmos Supervisor: Arch. Mirna Soto Facilitator: Universidad Católica Sedes Sapientiae Edited and Translated By: Jabdriel Zapata</p>	<p>Date: October 2011 Scale: As noted Sheet No.: HC-P-21</p>
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**SECOND FLOOR
REFERENCE PLAN**

NO SCALE



ISOMETRIC ILLUSTRATING BEAM SYSTEM FOR IIS-1 and IIW-2

SCALE 1:75

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospections
IIS-1 and IIW-2

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

October 2011

Scale:

As noted

Sheet No.:

HC-P-22



IIS-1 and IIW-2

IIS-1 and IIW-2

THESE TWO PROSPECTIONS ARE LOCATED IN THE SAME ROOM. THEY ALLOW US TO OBSERVE THE IMPORTANT LOCATION WHERE THE VARIOUS FLOOR BEAMS MEET.

THE SECOND FLOOR STRUCTURE IS AS FOLLOWS:

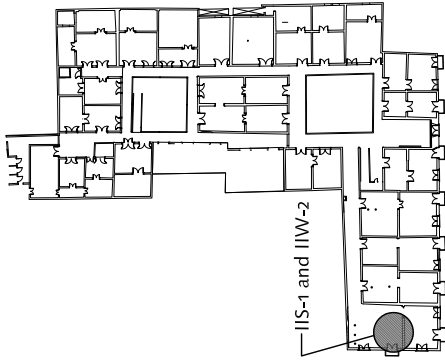
FROM BAR CORDANO, ON THE FIRST FLOOR BELOW, ONE CAN SEE A FINISHED CEILING MADE OF WOOD BOARDS, WHICH ALSO INCLUDES A GIRDER RUNNING THROUGH THE CENTER OF THE BAR AREA. THIS "GIRDER" IS ACTUALLY CONSTRUCTED OF FOUR BEAMS THAT HAVE BEEN CLAD WITH WOOD BOARDS TO GIVE THE APPEARANCE OF BEING ONE. THE ENDS OF THIS GIRDER ARE EMBEDDED IN THE LATERAL FAÇADE WALL AT ONE SIDE AND, AT THE OTHER SIDE, THE INTERIOR ADOBE WALL SEPARATING THE MAIN BAR AREA FROM THE PRIVATE DINING ROOMS. THIS GIRDER TOOK THE PLACE OF AN EARLIER MUD BRICK WALL THAT WAS REMOVED, WITH THE POSSIBLE PURPOSE OF JOINING TWO SMALL SHOPS / ROOMS TO CREATE ONE LARGER ROOM.

ONE CAN SEE THAT THIS GIRDER SUPPORTS OTHER MAJOR BEAMS THAT RUN LONGITUDINAL TO THE ROOM. SOME OF THESE BEAMS ARE MADE OF REUSED MATERIAL FROM THE BUILDING - THREE WOOD JOISTS GROUPED TOGETHER TO FORM ONE BEAM, WITH WOOD BLOCKING TO LEVEL THEM. IT APPEARS THAT THESE CHANGES WERE MADE NOT THAT LONG AGO. OVER THESE JOISTS / BEAMS IS WOOD DECKING.

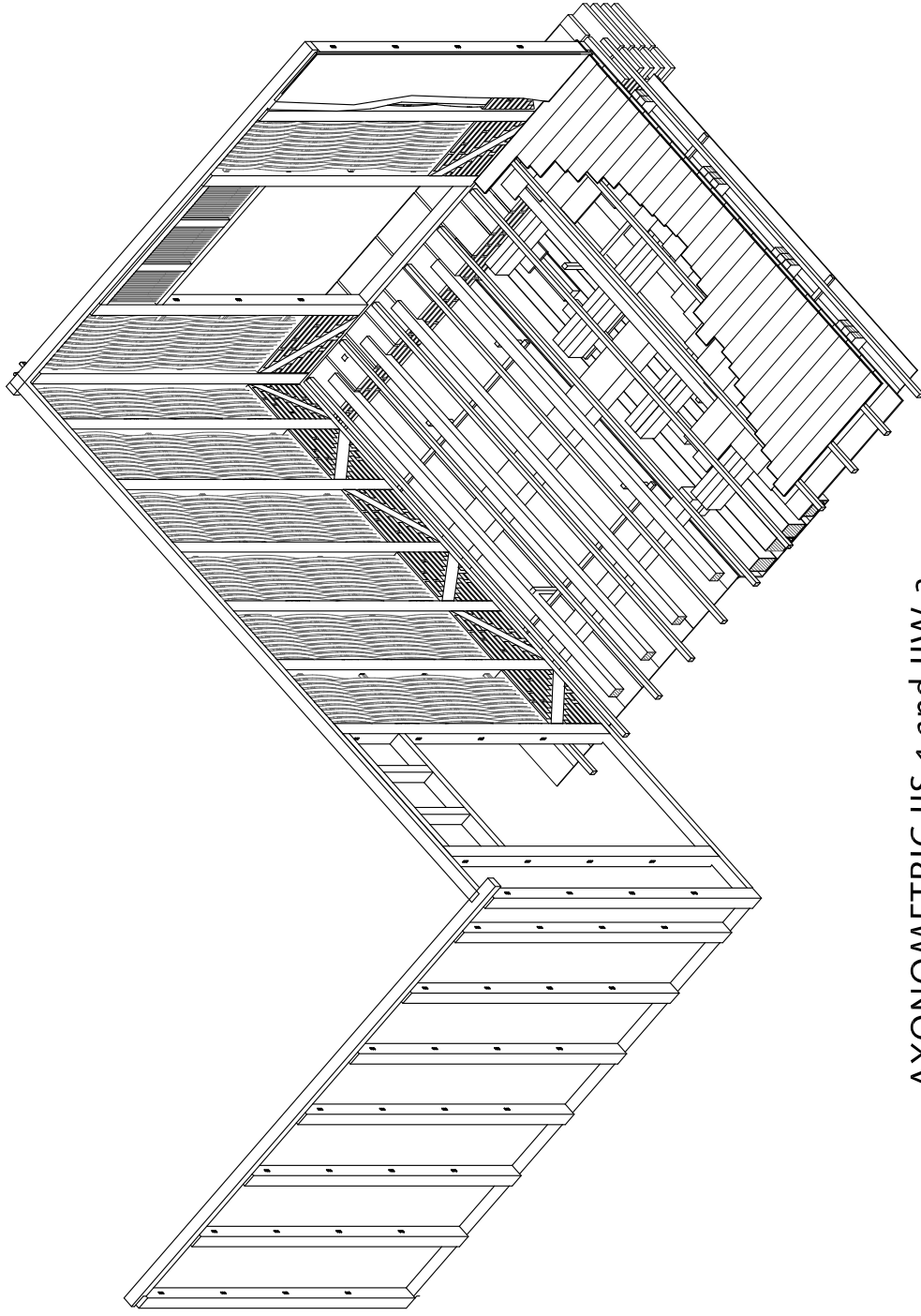
AS THE SECOND FLOOR ROOMS ARE SMALLER THAN THOSE ON THE FIRST FLOOR, THE WOOD-FRAMED QUINCHA WALL AT THE SECOND FLOOR DOES NOT ALIGN WITH A WALL BELOW. AS A RESULT, ONLY THE WOOD DECKING SUPPORTS THE SILL PLATE AT THE BOTTOM OF THE WALL FRAME. THIS SILL PLATE IS CONNECTED TO THE FRAME POSTS THROUGH MORTISE-AND-TENON JOINTS. ONE CAN OBSERVE A DEPRESSION IN THE DECKING, AND THUS AN UNEVENNESS IN THE FLOOR LEVEL OF THIS ROOM. OVER THE DECKING, THERE ARE WOOD SLEEPERS SPACED AT 0.40 m, AND THE SPACE BETWEEN THESE SLEEPERS IS FILLED WITH A MORTAR OF EARTH AND LIME. ANOTHER LAYER OF WOOD DECKING, WHICH FORMS THE FINISH FLOOR OF THE ROOM, IS NAILED TO THE SLEEPERS. THE UNEVEN FLOOR LEVEL, CAUSED BY THE INABILITY OF THE DECKING TO SUPPORT THE WEIGHT OF THE QUINCHA WALL, HAS BEEN PARTIALLY CORRECTED THROUGH WOOD BLOCKING, WHICH RETURNED THE SLEEPERS TO LEVEL AND ALLOWED THE DECKING TO BE LEVEL AGAIN.

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT The Earthen Architecture Initiative 	Building: HOTEL COMERCIO Lima, Perú	Drafted By: Olmos	Date: October 2011
	Sheet Title: Structural Prospections IIS-1 and IIW-2	Supervisor: Arch. Mirna Soto	Scale: As noted



**SECOND FLOOR
REFERENCE PLAN**
NO SCALE



AXONOMETRIC IIS-1 and IIW-2
NO SCALE

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



HOTEL COMERCIO
Lima, Perú

Structural Prospections
IIS-1 and IIW-2

Building:

Drafted By:
Fernando Olmos

Supervisor:
Arch. Mirna Soto

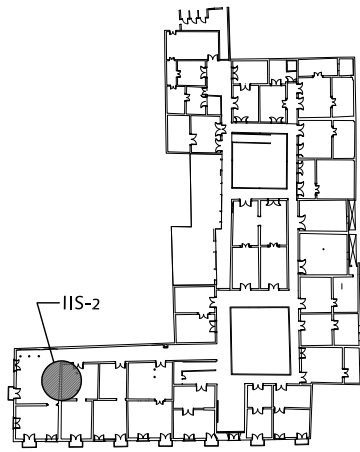
Facilitator:
Universidad Católica Sedes Sapientiae
Edited and Translated By:
Jabdiel Zapata

Date:
October 2011

Scale:
As noted

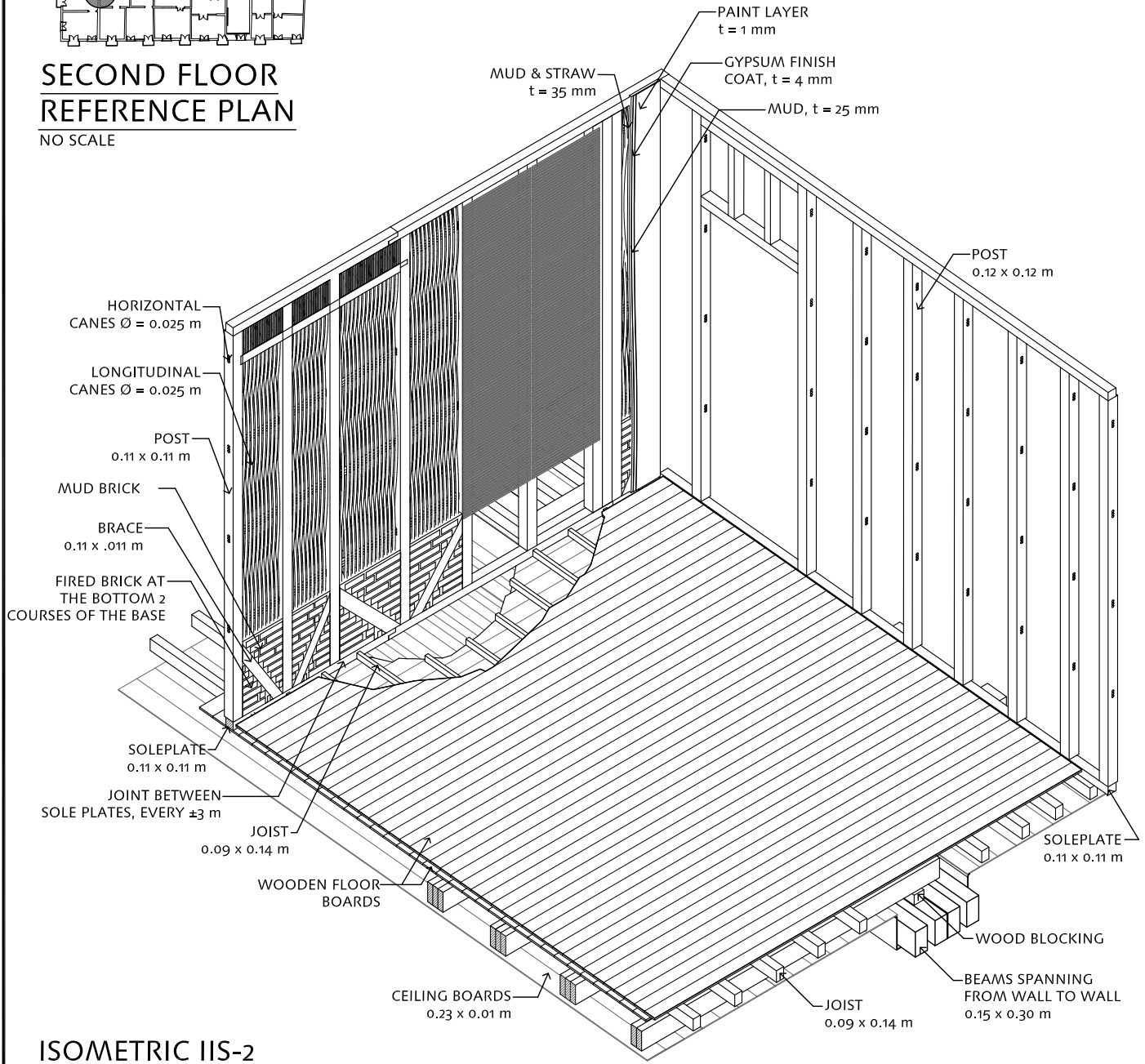
Sheet No.:

HC-P-24



SECOND FLOOR REFERENCE PLAN

NO SCALE



ISOMETRIC IIS-2

NO SCALE

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IIS-2

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

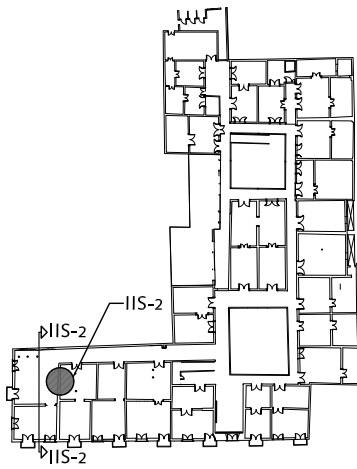
October 2011

Scale:

