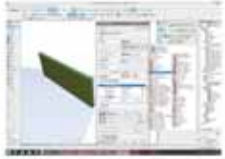


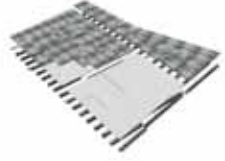
To create our BIM model, we started from the use of point clouds generated by the laser. First, we used the result of the laser scan to create a section. We used BIM only and then, we imported the files to Revit (1).



With the use of this software, it was possible to release the whole existing structure and the proposed building, starting from the walls and glass-to-structure with the system.



The next step was to define the construction typology of the floor between the ground and first floor, drawing both the wooden beams and the flooring.



Once completed the ground floor, the next step was to do the same on the first floor, which was at the end covered by the roof that we investigated starting from the roof plan provided by the historians, in addition to previous laser models of the roof.



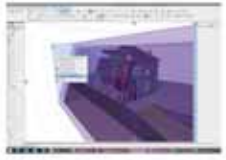
As a concept the Architects that are present of the works, such as windows, doors and entrance portals, we studied the existing details of Arco di Biadene and transferred them into the BIM model in order to be as accurate as possible for both interventions.



The last phase of preliminary analysis was that of inserting the roof inside the walls with the insertion of "beams" that would represent the beams used in the walls.



The next step was to define the construction typology of the floor between the ground and first floor, drawing both the wooden beams and the flooring.



Starting from the point that one of the main possibilities at our disposal was to use the existing structure, we decided to build a structure of the BIM model through the use of different elements, identified with different colors corresponding to different historical periods.

This kind of solution can represent the historical evolution of the work.



VIEW 1



VIEW 1



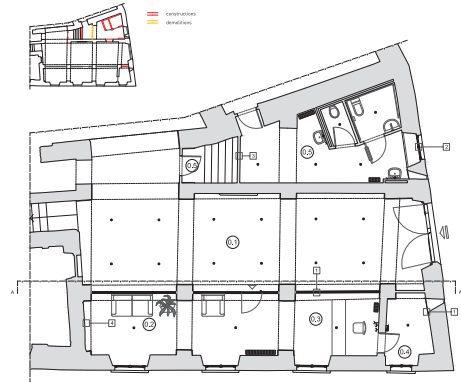
VIEW 2



VIEW 3

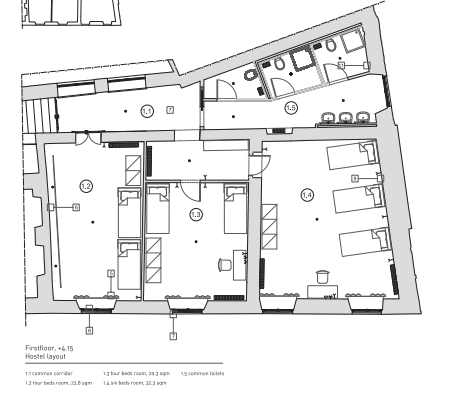


VIEW 4



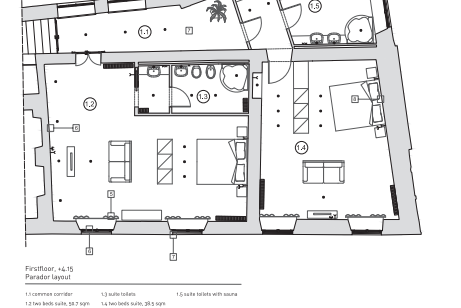
Ground floor, 0.00
Horizontal and parallel layout

17 open hall, 18 storage, 19 reception, 20 terrace input, 21 restaurant table + chair, 22 storage room



First floor, +4.15
Horizontal layout

13 common corridor, 13 bar both rooms, 14.3 apt, 15 common toilet, 13 bar both rooms, 14.3 apt



First floor, +4.15
Parallel layout

13 common corridor, 13 suite toilet, 15 suite toilet with source, 13 bar both rooms, 14.3 apt, 14 bar both rooms, 14.3 apt

Closure of arches - GROUND FLOOR



Elevation AA'

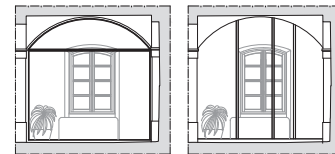
The arches are closed with a fixed structure of steel and glass to allow the exploitation of the space of the hall with all weather conditions. This position for the hall was chosen after careful evaluation of other possibilities in spaces which were already interior-based on the principles of accessibility and usefulness.

Other options considered are B and C (see drawings on the right). Option B allowed the best thermal stability, but it was necessary to break the stone in order to insert the continuous linear steel frame. This was discarded as it was a quite invasive intervention. In option C instead there was no steel on the border of the glass, which was shaped according to the arches and columns. Steel posts were present in the inner part. Also this option was discarded because it did not allow a sufficient thermal insulation and therefore did not justify the closure of arches.

REFERENCES

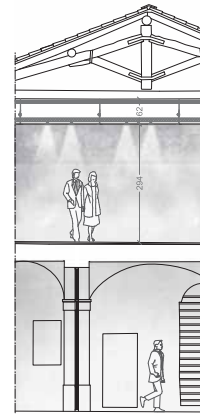


100a Corra, Colonna dell'Accademia, Venezia



Option B

Option C



Windows and railings - FIRST FLOOR

Windows of ground floor have been recently substituted with historical steel morphology of old stone window. The use of this material was to do the same of restoration and do the same as our thermal system can design performance requirements. The way of intervention are possible, but substitution of window itself, it is a more invasive intervention for allow better energy performance of existing interventions. The choice will depend on the

characteristics of the first project of use of the building and on the site. Therefore, the different steel, which are important for the historic project and for the parallel project. At the same time it is necessary to maintain the settings of the floor with open the facility with simple openings, linked to the wall.

It was evaluated that these factors that would generate a historical value that would create a strong sense, which represents all the arches, can be replaced with new double glass windows of metal alloy, but a different reference was suggested a similar concept to that of stone

doors, which allows for a very light intervention of the frame. This intervention is to have a bridge between the old and new arches. Railings will be replaced with an iron-to-iron railing, which will be linked to the stone. The design could be different in the ground floors, which can represent a guarantee that it will be used in the long term. The design of the railing represented and a similar configuration of the intervention to be designed.



General notes on interventions

- Ground floor
1. The floor is raised (+ 1.10) to ensure full accessibility from the restaurant. To cope with the new height the window is replaced.
 2. The stairwell is closed with a lightweight (and removable) wall, as they can not be used from the restaurant, that already has two entrances.

- First floor
1. Internal darkening curtains will be added
 2. The wall has a particular historical interest; therefore it was chosen to preserve it and maintain free of furnishing.
 3. It is necessary to replace the countertops, which besides being in a bad state of conservation have an insulation material that may not be in compliance with regulations. Also the floors will be replaced.
 4. An insulation counter wall is proposed in room 1.4.