FINAL PROJECT: HOSTEL HALMSTAD-SWEDEN

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INTRODUCTION

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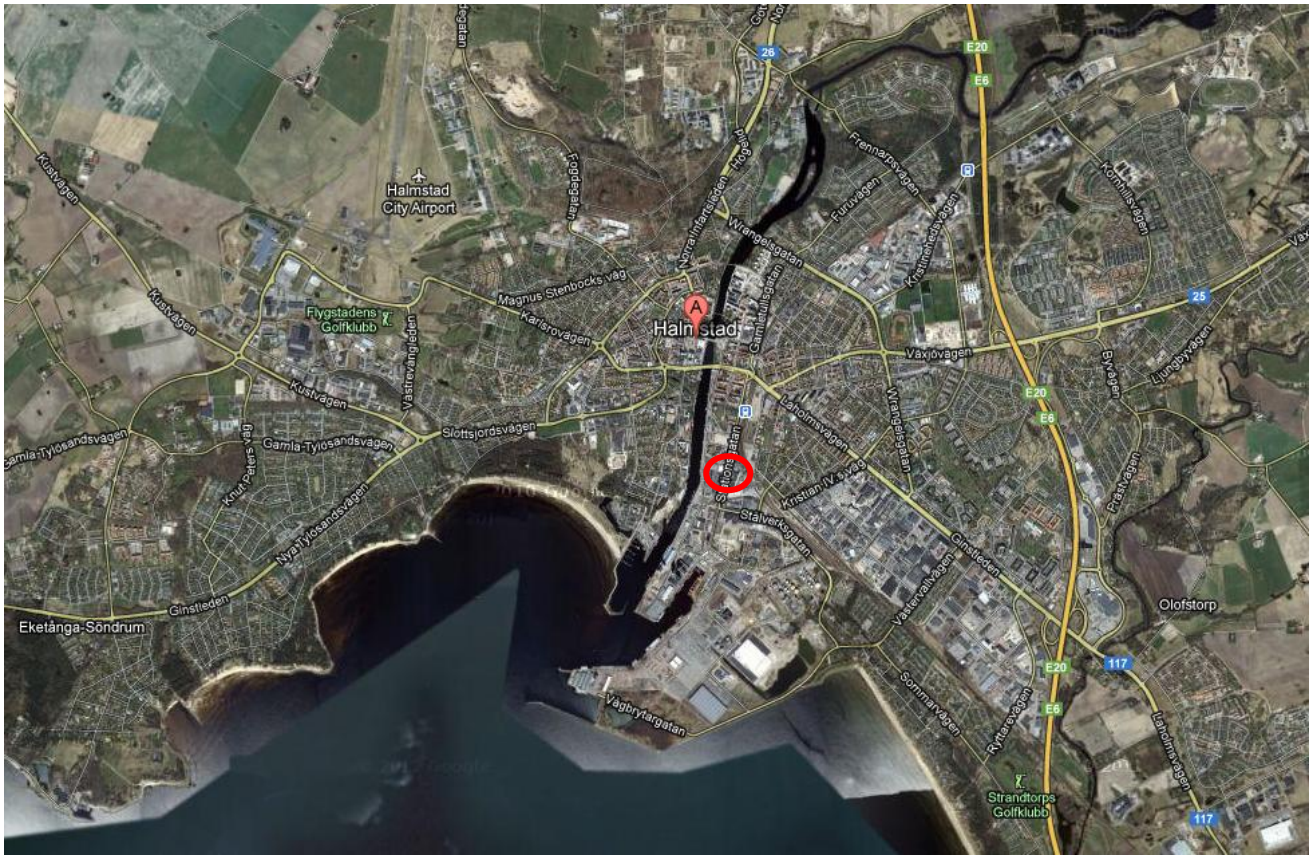
- AREA AND SITUATION
- ACTUAL BUILDINGS AND NEAR BUILDINGS
- IDEA PROPOSAL

AREA AND ASITUATION

The site where I am going to build is located between the river Nissan and the Central station, near the city centre. It is at street Stationgatan, between the streets: Stuvaregatan and Styrmansgatan. You can see the exact position of the area in the following plans.



The city: Halmstad.

The lot

This lot has an almost regular form, it has an almost rectangular form, twice of its faces are parallel to each other, forming 90º with a third face. The fourth face, closest to the river is not parallel or perpendicular to any of the other faces.