As noted

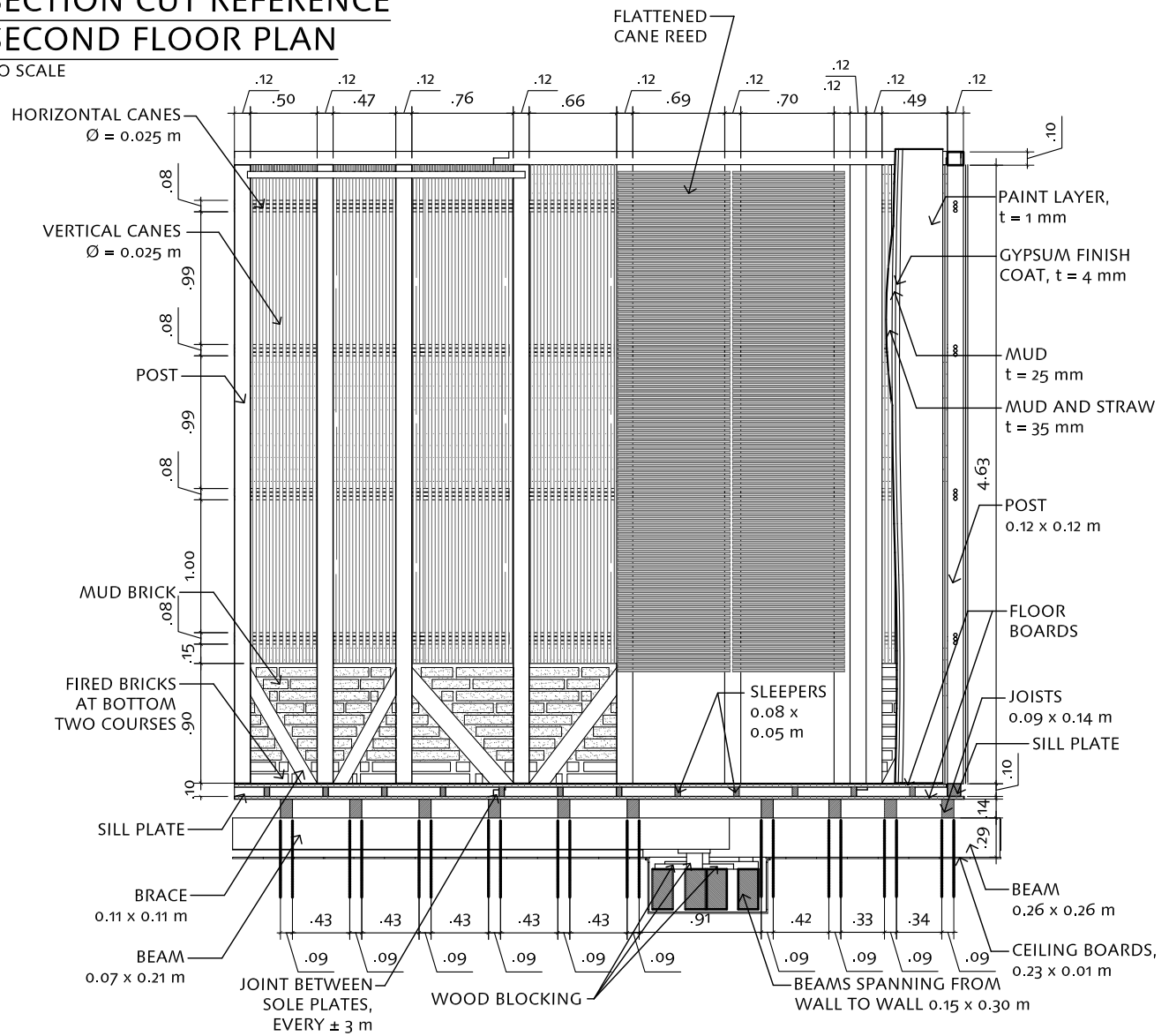
Sheet No.:

HC-P-25



SECTION CUT REFERENCE SECOND FLOOR PLAN

NO SCALE



ELEVATION / SECTION IIS-2

SCALE 1:50

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building: HOTEL COMERCIO
Lima, Perú

Sheet Title: Structural Prospection
IIS-2

Drafted By: Fernando Olmos

Supervisor: Arch. Mirna Soto

Facilitator: Universidad Católica Sedes Sapientiae

Edited and Translated By: Jabdiel Zapata

Date: October 2011

Scale: As noted

Sheet No.:

HC-P-26

True scale when printed on 8-1/2" x 11" sheet.



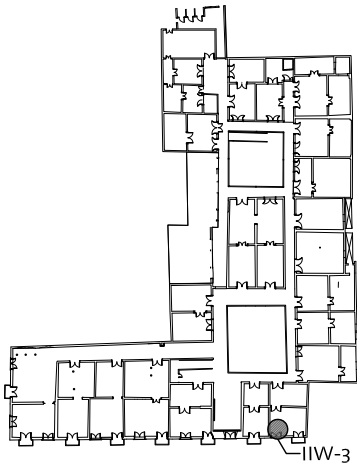
IIS-2

IIS-2

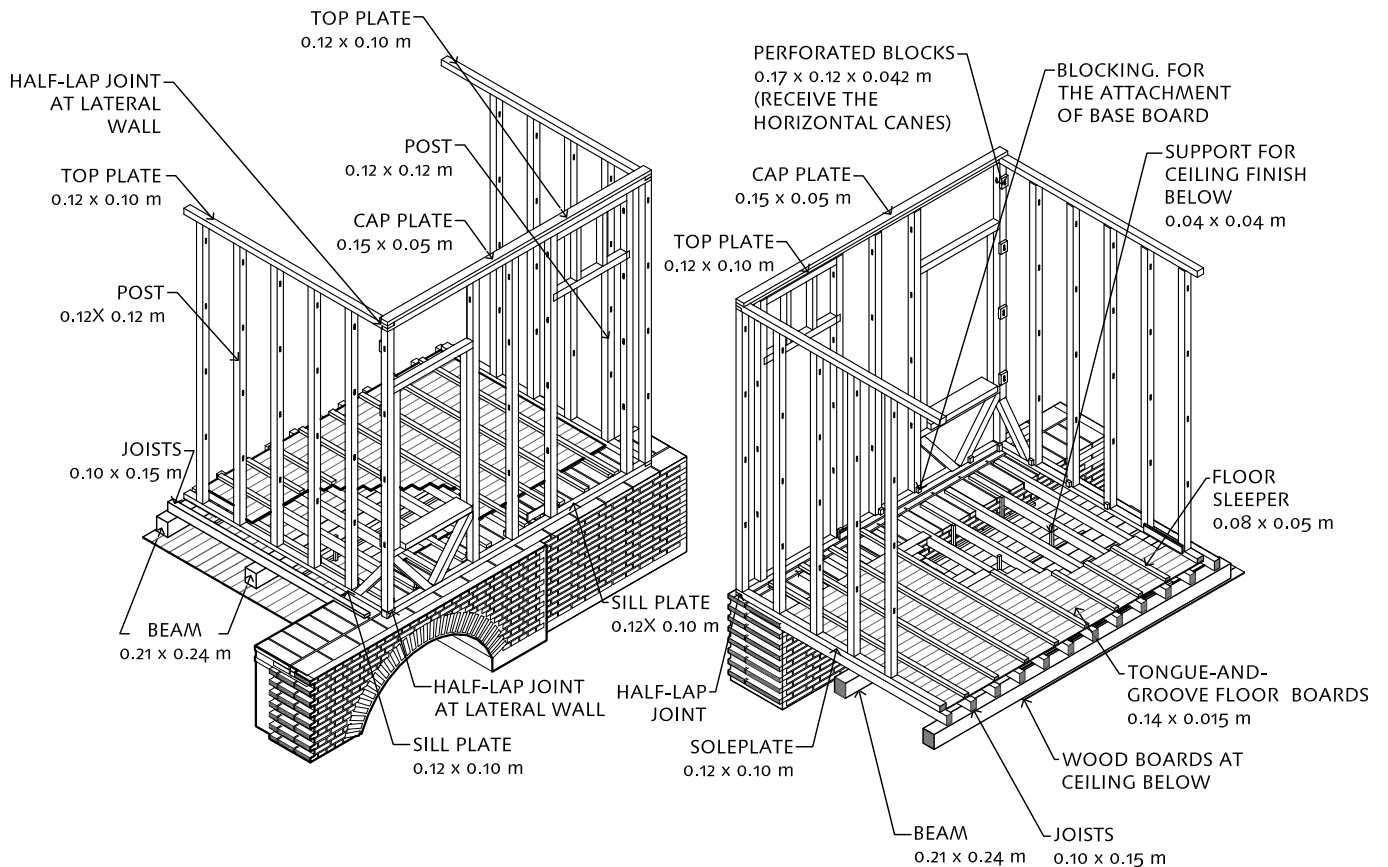
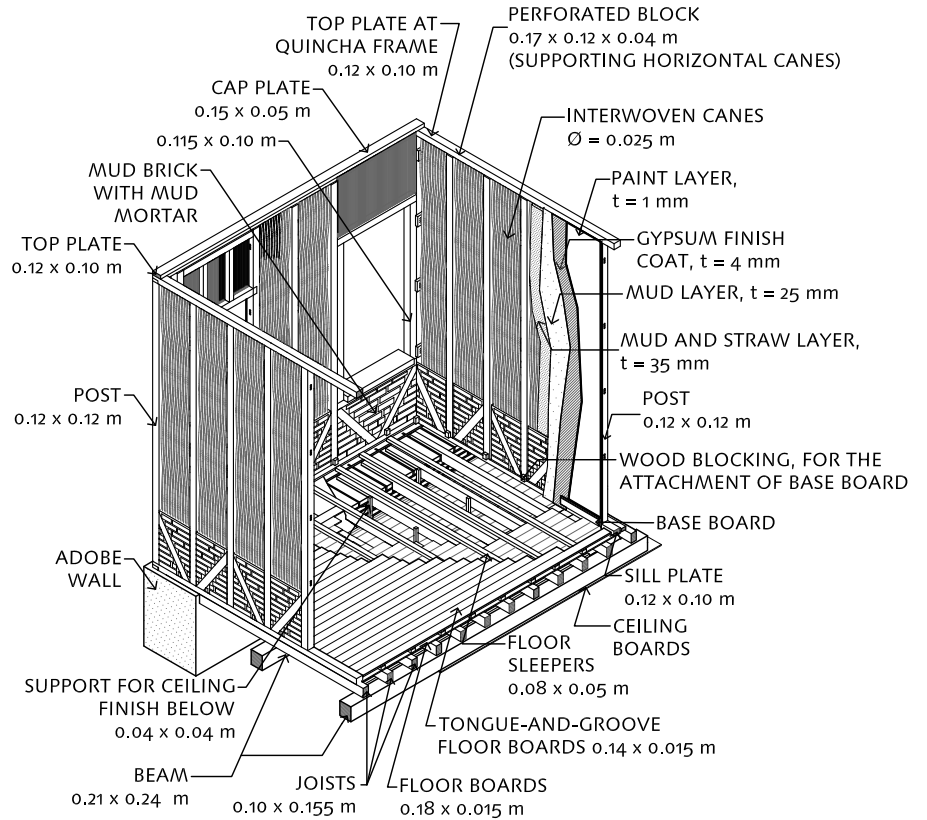
THIS OPENING IS LOCATED IN A ROOM ABOVE BAR CORDANO. ONE CAN OBSERVE THE INTERIOR QUINCHA WALL THAT SEPARATES TWO ROOMS. THE STRUCTURE IS ALMOST IDENTICAL TO THAT OBSERVED THROUGH PROSPECTION IIW-1. THE ONLY DIFFERENCE IS THAT THIS QUINCHA WALL IS SUPPORTED BY A CORRESPONDING WALL ON THE FIRST FLOOR. THE WALL FRAME SITS ON JOISTS THAT ARE SUPPORTED BY BEAMS. THESE BEAMS ARE SUPPORTED BY OTHER BEAMS THAT WERE INSTALLED TO TAKE THE PLACE OF A WALL THAT WAS REMOVED IN THE BAR CORDANO SPACE AT THE FIRST FLOOR.

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT The Earthen Architecture Initiative 	Building: HOTEL COMERCIO Lima, Perú	Drafted By: Fernando Olmos	Date: October 2011
	Sheet Title: Structural Prospections IIS-2	Supervisor: Arch. Mirna Soto	Scale: As noted



**SECOND FLOOR
REFERENCE PLAN**
NO SCALE



ISOMETRICS IIW-3
SCALE 1:125

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building: **HOTEL COMERCIO**
Lima, Perú

Sheet Title: **Structural Prospections**
IIW-3

Drafted By:
Fernando Olmos

Supervisor:
Arch. Mirna Soto

Facilitator:
Universidad Católica Sedes Sapientiae

Edited and Translated By:
Jabdiel Zapata

Date:
October 2011

Scale:
As noted

Sheet No.:

HC-P-28



IIW-3

IIW-3

THIS OPENING IS LOCATED INSIDE THE RESIDENCES ON THE SECOND FLOOR, ABOVE THE ENTRY HALL. ONE CAN OBSERVE THE FLOOR STRUCTURE AND CONNECTION OF THE QUINCHA WALL FRAMES.

THE FLOOR STRUCTURE (FROM BOTTOM TO TOP) IS AS FOLLOWS:

AT THE BOTTOM THERE IS A WOOD PANEL CEILING, WHICH CAN BE VIEWED FROM THE ENTRY HALL BELOW. THIS IS FASTENED TO WOOD BATTENS AT THE PERIMETER, WHICH ARE NAILED TO THE WALLS, AND ALSO TO WOOD TIE BEAMS HANGING FROM THE JOISTS.

ABOVE THIS ARE LARGE WOOD BEAMS, MEASURING 0.21 x 0.235 m AND SPACED AT APPROXIMATELY 1.50 m. THESE BEAM ENDS ARE EMBEDDED IN THE ADOBE WALLS.

OVER THESE BEAMS ARE THE JOISTS, WHICH RUN IN THE PERPENDICULAR DIRECTION. THE JOIST ENDS SIT DIRECTLY ON TOP OF THE ADOBE WALL AT THE FAÇADE. THE SPACE BETWEEN THE JOISTS IN THIS AREA IS FILLED WITH MUD BRICKS. OVER THE JOISTS IS WOOD DECKING, AND OVER THE DECKING ARE WOOD SLEEPERS. THE SPACE BETWEEN THE SLEEPERS IS FILLED WITH A MORTAR OF EARTH AND LIME. ANOTHER LAYER OF WOOD DECKING, WHICH FORMS THE FINISH FLOOR OF THE ROOM, IS NAILED TO THE SLEEPERS.

BY EXTENDING THE OPENING TO THE QUINCHA WALL CONSTRUCTION, THE FOLLOWING STRUCTURE WAS OBSERVED:

AT THE TOP OF THE ADOBE WALL, THERE IS A 0.12 x 0.10 m SILL PLATE, WHICH SERVES AS THE BASE OF THE QUINCHA FRAME. ABOVE THIS ARE WOOD POSTS, CONNECTED WITH MORTISE-AND-TENON JOINTS. THE BOTTOM PART OF THE QUINCHA FRAME IS FILLED ("CITARA") WITH DIAGONAL WOOD BRACES, WITH MUD BRICKS IN THE SPACES BETWEEN THE DIAGONALS. AT THE TOP OF THE BRICKS, THERE IS NOT A HORIZONTAL WOOD PLATE TO RECEIVE THE ENDS OF THE VERTICAL CANES ABOVE.

THE VERTICAL CANES (A TYPE OF CANE WITH A FILLED CENTER, CALLED "CAÑA BRAVA") EXTEND THE FULL HEIGHT OF THE WALL FRAME AND ARE WOVEN THROUGH THREE HORIZONTAL CANES. THESE HORIZONTAL CANES PASS THROUGH HOLES IN THE WOOD POSTS. AT THE TOP OF THE FRAME, THERE ARE FOUR HORIZONTALS OF THIS TYPE.

AT THE HIGHEST PART OF THE PANEL THERE IS A WOOD BEAM, CALLED A "CARRERA" OR TOP PLATE. THE TOP OF THE WOOD POSTS ARE CONNECTED TO THIS TOP PLATE WITH MORTISE-AND-TENON JOINTS. ABOVE THE TOP PLATE IS ANOTHER PLATE, CALLED THE "VIGA DE AMARRE" OR CAP PLATE.

AT THE CORNERS, WHERE THE FAÇADE WALL AND PERPENDICULAR WALL SEPARATING THE ROOMS CONVERGE, THE TOP PLATES OF THE TWO FRAMES ARE CONNECTED WITH HALF-LAP JOINTS.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative

 The Getty Conservation Institute

 UNIVERSITY OF BATH  PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ

Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospections
IIW-3

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

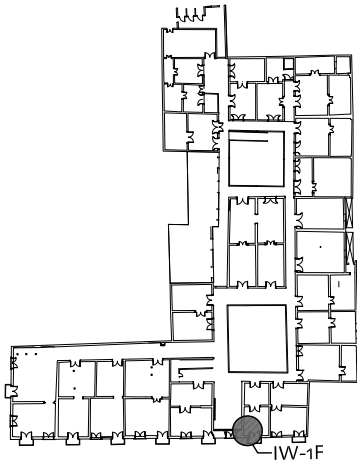
October 2011

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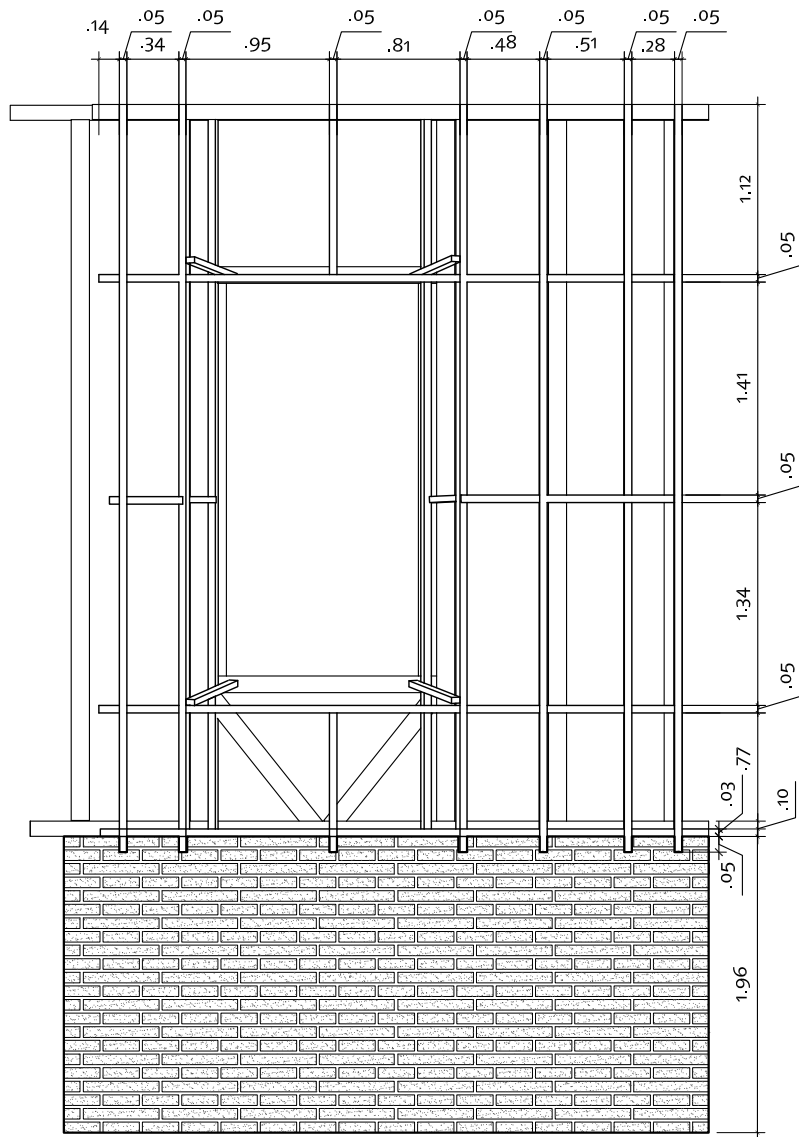
Sheet No.:

HC-P-29



**SECOND FLOOR
REFERENCE PLAN**

NO SCALE



INTERIOR VIEW OF SECTION IW-1F

SCALE 1:50

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospections
IW-1F

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

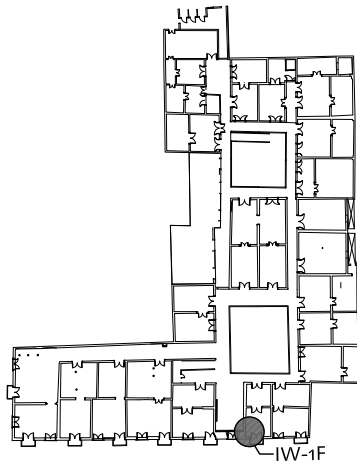
October 2011

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As noted

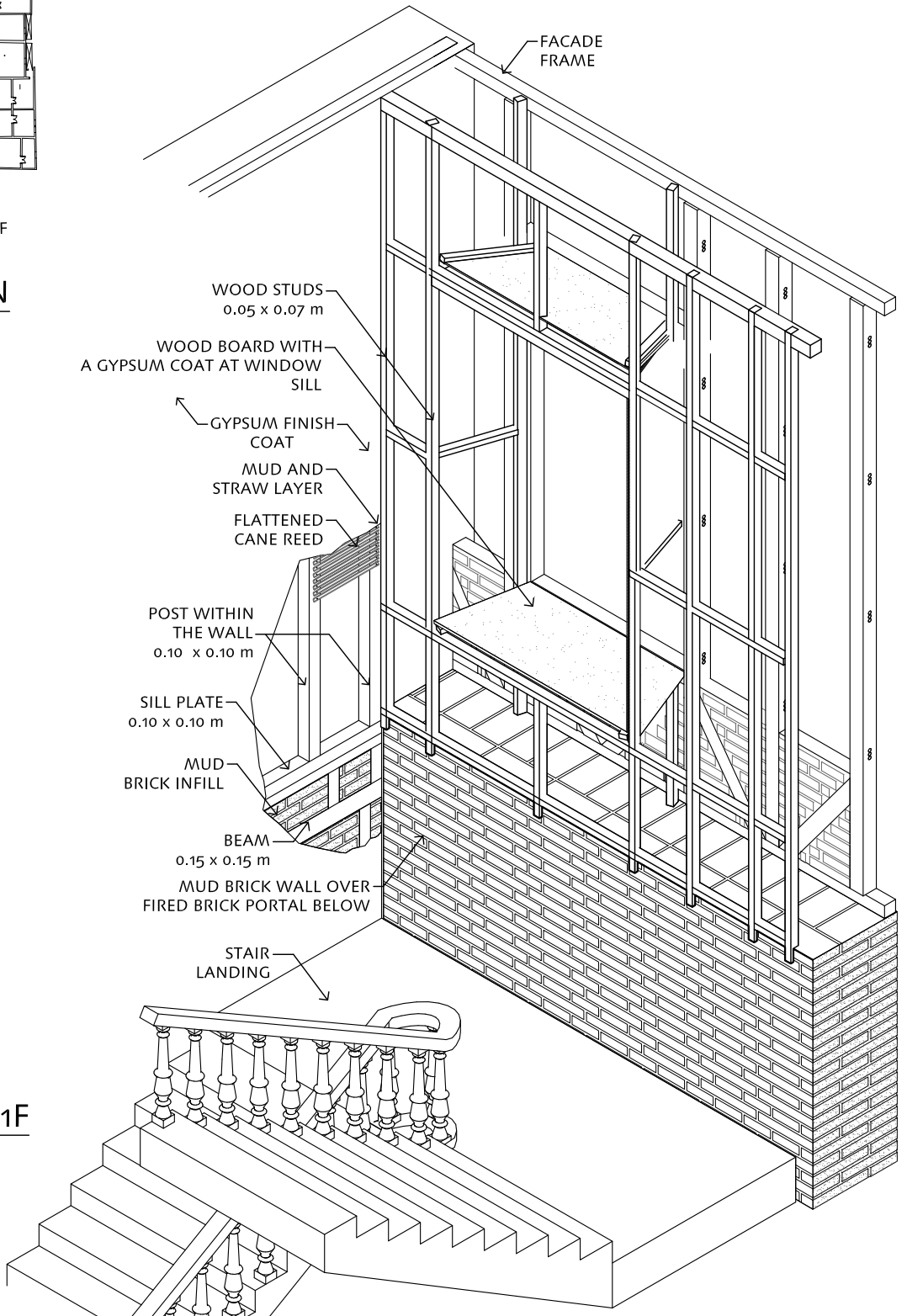
Sheet No.:

HC-P-30



SECOND FLOOR REFERENCE PLAN

NO SCALE



ISOMETRIC IW-1F

SCALE 1:50

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospections
IW-1F

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

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Jabdiel Zapata

Date:

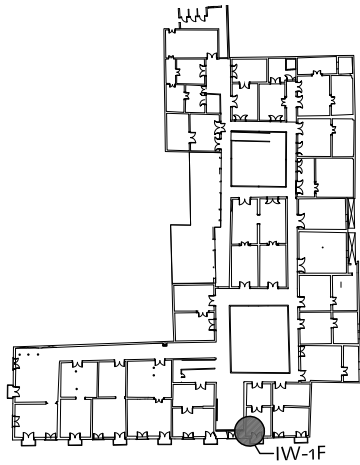
October 2011

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As noted

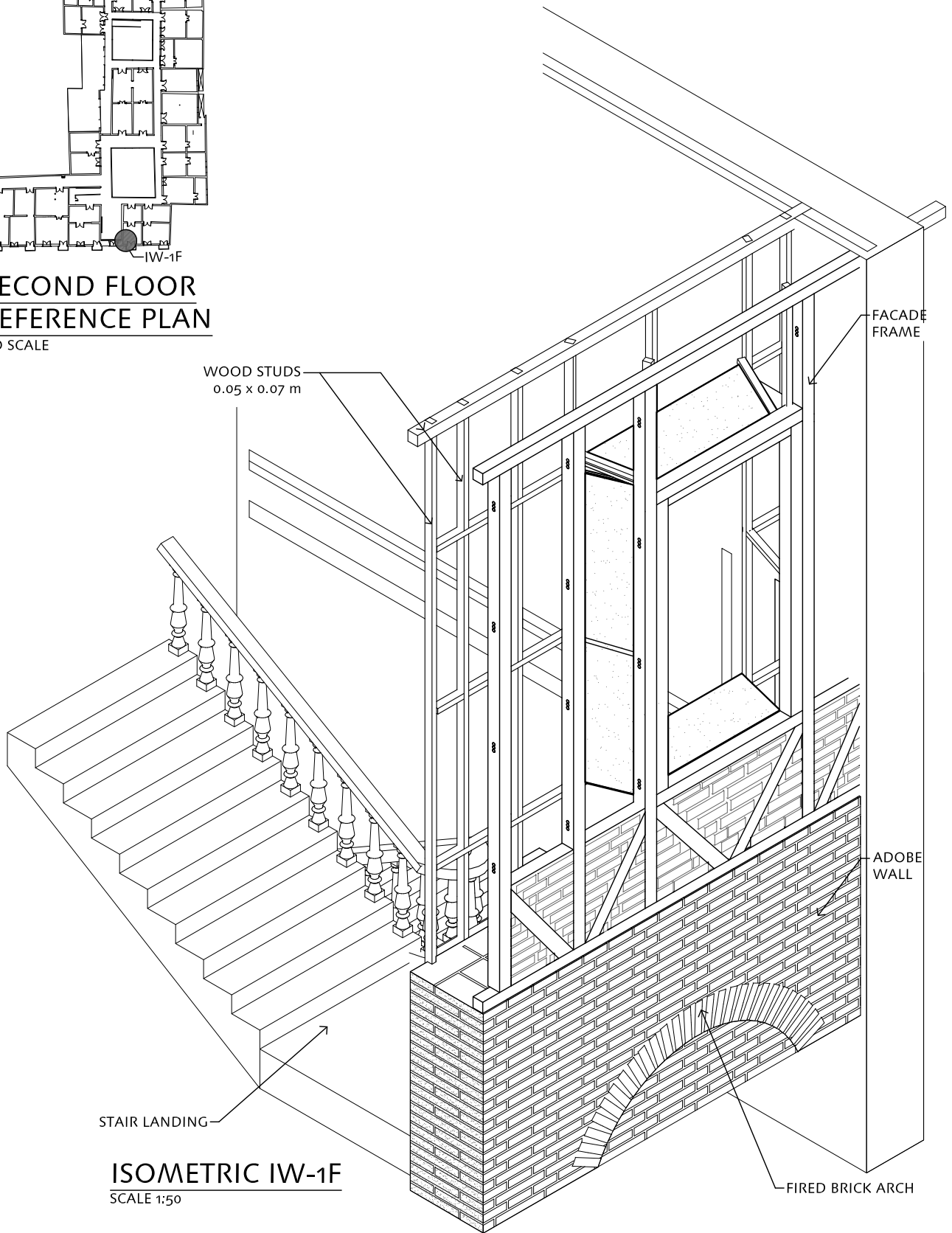
Sheet No.:

HC-P-31



**SECOND FLOOR
REFERENCE PLAN**

NO SCALE



ISOMETRIC IW-1F

SCALE 1:50

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IW-1F

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

October 2011

Scale:

As noted

Sheet No.:

HC-P-32



IW-1F

IW-1F

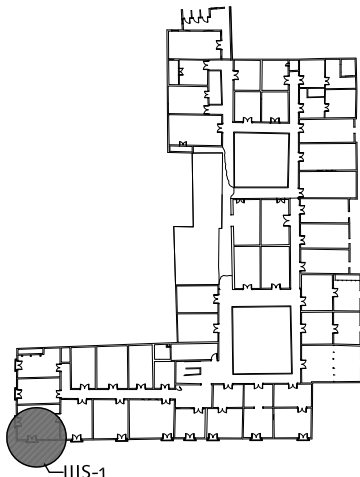
THIS OPENING IS LOCATED AT THE STAIR LANDING (BETWEEN THE FIRST AND SECOND FLOORS), AT THE CORNER OF THE FRONT FAÇADE WALL AND THE PERPENDICULAR WALL THAT SEPARATES THE STAIRS FROM THE ADJACENT ROOM.

ONE CAN OBSERVE THE TOP OF THE ADOBE WALL AT THE FIRST FLOOR. OVER IT IS A STRUCTURE OF VERTICAL POSTS AND HORIZONTALS THAT FORM A DOUBLE QUINCHA WALL, HAVING THE SAME OVERALL THICKNESS AS THE ADOBE WALL BELOW (APPROXIMATELY 1.00 m), WITH A LARGE EMPTY SPACE, OR CAVITY, BETWEEN THE TWO QUINCHA WALL FRAMES. THE OUTERMOST QUINCHA FRAME, ALONG THE STREET, IS FILLED ("CITARA") WITH A BRACING SYSTEM AT THE BASE OF THE WALL. THIS BRACING SYSTEM CONSISTS OF WOOD DIAGONALS NAILED TO THE POSTS AND MUD BRICKS IN THE SPACES BETWEEN THE DIAGONALS. IT IS IMPORTANT TO NOTE THAT ALL SECOND FLOOR WALLS HAVE THIS FILL AT THE BOTTOM OF THE FRAMES - IT SERVES AS A TRANSITIONAL ELEMENT BETWEEN THE ADOBE WALL BELOW AND THE TYPICAL QUINCHA WALL ABOVE. THIS OPENING ALSO SHOWS THE CONSTRUCTION OF THE WINDOW OPENING IN THE STREET-FACING DOUBLE QUINCHA WALL. IT HAS A CHAMFERED HEAD AND JAMBS, WHICH ARE FORMED WITH WOOD STUDS AND BEAMS, COVERED WITH FLATTENED CANE REEDS THAT ARE ATTACHED WITH STRAPS (LEATHER OR COWHIDE).

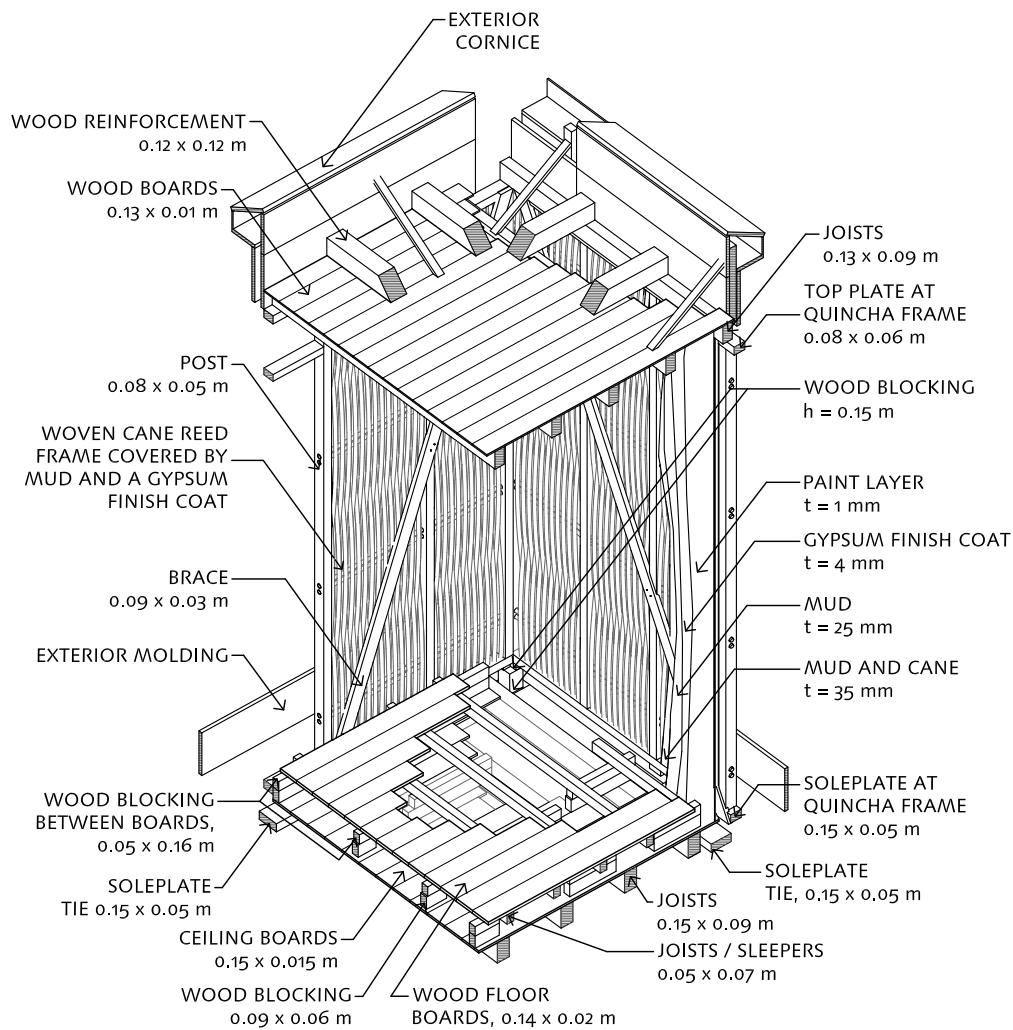
AT THE WALL THAT RUNS PERPENDICULAR TO THE FAÇADE, ONCE CAN OBSERVE THE SAME TOP OF THE ADOBE WALL, AND ABOVE IT ARE THE ENDS OF THE FLOOR JOISTS FROM THE ADJACENT ROOM. ABOVE THIS IS THE QUINCHA WALL PARTITION. IN THIS SITUATION, THE FLATTENED CANE REEDS ARE NAILED DIRECTLY TO THE WOOD POSTS. BOTH THE QUINCHA AND ADOBE WALLS ARE COVERED WITH A THICK MUD PLASTER AND A GYPSUM FINISH COAT.

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT The Earthen Architecture Initiative 	Building: HOTEL COMERCIO Lima, Perú	Drafted By: Fernando Olmos	Date: October 2011
	Sheet Title: Structural Prospection IW-1F	Supervisor: Arch. Mirna Soto	Scale: As noted
		Facilitator: Universidad Católica Sedes Sapientiae	
		Edited and Translated By: Jabdiel Zapata	



IIS-1
**THIRD FLOOR
 REFERENCE PLAN**
 NO SCALE



ISOMETRIC
 SCALE 1:50

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
 The Earthen Architecture Initiative

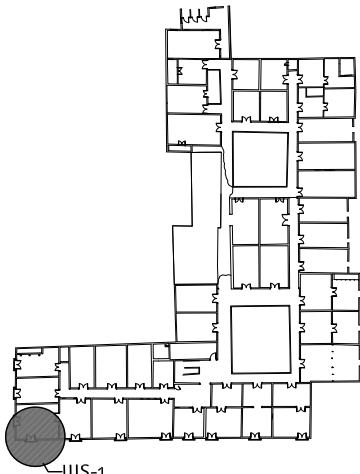


Building: **HOTEL COMERCIO**
 Lima, Perú

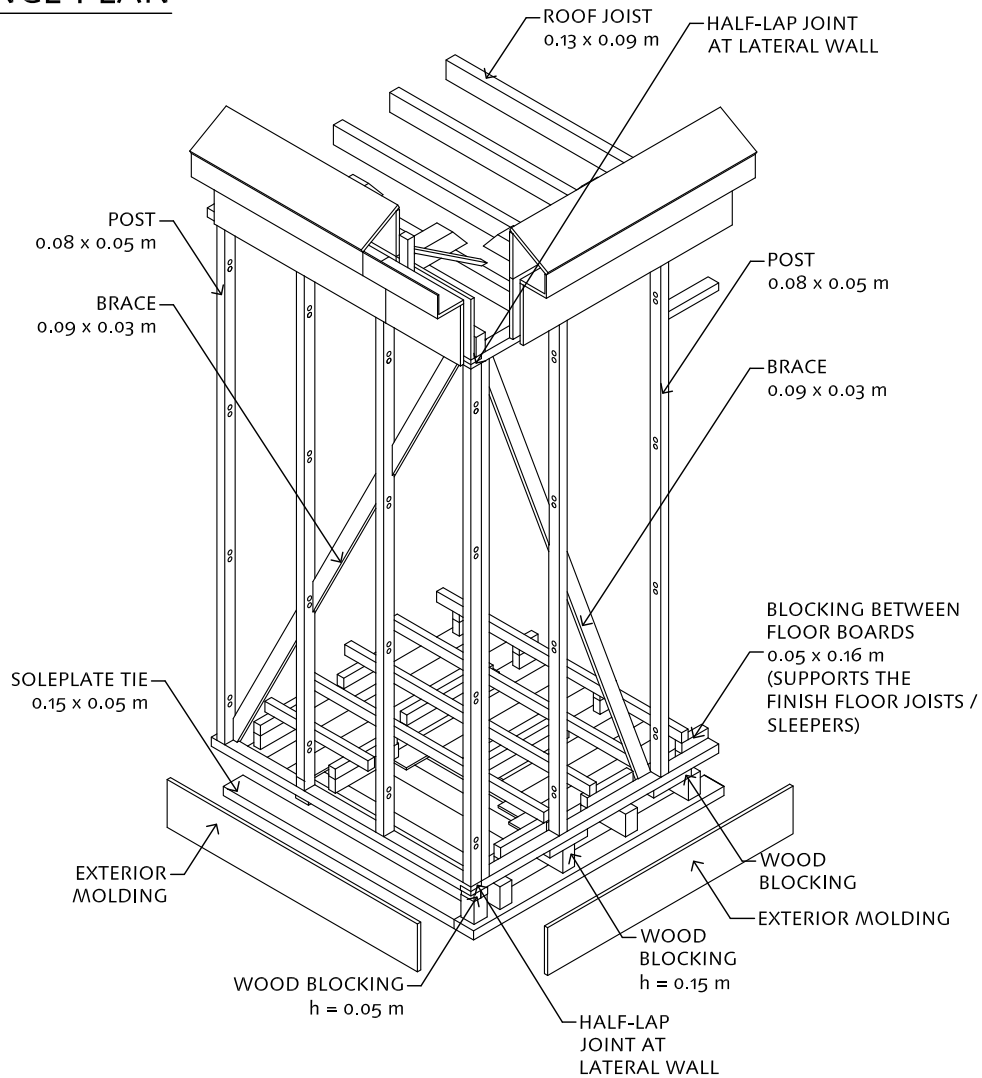
Sheet Title: **Structural Prospection**
 IIS-1

Drafted By: Fernando Olmos
 Supervisor: Arch. Mirna Soto
 Facilitator: Universidad Católica Sedes Sapientiae
 Edited and Translated By: Jabdriel Zapata

Date: October 2011
 Scale: As noted
 Sheet No.: **HC-P-34**



IIIS-1
**THIRD FLOOR
 REFERENCE PLAN**
 NO SCALE



ISOMETRIC, FRAMING ONLY
 SCALE 1:50

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
 The Earthen Architecture Initiative



Building:
HOTEL COMERCIO
 Lima, Perú

Sheet Title:
Structural Prospection
 IIIS-1

Drafted By:
 Fernando Olmos

Supervisor:
 Arch. Mirna Soto

Facilitator:
 Universidad Católica Sedes Sapientiae

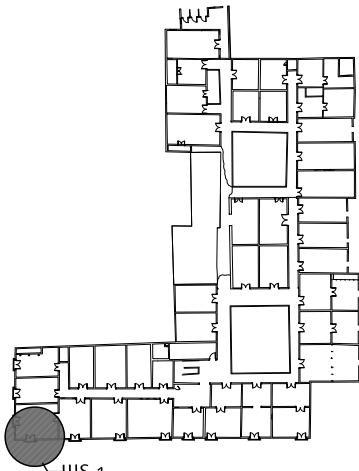
Edited and Translated By:
 Jabdiel Zapata

Date:
 October 2011

Scale:
 As noted

Sheet No.:

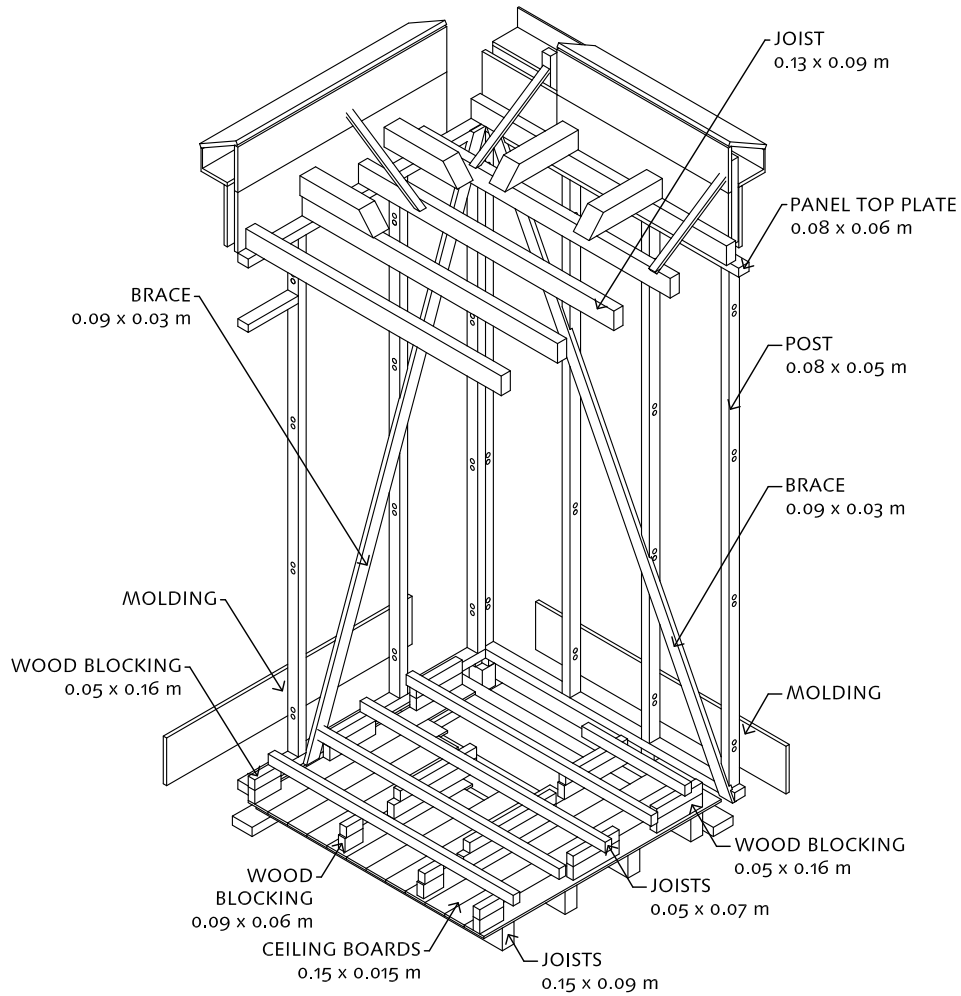
HC-P-35



IIS-1

THIRD FLOOR REFERENCE PLAN

NO SCALE



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SCALE 1:50

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The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospections
IIS-1

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitador:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

October 2011

Scale:

As noted

Sheet No.:

HC-P-36



IIIS-1



IIIS-1

THIS OPENING IS LOCATED IN A THIRD FLOOR ROOM THAT FORMS THE CORNER OF THE BUILDING.

THE FLOOR IN THIS ROOM IS CONSTRUCTED AS FOLLOWS:

OVER THE CAP PLATE AT THE SECOND FLOOR QUINCHA WALL, THERE IS A 0.14 x 0.10 m JOIST. PARALLEL TO THIS ARE ALL THE OTHER JOISTS THAT CAN BE OBSERVED AT THE CEILING OF THE SECOND FLOOR BELOW. THE SPACING BETWEEN THE JOISTS IS 0.40 m.

OVER THESE BEAMS IS WOOD DECKING, AND OVER THIS DECKING ARE ANOTHER SET OF JOISTS THAT RUN TRANSVERSALLY. WOOD BLOCKING HAS BEEN INSTALLED UNDER MANY OF THESE JOISTS TO RAISE THEM UP. ON TOP OF THESE JOISTS IS MORE DECKING THAT FORMS THE FINISH FLOOR OF THE ROOM.

THE WALLS ARE CONSTRUCTED AS FOLLOWS:

STARTING AT THE TOP OF THE SECOND FLOOR WALL BELOW, THE CAP PLATE RESTS ON THE TOP PLATE OF THE SECOND FLOOR QUINCHA WALL FRAMES (THIS TOP PLATE RECEIVES THE TOPS OF THE POSTS AT THE SECOND FLOOR WALLS). THE CAP PLATE SUPPORTS THE THIRD FLOOR JOISTS. THE ENDS OF THE JOISTS EXTEND INTO THE FAÇADE WALL. OVER THE JOISTS IS THE SOLEPLATE OF THE THIRD FLOOR WALL FRAMES. THE SOLEPLATE IS FORMED BY TWO PIECES UNITED TO INCREASE THE DEPTH. THE SOLEPLATE IS CONNECTED TO THE WALL POSTS ABOVE WITH MORTISE-AND-TENON JOINTS. THE JOIST ENDS EXTEND FAR INTO THE WALL, RIGHT UP TO THE EXTERIOR FACE OF THE WALL. THE JOIST ENDS ARE COVERED BY A TALL WOOD MOLDING, WHICH ALSO SERVES AS A DECORATIVE ELEMENT ON THE FAÇADE.

THE BASE OF THE WALL FRAMES AT THE THIRD LEVEL IS NOT FILLED ("CITARA"). THE VERTICAL CANES (A TYPE OF CANE WITH A FILLED CENTER, CALLED "CAÑA BRAVA") ARE WOVEN THROUGH THREE HORIZONTAL CANES. THESE HORIZONTAL CANES PASS THROUGH HOLES IN THE WOOD POSTS. THE FRAMES ARE BRACED WITH A DIAGONAL WOOD MEMBER EXTENDING FROM FLOOR TO CEILING. WHERE THE DIAGONALS INTERSECT WOOD POSTS, THERE IS A HALF-LAP JOINT, WHICH ALLOWS BOTH THE DIAGONAL AND POST TO REMAIN FLUSH.

THE TOPS OF THE WOOD POSTS ARE CONNECTED TO THE TOP PLATE WITH MORTISE-AND-TENON JOINTS. THE ENTIRE WALL IS COVERED WITH A THICK LAYER OF MUD PLASTER AND A GYPSUM FINISH COAT.

THE CEILING IN THIS ROOM ALSO SERVES AS THE ROOF. ITS CONSTRUCTION IS AS FOLLOWS:

OVER THE TOP PLATE AT THE WALL FRAMES, THERE ARE JOISTS SPACED AT 0.40 m. OVER THE JOISTS THERE IS WOOD DECKING. OVER THE DECKING IS A LAYER OF MUD, THEN A SECOND LAYER OF MUD AND STRAW, FOLLOWED BY A THIRD LAYER OF MUD, AND FINALLY A LAYER OF LOOSE SOIL (APPARENTLY CARRIED BY THE WIND OVER A LONG PERIOD OF TIME).

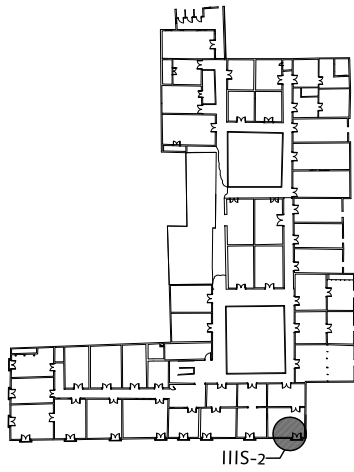
THE ENDS OF THE JOISTS PROJECT DEEP INTO THE FAÇADE WALL AND ARE COVERED WITH A WOOD TRIM THAT SERVES AS THE BUILDING CORNICE. THE TOP OF THE CORNICE IS HIGHER THAN THE ROOF LEVEL, THUS FORMING A PARAPET WALL. THIS PARAPET IS SUPPORTED BY VERTICAL WOOD BATTENS, DIAGONAL WOOD BATTENS ACTING AS STRUTS, AND LARGE WOOD BLOCKS, ALL OF WHICH ARE NAILED TO THE ROOF DECK.

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The Earthen Architecture Initiative



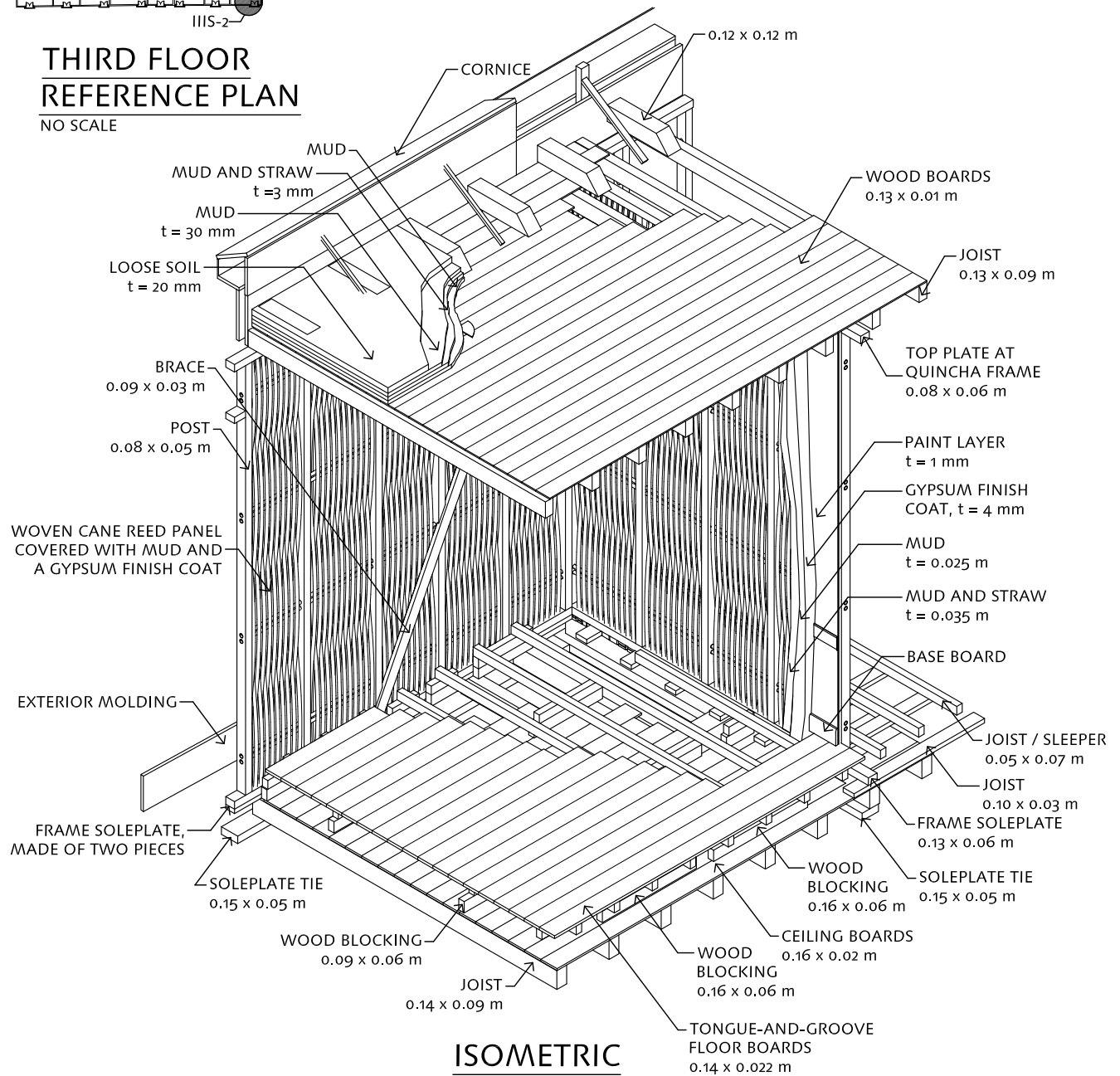
Building:	HOTEL COMERCIO Lima, Perú	Drafted By: Fernando Olmos	Date: October 2011
Sheet Title:	Structural Prospection IIIS-1	Supervisor: Arch. Mirna Soto	Scale: As noted
		Facilitator: Universidad Católica Sedes Sapientiae	Sheet No.:
		Edited and Translated By: Jabdiel Zapata	HC-P-37

True scale when printed on 8-1/2" x 11" sheet.