The lot is so big, and it has approximate dimensions of approximately 180 meters in the long face and approximately 93 meters more or less in the smallest face.

The lot has a total surface of 15538 m2.

ACTUAL BUILDINGS AND NEAR BUILDINGS

I went to the lot in February and in the beginning of March for take some photos and see the surrounding area.
There isn't any construction in our lot, only a little building like a room facilities. Its dimensions are approximately 3x2 meters. It is located in one side of the lot, not in the middle so maybe it is not necessary a demolition.

The lot:




The existing building:

In the surrounding area there are some buildings like factories, there is a hotel too, and behind the hotel there are residential buildings, a technology center and recreation. In front of the lot there is the Central station. On the contrary there is a factory and the river behind it.

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IDEA PROPOSAL

The main idea is to build a hotel, like a youth hostel, which may be cheaper but without losing the amenities you could have a normal hotel.

I thought about several characteristics of the hotel, like a living room for reading and relaxation. The first idea was to place it on the ground floor but too many noises could be heard from the entrance and the other rooms, so I thought it best if this room occupies the top floor, just above the room, much more quietly situated.
The reading room has views of the surrounding area with large windows that allow in the scenery of the city.

On the ground floor, apart from the reception, have more rooms such as dining room, kitchen, toilets, perhaps a sauna, laundry room ...

The building would have a basement where there would be a pub to go at night.

The other floors would be occupied by bedrooms, 2 or 3 floors, I thought in rooms of 2, 4 and 6 people and can extend them with additional beds.

In the dining room have several zones: one for breakfast, another area for lunch and dinner as a buffet. Each zone may have different areas depending on the type of food, an area with snacks, another area for vegetarian food, another area for fish, other meats area, and another area for special order food example for people with allergies...

The toilets have the basics for people outside or dining room, a sink and a toilet. Because every room and has a full bathroom with sink, WC and shower or bath.

The laundry room contains several washers and dryers to clean room clothing, sheets, towels and covers.

With respect to the rooms. Rooms for 2 people can be with a double bed or twin beds. The rooms of 4 people can be 2 double beds or 4 single beds. And the rooms of 6 people will be twin, single or bunk beds.

Outside the hotel, I thought it might be a cafe area with tables and chairs to enjoy the sunny days.

On the other side of the site, car parking and bicycle, bike mostly because I think that it is the most widely used means of transport.

The hotel could also have a bike rental service.

TECHNICAL DESCRIPTIONS

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- CONDITION OF THE AREA
- FOUNDATION AND SLABS
- STRUCTURE
- FACADES AND PARTITIONS
- ROOF
- COATINGS
- CARPENTRY
- PROTECTION AGAINST FIRE
- INSTALLATIONS
- ENERGY STUDY

CONDITION OF THE AREA

In the plot on which to build the hostel, there is not a building need to be demolished. There is only a small booth installations, but it is not necessary to demolish for the construction of our building. The only work to be done is cleaning the site and removing the vegetal layer.

To clean the vegetal layer will be used manually or mechanically, in accordance with Regulation Technology.
Then the corresponding land transportation will be done with trucks loaded from the machine until the next landfill site.
Once the place is clean shall be the reformulation of the areas to be excavated, leaving the witnesses of this rethinking to make the necessary checks at any time. The drain is made by the mechanical method, it shall take appropriate measures to prevent damage to public roads, being observed at all times comply with the regulations. The remaining land will be transported by trucks from the machine to the dustbin of work.

The ditches and footings will be excavated by mechanical methods following the criteria of the regulation. The land will be transported from the machine to the dump along with the work.

FOUNDATION AND SLABS

Surfaces. Run and slabs.

The footings will be filled up with prepared reinforced concrete HA-30/B/25/IIIa+H with 300 kg/cm2 of characteristic resistance. This concrete will be prepared for marine ambience (corrosion induced by chlorides from seawater) and freezing (IIIa+H). This concrete will be elaborated, transported and put in work according to the instruction. First layer of about 100 mm of thickness will be spilled with cleaning concrete in the base of laying of foundation, on which the corresponding reinforcements do not move and that has necessary coverings.

The raft will be made with a base of ballasts and compacted artificial skittles of 200mm of thickness with mechanical methods at 99% of the normal proctor. It will be demanded in work that the materials like cement, plasters or stucco that are used have quality mark. The steel for reinforced concrete will have quality seal and will be from only one manufacturer.

Ground slabs

Ground slab will be executed with concrete of 150 kg/cm2 of characteristic resistance, and with 15 cm of thickness reinforced with electro welded mesh of 15x15 cm. Ø 5-5 mm, B-500T and the surrounding zone with a base of ballasts and artificial skittles of 200 mm of thickness, on which the ground slabs will be executed.

It will be necessary to make an expansion joint because the building is longer than 50m.

A waterproof lamina will be placed (plastic polyethylene) on ballasts to avoid the humidity ascent.

STRUCTURE

Reinforced concrete structure

The structure of the building is arranged in two parts. One of them is made of reinforced concrete type HA-30/B/25/IIIa+H in the basement walls, footings and slab connecting the footings. That is due because is a marine zone and the distance between the building and the sea is less than 5km, and the concrete which is in contact with the atmosphere it must be IIIa to be resistant to chloride of marine origin.

The rest of the structure is made of HA25/B/20/IIa used in the pillars, beams, and the three slabs of the floor.

The shape of the footing is square, 100x100 cm and 60 cm of depth, concrete HA30/B/25/IIIa+H from central, with B500S steel.

The slab connected the footings is made of concrete, 10 cm thick concrete made with HA-30/B/25/IIIa+H, max arid size 25mm, made in central, armed with steel B500S.

The pillars are square, 30x30 cm and the beams are flat, having 30 cm of thickness, with dimensions of 20x30cm, both elements are made of reinforced concrete HA25/B/20/IIa.

The floors are made from the same concrete beams and pillars, HA25/B/20/IIa have a thickness of 30 cm, 25 cm, made with ceramic vaults and joists semi-resistant concrete with 70 cm intereje, and 5 cm layer of compression.

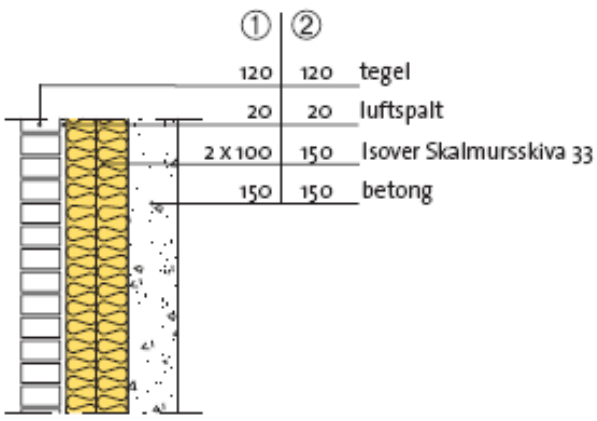
The slab of the stairs is made in situ with the same concrete as the rest of the structure, HA25/B/20/IIa, is linked with the floors of each plant by the reinforcing steel and has a thickness of 20 cm.

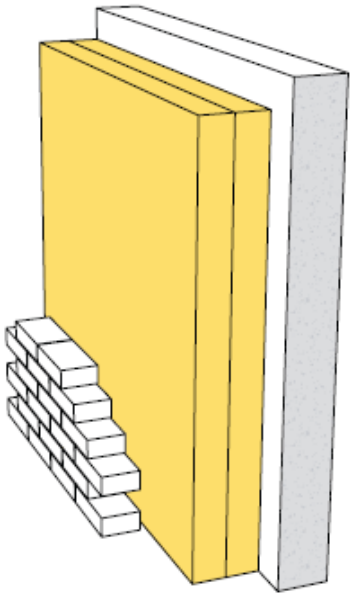
FACADES AND PARTITIONS

Facades

The facade for this building was chosen for its resistance to fire, REI60. It corresponds to the detail Y: 208 in the catalog Isover (Betongstomme med tegel).
It consists of 4 layers. The outer layer is made of brick, 120 mm thick. The next layer is a non-ventilated air chamber with a thickness of 20mm. Below is a double layer of insulation type Isover Skalmursskiva 33 of 100mm thick each. To finish the inside of the facade, a concrete layer thickness of 150mm.
The total thickness of the facade is 49 cm.
Its technical characteristics are detailed in the table below.