THIRD FLOOR REFERENCE PLAN

NO SCALE



ISOMETRIC
SCALE 1:50

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IIS-2

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

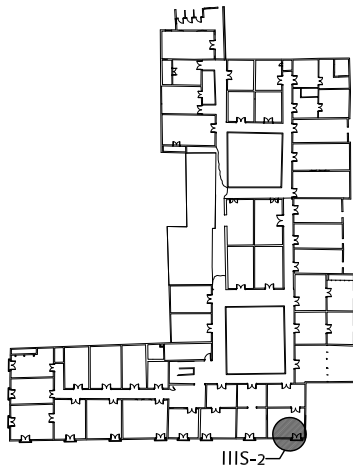
October 2011

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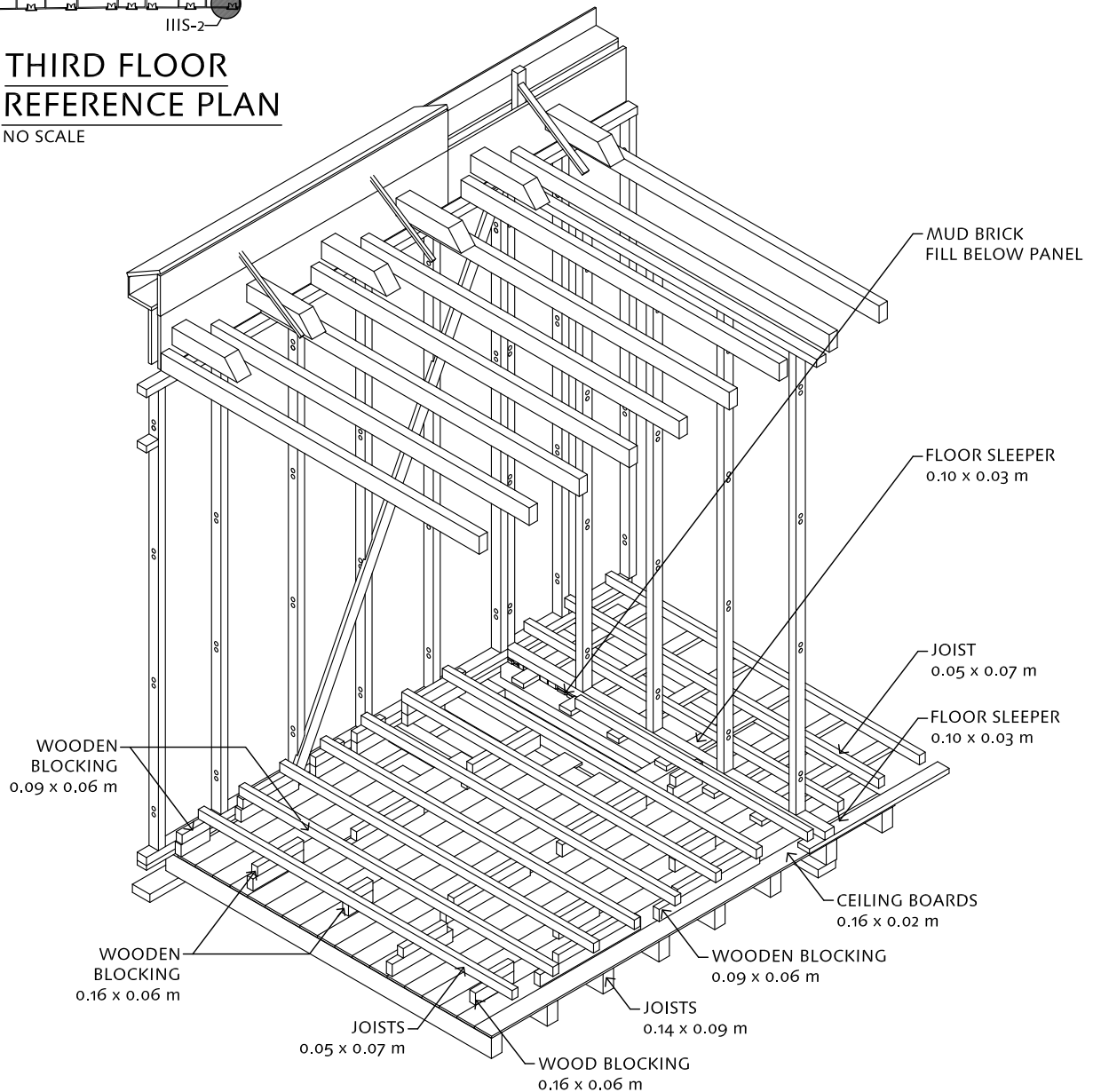
As noted

Sheet No.:

HC-P-38



**THIRD FLOOR
REFERENCE PLAN**
NO SCALE



ISOMETRIC, FRAMING ONLY
SCALE 1:50

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The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IIS-2

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

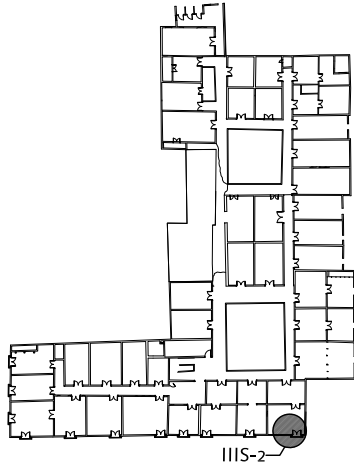
October 2011

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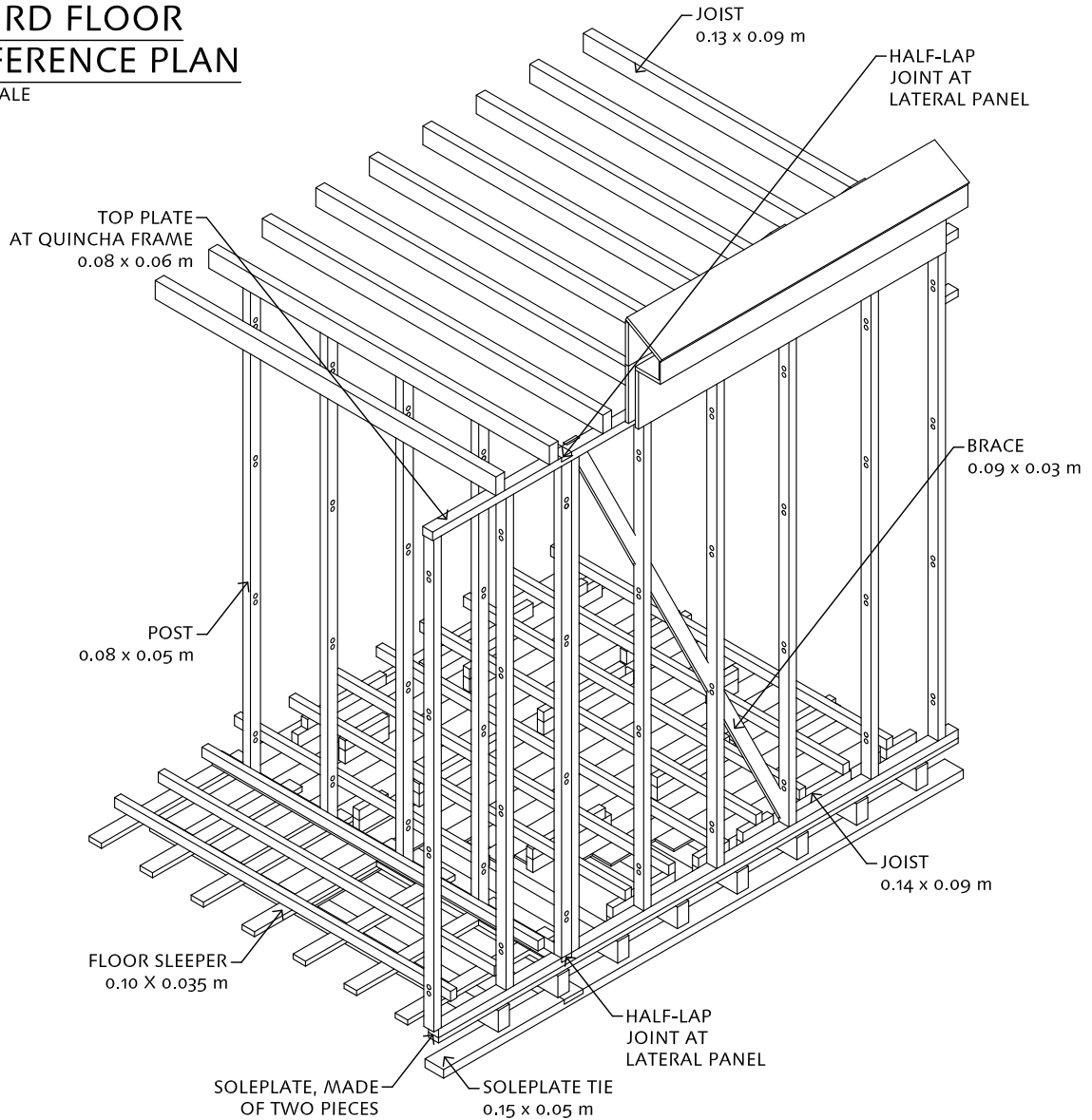
As noted

Sheet No.:

HC-P-39



**THIRD FLOOR
REFERENCE PLAN**
NO SCALE



ISOMETRIC, FRAMING ONLY

SCALE 1:50

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:
HOTEL COMERCIO
Lima, Perú

Sheet Title:
Structural Prospection
IIS-2

Drafted By:
Fernando Olmos

Supervisor:
Arch. Mirna Soto

Facilitator:
Universidad Católica Sedes Sapientiae

Edited and Translated By:
Jabdiel Zapata

Date:
October 2011

Scale:
As noted

Sheet No.:

HC-P-40



IIIS-2

IIIS-2

THIS OPENING IS LOCATED IN A THIRD FLOOR ROOM ABOVE THE ENTRY HALL.

THE FLOOR IN THIS ROOM IS CONSTRUCTED AS FOLLOWS:

OVER THE CAP PLATE AT THE SECOND FLOOR QUINCHA WALL, THERE IS A 0.14 x 0.10 m JOIST. PARALLEL TO THIS ARE ALL THE OTHER JOISTS THAT CAN BE OBSERVED AT THE CEILING OF THE SECOND FLOOR BELOW. THE SPACING BETWEEN THE JOISTS IS 0.40 m.

OVER THESE BEAMS IS WOOD DECKING, AND OVER THIS DECKING ARE ANOTHER SET OF JOISTS THAT RUN TRANSVERSALLY. WOOD BLOCKING HAS BEEN INSTALLED UNDER MANY OF THESE JOISTS TO RAISE THEM UP. ON TOP OF THESE JOISTS IS MORE DECKING THAT FORMS THE FINISH FLOOR OF THE ROOM.

THE WALLS ARE CONSTRUCTED AS FOLLOWS:

STARTING AT THE TOP OF THE SECOND FLOOR WALL BELOW, THE CAP PLATE RESTS ON THE TOP PLATE OF THE SECOND FLOOR QUINCHA WALL FRAMES (THIS TOP PLATE RECEIVES THE TOPS OF THE POSTS AT THE SECOND FLOOR WALLS). THE CAP PLATE SUPPORTS THE THIRD FLOOR JOISTS. THE ENDS OF THE JOISTS EXTEND INTO THE FAÇADE WALL. OVER THE JOISTS IS THE SOLEPLATE OF THE THIRD FLOOR WALL FRAMES. THE SOLEPLATE IS FORMED BY TWO PIECES UNITED TO INCREASE THE DEPTH, THE SOLEPLATE IS CONNECTED TO THE WALL POSTS ABOVE WITH MORTISE-AND-TENON JOINTS. THE JOIST ENDS EXTEND FAR INTO THE WALL, RIGHT UP TO THE EXTERIOR FACE OF THE WALL. THE JOIST ENDS ARE COVERED BY A TALL WOOD MOLDING, WHICH ALSO SERVES AS A DECORATIVE ELEMENT ON THE FAÇADE.

THE BASE OF THE WALL FRAMES AT THE THIRD LEVEL IS NOT FILLED ("CITARA"). THE VERTICAL CANES (A TYPE OF CANE WITH A FILLED CENTER, CALLED "CAÑA BRAVA") ARE WOVEN THROUGH THREE HORIZONTAL CANES. THESE HORIZONTAL CANES PASS THROUGH HOLES IN THE WOOD POSTS, THE FRAMES ARE BRACED WITH A DIAGONAL WOOD MEMBER EXTENDING FROM FLOOR TO CEILING. WHERE THE DIAGONALS INTERSECT WOOD POSTS, THERE IS A HALF-LAP JOINT, WHICH ALLOWS BOTH THE DIAGONAL AND POST TO REMAIN FLUSH.

THE TOPS OF THE WOOD POSTS ARE CONNECTED TO THE TOP PLATE WITH MORTISE-AND-TENON JOINTS. THE ENTIRE WALL IS COVERED WITH A THICK LAYER OF MUD PLASTER AND A GYPSUM FINISH COAT.

THE CEILING IN THIS ROOM ALSO SERVES AS THE ROOF. ITS CONSTRUCTION IS AS FOLLOWS:

OVER THE TOP PLATE AT THE WALL FRAMES, THERE ARE JOISTS SPACED AT 0.40 m. OVER THE JOISTS THERE IS WOOD DECKING. OVER THE DECKING IS A LAYER OF MUD, THEN A SECOND LAYER OF MUD AND STRAW, FOLLOWED BY A THIRD LAYER OF MUD, AND FINALLY A LAYER OF LOOSE SOIL (APPARENTLY CARRIED BY THE WIND OVER A LONG PERIOD OF TIME).

THE ENDS OF THE JOISTS PROJECT DEEP INTO THE FAÇADE WALL AND ARE COVERED WITH A WOOD TRIM THAT SERVES AS THE BUILDING CORNICE. THE TOP OF THE CORNICE IS HIGHER THAN THE ROOF LEVEL, THUS FORMING A PARAPET WALL. THIS PARAPET IS SUPPORTED BY VERTICAL WOOD BATTENS, DIAGONAL WOOD BATTENS ACTING AS STRUTS, AND LARGE WOOD BLOCKS, ALL OF WHICH ARE NAILED TO THE ROOF DECK.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IIIS-2