PROPERTIES	
U-value (W/m2·°C):	0’15
Reaction to fire:	REI60
Noise reduction (dB):	
R’w + C50-3150	68
R’w + Ctr,50-3150	61
Isolation (mm):	200
Wall thickness (mm):	490



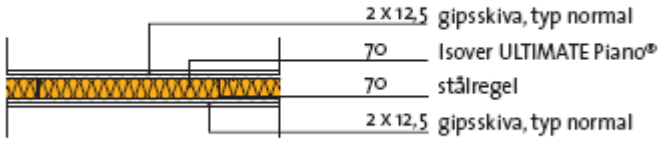


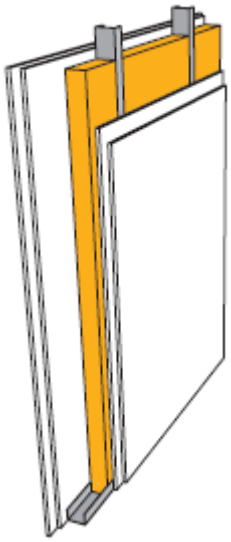
Partitions

In the case of the interior partitions, I have chosen two types depending on the area where they are inside the building. A type of partition to divide zones of other different zones, and other partition to divide the bathroom and the bedroom inside the same room.

The first case corresponds to the detail I: 203 Isover catalog (Stålregelstomme 48dB).
This partition is formed by a steel profiles, horizontal and vertical, which act as support plates for isolation. The insulation (Isover ULTIMATE Piano) has a thickness of 70mm. On each side of the partition there are two plaster boards, normal type, with a thickness of each panel 12'5mm.
The partition has a total thickness of 12cm.

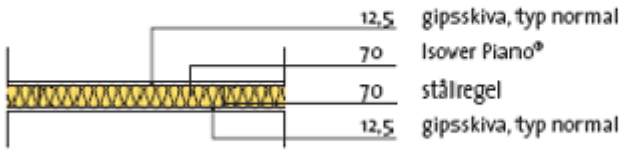
PROPERTIES	
Reaction to fire	Noise reduction (dB):
EI60	R'w=48 R'w + C50-3150=41

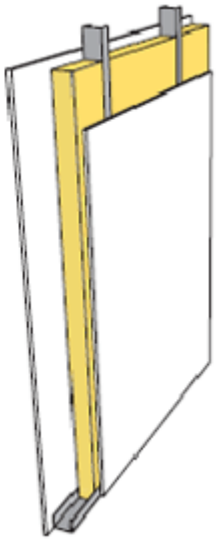




The second partition corresponds to the detail I: 201 Catalog Isover (Stålregelstomme 40dB).
This partition is formed by a steel profiles, horizontal and vertical, which act as support plates for isolation. The insulation (Isover Piano) has a thickness of 70mm. On each side of the partition is a plaster board, normal type, with a thickness of 12'5mm.
The partition has a total thickness of 9'5cm.

PROPERTIES	
Reaction to fire	Noise reduction (dB):
EI30	R'w=40 R'w + C50-3150=34

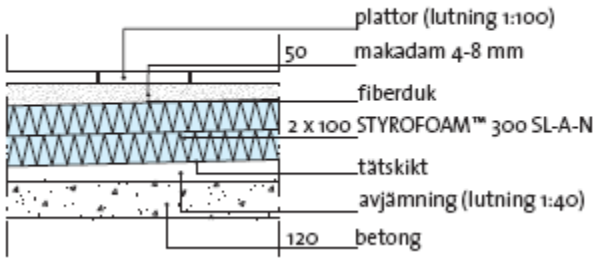


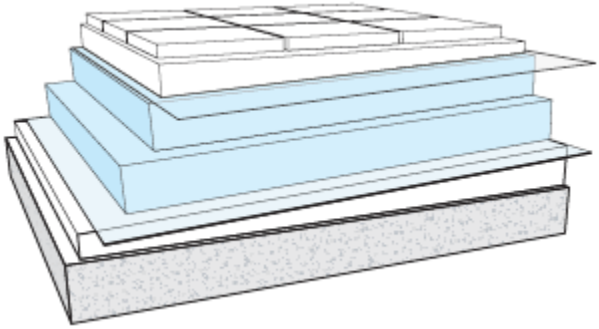


ROOF

The roof chosen for the hostel is an inverted roof, has been selected in the catalog Isover and corresponds to the detail L:207 (Omvända tak (STYROFOAM).
It is composed of several layers, explained below from inside to outside:
On the slab thickness of 30 cm, a leveling layer with a slope 1:40 and a thickness in the thickest part of 10 cm. On this, a waterproof sheet. Then, two insulating layers, polystyrene foam, with a thickness of 100 mm each. Above the insulation, put a protective film. The next part of the roof is a gravel layer with a thickness of 4-8 mm. And finally, plates, tiles without slope.
Its technical characteristics are detailed in the table below.