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

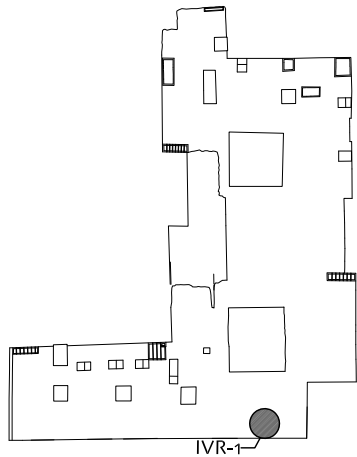
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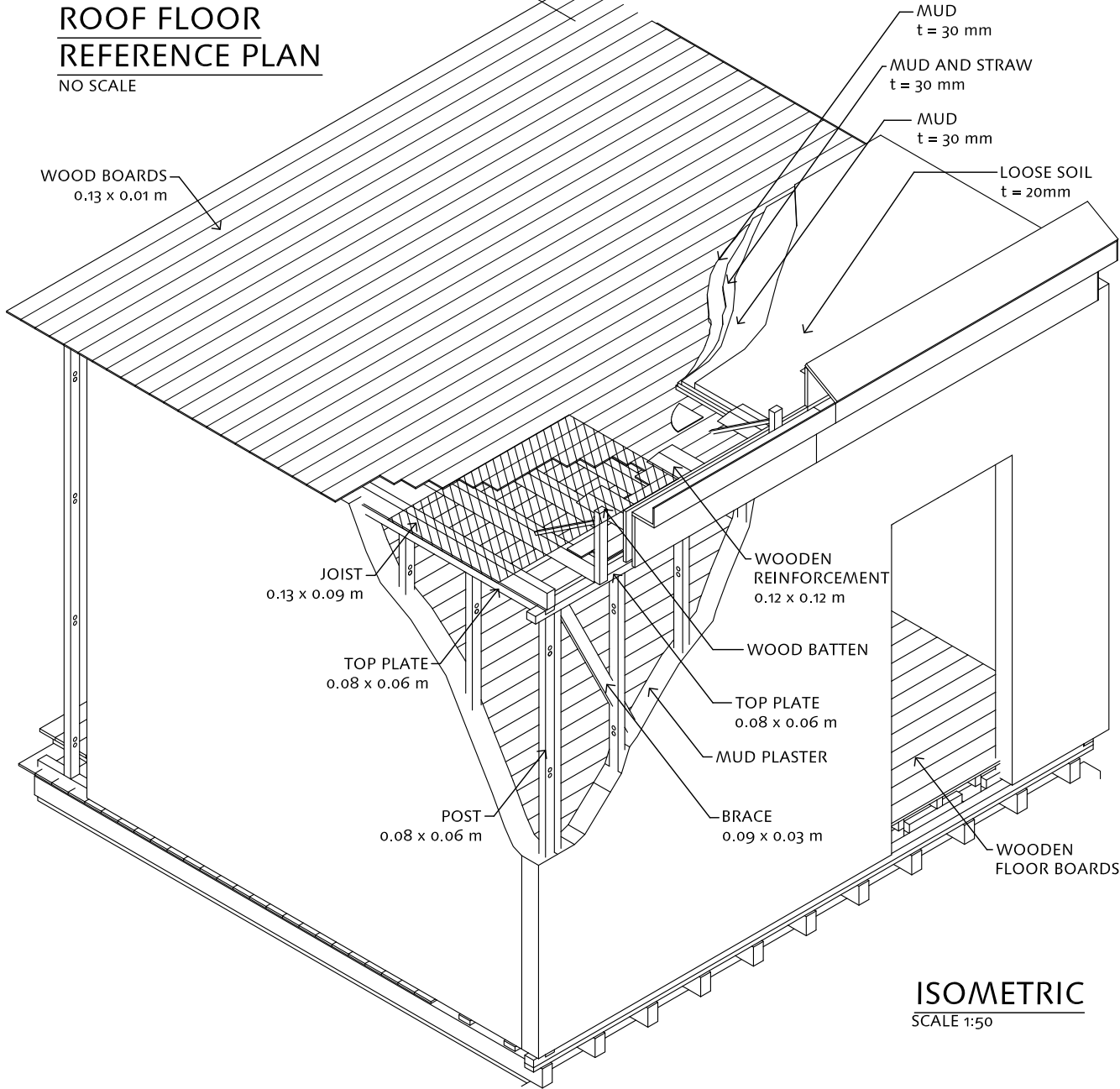
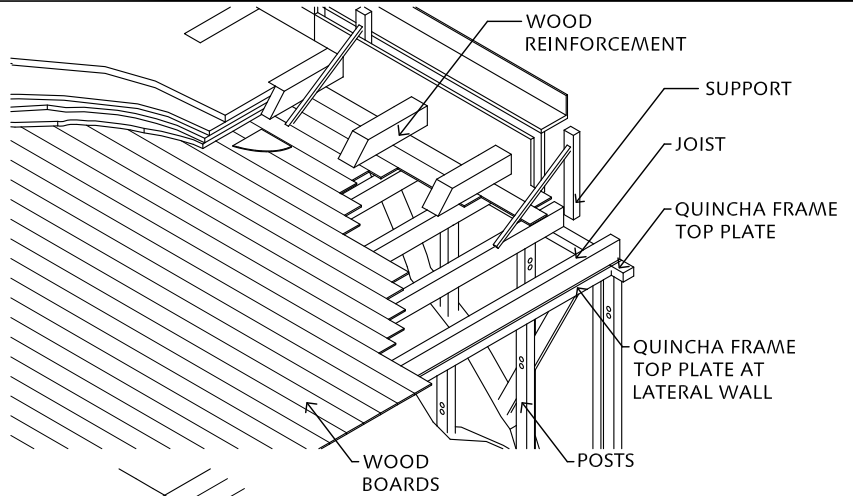
As noted

Sheet No.:

HC-P-41



**ROOF FLOOR
REFERENCE PLAN**
NO SCALE



ISOMETRIC
SCALE 1:50

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IVR-1

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

October 2011

Scale:

As noted

Sheet No.:

HC-P-42



IVR-1

IVR-1

THIS OPENING IS LOCATED ON THE ROOF. ITS CONSTRUCTION IS AS FOLLOWS:

OVER THE TOP PLATE AT THE WALL FRAMES AT THE THIRD LEVEL BELOW, THERE ARE JOISTS SPACED AT 0.40 m. OVER THE JOISTS THERE IS WOOD DECKING. OVER THE DECKING IS A LAYER OF MUD, THEN A SECOND LAYER OF MUD AND STRAW, FOLLOWED BY A THIRD LAYER OF MUD, AND FINALLY A LAYER OF LOOSE SOIL (APPARENTLY CARRIED BY THE WIND OVER A LONG PERIOD OF TIME).

THE ENDS OF THE JOISTS PROJECT DEEP INTO THE FAÇADE WALL AND ARE COVERED WITH A WOOD TRIM THAT SERVES AS THE BUILDING CORNICE. THE TOP OF THE CORNICE IS HIGHER THAN THE ROOF LEVEL, THUS FORMING A PARAPET WALL. THIS PARAPET IS SUPPORTED BY VERTICAL WOOD BATTENS, DIAGONAL WOOD BATTENS ACTING AS STRUTS, AND LARGE WOOD BLOCKS, ALL OF WHICH ARE NAILED TO THE ROOF DECK.

True scale when printed on 8-1/2" x 11" sheet.

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The Earthen Architecture Initiative



The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Structural Prospection
IVR-1

Drafted By:

Fernando Olmos

Supervisor:

Arch. Mirna Soto

Facilitator:

Universidad Católica Sedes Sapientiae

Edited and Translated By:

Jabdiel Zapata

Date:

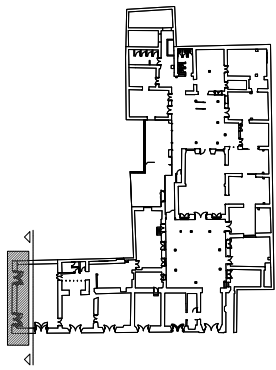
October 2011

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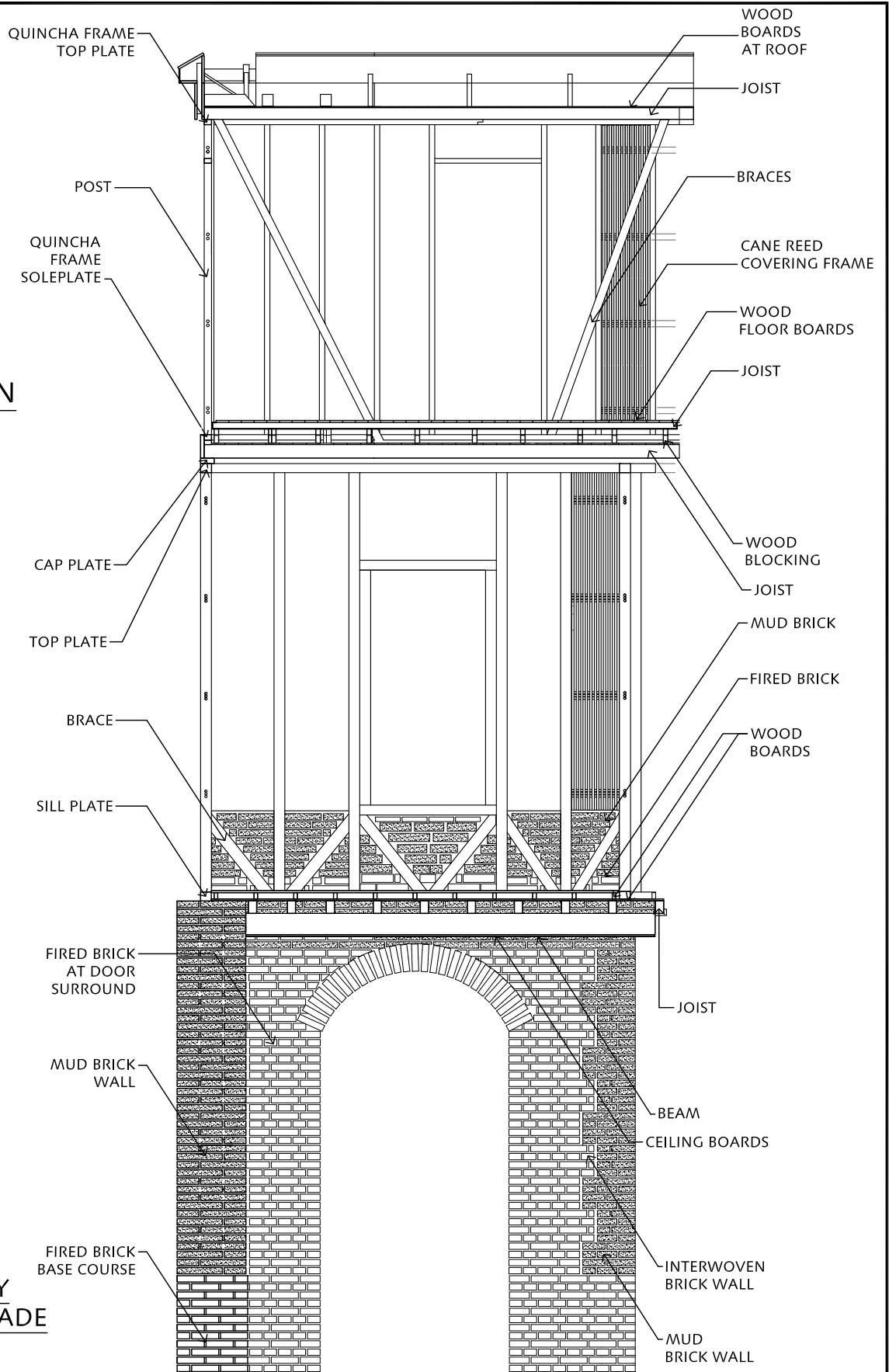
Sheet No.:

HC-P-43



**FIRST FLOOR
REFERENCE PLAN**

NO SCALE



**STRUCTURAL BAY
NORTHEAST FACADE**

NO SCALE

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building: **HOTEL COMERCIO**
Lima, Perú

Sheet Title: **Structural Sheme
Northeast Facade**

Drafted By:
Fernando Olmos

Supervisor:
Arch. Mirna Soto

Facilitator:
Universidad Católica Sedes Sapientiae

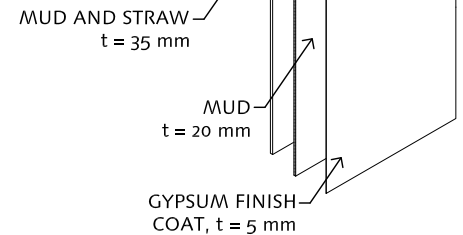
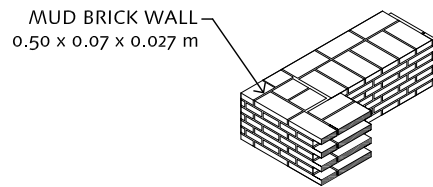
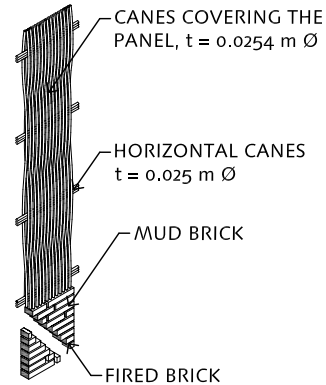
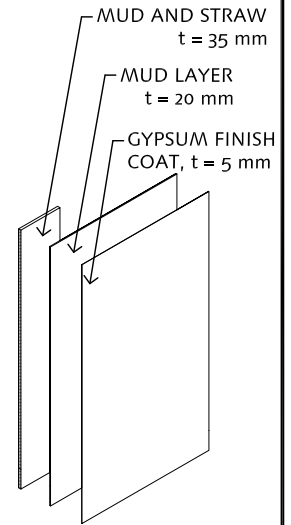
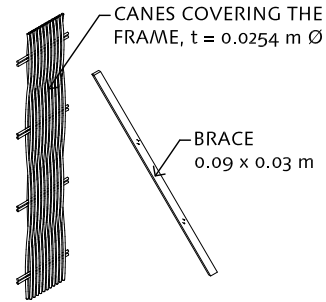
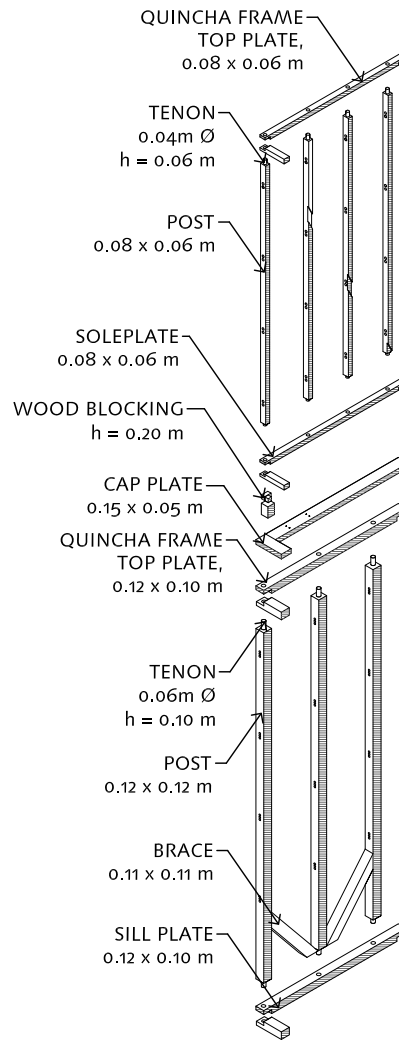
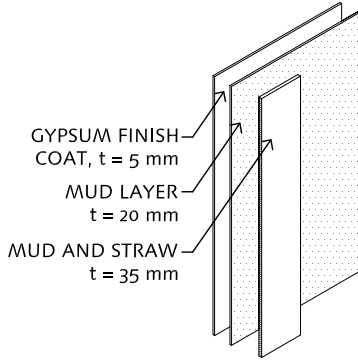
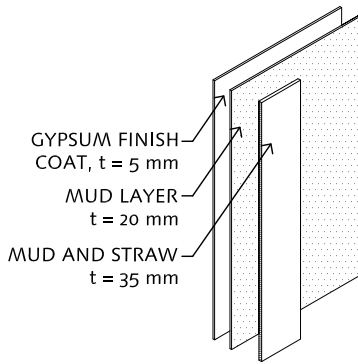
Edited and Translated By:
Jabdiel Zapata

Date:
October 2011

Scale:
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Sheet No.:

HC-P-44



STRUCTURAL BAY AT NORTHEAST FACADE

SCALE 1:100

True scale when printed on 8-1/2" x 11" sheet.