PROPERTIES	
U-value (W/m2·°C):	Reaction to fire:
0’18	REI60





COATINGS

Roof coating

False ceilings

In the bathrooms, kitchens, corridors, reception, diningrooms, livingrooms, bedrooms, and other rooms will be a false ceiling with plaster boards 50x50 cm dimensions, supported by a metal structure, and executed with plaster molding in accordance with the regulations.

And finished in horizontal coatings roof, painted plasterboard with smooth plastic paint, washable of first quality.

Wall coating

All partitions, except the bathrooms shall be finished with plaster boards and a layer of smooth plastic paint.

The inside of the facade will have a coating after the concrete, consisting of a plaster of 2 cm thick, screed, and a smooth plastic paint finish.

In the coating of the walls of the bathrooms on the plasterboard consist of a layer of adhesive cement and then the tiles, ceramic tiles, of dimensions 20x20cm, resistant to cleaning products, executed according to the regulations.

Pavements

The whole building the ground pavement will be terrazzo. Except in the kitchen and bathrooms, which will be stoneware tiles.
On the concrete of the slab, it will spread a sheet impact resistant, 2 cm thick; a layer of mortar regularization of 3 cm thick; a layer of mortar grip (1:8), 2 cm thick; and finally terrazzo tiles, with approximately 2 cm thick.

CARPENTRY

The characteristics of the carpentry of the building are described in the plane of carpentry.

PROTECTION AGAINST FIRE

The characteristics of the building have been designed in accordance with the requirements for safety in case of fire regulations.
Under the regulations there are 3 types of buildings:
-BR1: buildings with a high risk of fire or buildings with 3 or more floors.
-BR2: buildings with a moderate risk of fire.
-BR3: other buildings.
Our building is BR1 class by number of plants.

The stairs is of type TR2, its features are:
-Must allow more than 60 minutes time for evacuation.
-Doors should be of the IE 30-C.
-The elevator should be in a different lobby of the stairs.

The elevator will be in a protected lobby next to the stairs, separated from the rest of the building for greater protection elements EI60.

The facade for this type of building:
His coating should be finished with a class> D-s2, d0 (Class III).
The vertical distance between windows of different sectors must be> 1'2m, unless they are built in class E15. Opening must be vertical. Its minimum dimensions should be: width> 0'5m, height> 0'6m, height + width> 1'5m.

Ceilings and walls should be class B-s1, d0 (Class I), with a coating of class A2-s1, d0 (non-combustible material).
The ground floor should be class Cfl-s1 (class G).
Doors should be EI60-C, with opening to the outside. The inward opening is possible in the rooms.

The width of the corridors as an escape route must be greater than 0'90m. In the event that the number of people is more than 150, the width of the corridor shall be greater than 1.20 m.

Hotels must have special conditions for fire protection, such as detection and extinguishing devices.
The building must have an evacuation alarm which is activated automatically and is connected with the emergency services, fire department.
They must also have panic buttons, easily identifiable in all floors; and portable fire extinguishers in the corridors and common areas.
Inside the building must also have light signals to indicate the evacuation routes and emergency exits.

An extractor fan must be in the kitchen.

INSTALLATIONS

Salubrity installations

The canalization will be made of PVC with the diameters and lengths.
Drain spouts.
All the drain spouts of water evacuation are pluvial or residual and all the water drainages of sanitary apparatuses and sinks will be made with PVC pipe hot series of URAPLAST or similar, of diameter and lengths specified in project.
All the joints and elbows will go with their corresponding meetings of union and special pieces. One will consider that in all the water-drainages of sanitary apparatuses and sinks will have to settle with their corresponding individual siphon.

Plumbing installations

Hot and cold water:
The entire network of cold water distribution will be made with PVC pipe and fittings with PVC, in size and diameter as the site plan, installed, tested and measured regulation.
Mechanical joints in relation to the flared tube ends are used for the underground pipe, for joints where the use of heat is not practical, and the joints may have to be disconnected from time to time.
Plumbing:
The sanitary ware will be white vitreous china. Chrome taps are ceramic discs. Its main features are mixing bright, with air flow and trap individual drain. The sink is 1200x600 mm white vitreous china. The total plumbing fixtures will be credited.