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative



Building: **HOTEL COMERCIO**
Lima, Perú

Sheet Title: **Structural Scheme**
Northeast Facade

Drafted By:
Fernando Olmos

Supervisor:
Arch. Mirna Soto

Facilitator:
Universidad Católica Sedes Sapientiae

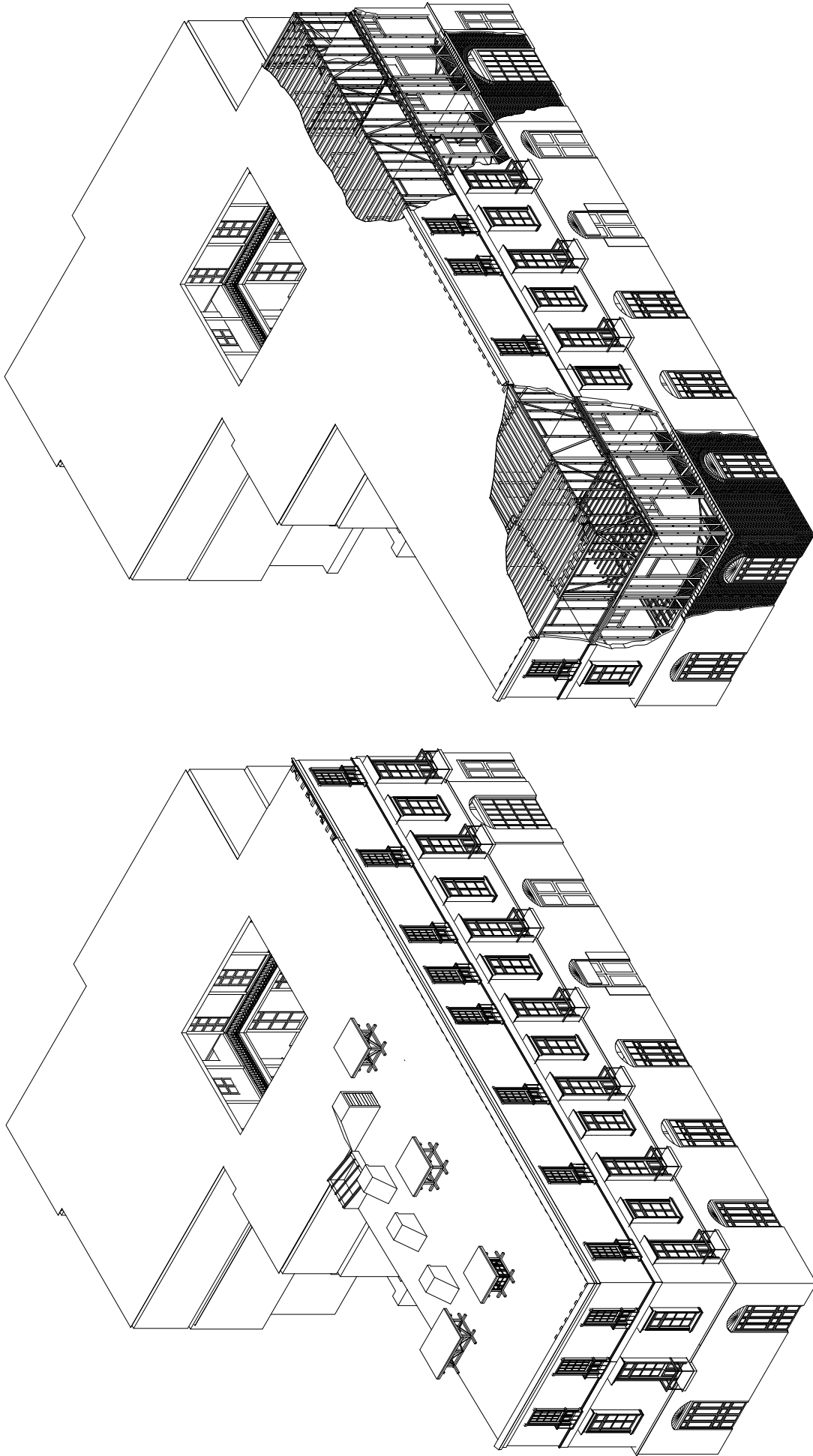
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Jabdiel Zapata

Date:
October 2011

Scale:
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Sheet No.:

HC-P-45



ISOMETRIC VIEW FROM THE NORTH
NO SCALE

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative

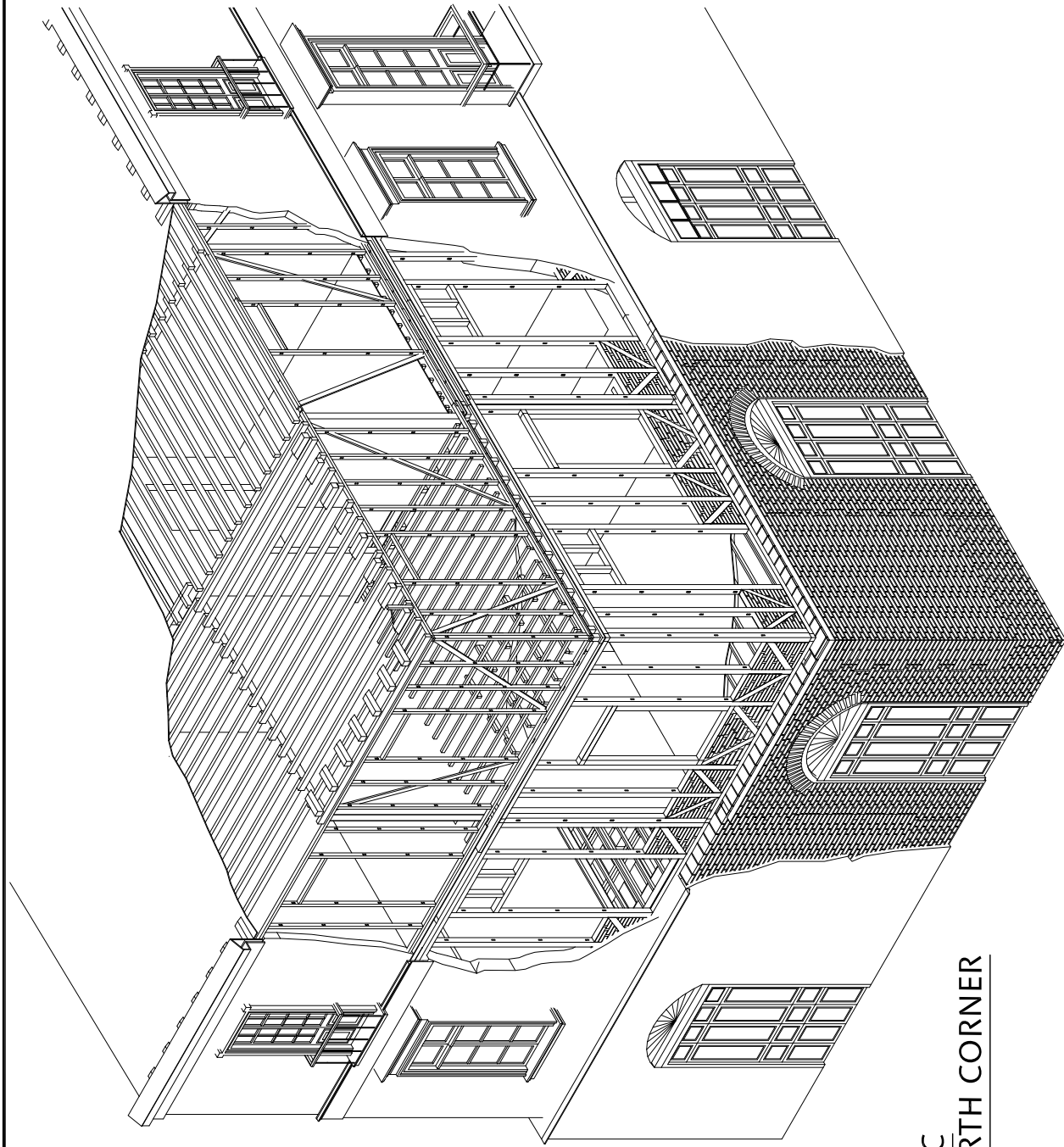


Building: HOTEL COMERCIO
Lima, Perú

Sheet Title: Overall Structural Scheme

Drafted By: Fernando Olmos
Supervisor: Arch. Mirna Soto
Facilitator: Universidad Católica Sedes Sapientiae
Edited and Translated By: Jabdiel Zapata

Date: October 2011
Scale: As noted
Sheet No.: HC-P-46



**DETAIL ISOMETRIC
VIEW OF THE NORTH CORNER**

NO SCALE

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative

The Getty Conservation Institute



Building:

HOTEL COMERCIO
Lima, Perú

Sheet Title:

Overall Structural Scheme

Drafted By:
Fernando Olmos

Supervisor:
Arch. Mirna Soto

Facilitator:
Universidad Católica Sedes Sapientiae

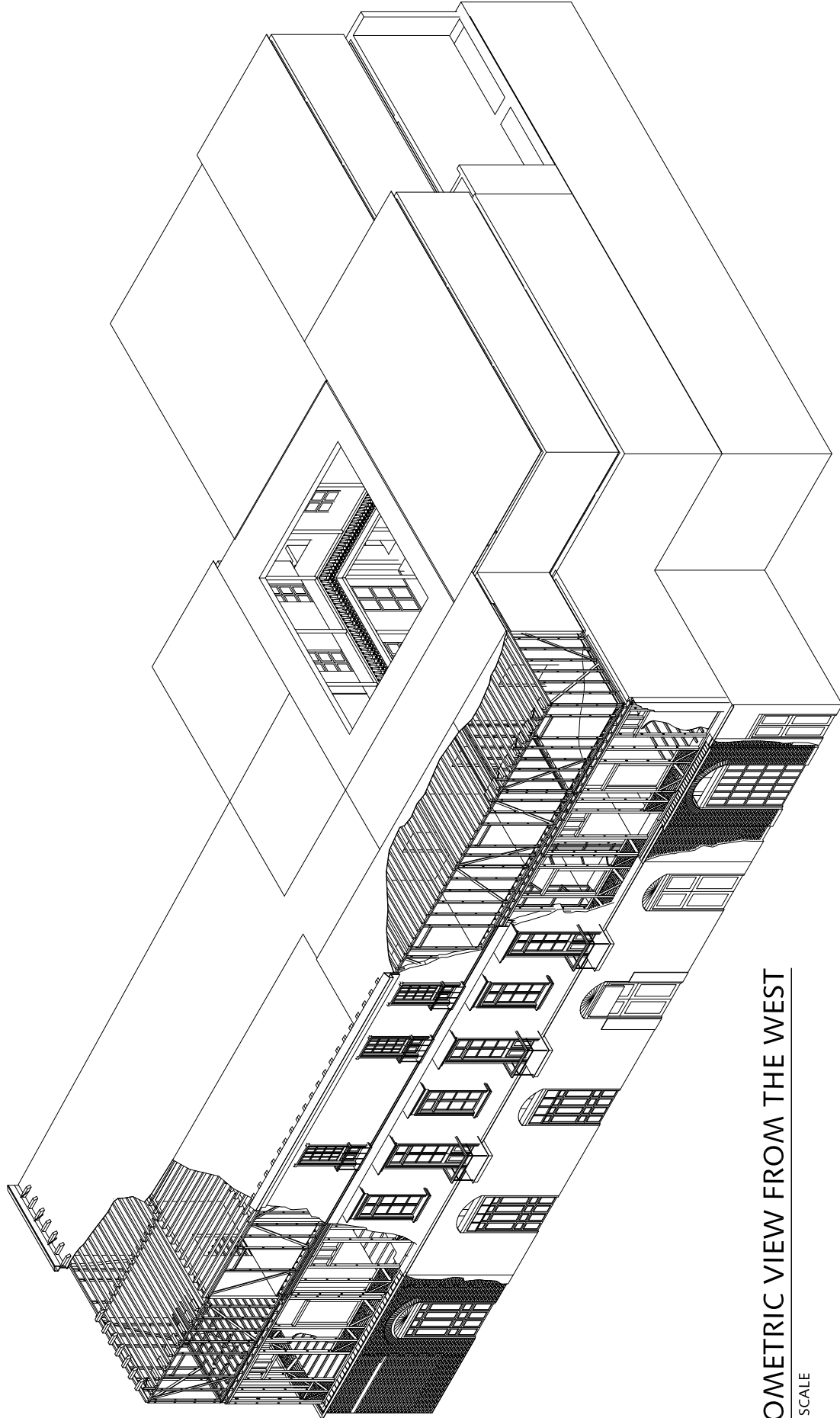
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Jabdiel Zapata

Date:
October 2011

Scale:
As noted

Sheet No.:

HC-P-47



ISOMETRIC VIEW FROM THE WEST

NO SCALE

SEISMIC RETROFITTING PROJECT
The Earthen Architecture Initiative

The Getty Conservation Institute



BUILDING:
HOTEL COMERCIO
Lima, Perú

SHEET TITLE:
Overall Structural Scheme

Drafted By: Fernando Olmos	Date: October 2011
Supervisor: Arch. Mirna Soto	Scale: As noted
Facilitator: Universidad Católica Sedes Sapientiae	Sheet No.: HC-P-48
Edited and Translated By: Jabdiel Zapata	