Heating installation

In a two-pipe system, steam supply to the heating units and condensate return from heating units are through separate pipes. Air accumulation in piping and heating units discharges from the system through the open vent on the condensate pump receiver.
Piping and heating units will be installed with proper pitch to provide gravity flow of all condensate to the pump receiver.
Each heating unit has type supply valves, it admits steam to the heating unit through its top inlet connection. Furthermore the heating units also have thermostatic steam traps, they are located at the bottom outlet connection of the heating unit, thermostatic trap stops flow-out of live steam, but opens to drain condensate and air into the return.

Electrical installation

As an electrical conductor for building wire systems, copper is the most efficient, strongest, most reliable metal available today.
Because of its strength, copper resists neck-down, creep, nicks and breaks.
The electrical system will be made interlocked, with copper conductor of double protected plastic isolation with flexible tube of P.V.C (10 mm thickness), verified and measured, according to the construction regulations and Electro-technic Regulation of Low Tension. It will have a general box of protection and magneto thermal switches in each circuit.

ENERGY STUDY

According to the regulations: BBR, Section 9 Energy management: Buildings shall be designed so that the specific energy consumption of the building does not exceed:

- 110 kWh per m2 of floor area (A temp) per year in the Southern climate zone.
- 130 kWh per m2 of floor area (A temp) per year in the Northern climate zone.

In our case, the building is located in Halmstad, southern Sweden, therefore the energy consumption shall not exceed 110 kWh/m2.

The Specific Energy is calculated using the following formula:

$$\frac{\text{Energy consumption of the building (kW·h/year)}}{\text{Floor area Atemp (m2)}}$$

In order to calculate the energy consumption of the building it is necessary to know the areas and U-values of the enclosing parts of the building in contact with heated indoor air. These parts are:

- Ground floor
- Roof
- Exterior walls (facades)
- Windows
- Exterior doors

U-value of the facades can be found in the catalog ISOVER, but we have calculated, as with the other parts of the building.

First we calculate the U value of the facade, and we need some data in the table below: Rse and Rsi are the thermal resistances in the indoor and outdoor surfaces, respectively, taken from the table below, according to the position of the element which is being calculated, heat flow direction and its location in the building.

Tabla E.1 Resistencias térmicas superficiales de cerramientos en contacto con el aire exterior en m^2K/W

Posición del cerramiento y sentido del flujo de calor	Rse	Rsi
Cerramientos verticales o con pendiente sobre la horizontal >60° y flujo horizontal	0,04	0,13
Cerramientos horizontales o con pendiente sobre la horizontal ≤60° y flujo ascendente	0,04	0,10
Cerramientos horizontales y flujo descendente	0,04	0,17

LAYER	L (m)	λ	R= L/λ
Rsi			0’13
Concrete	0’15	0’25	0’600
Insulation	0’2	0’039	5’128
Non-ventilated air chamber	0’02	0’125	0’160
Brick	0’12	0’6	0’230
Rse			0’04
		TOTAL	6’288

U facade=1/R=1/6’288=0’159 W/m2·°C

Then, we calculate the U value of the roof. We need the same table than before, but in this case the data are: Rse=0’04, Rsi=0’10.

LAYER	L (m)	λ	R= L/λ
Rsi			0’10
Concrete	0’30	0’25	1’200
Cement mortar for leveling	0’09	0’9	0’100
Waterproofing	0’005	0’13	0’038
Insulation	0’2	0’04	5’000
Gripping cement mortar	0’09	1	0’090
Tiles	0’03	2’6	0’011
Rse			0’04
		TOTAL	6’579

U roof=1/R=1/6’579=0’152 W/m2·°C

Then, we calculate the U value of the ground floor. We need the table for same data again, in this case it is: Rse=0’04, Rsi=0’17.

LAYER	L (m)	λ	R= L/λ
Rsi			0’17
Tiles	0’02	2’6	0’008
Gripping cement mortar	0’03	1	0’030
Cement mortar for leveling	0’02	0’9	0’022
Sheet impact resistant	0’02	0’24	0’083
Concrete	0’30	0’25	1’200
Rse			0’04
		TOTAL	1’553

U ground=1/R=1/1’553=0’644 W/m2·°C

Now, we calculate the total area of the openings such as doors and windows of the building.

Windows area:

Window type	Dimensions (m)	Area (m2)	Units	Total area (m2)
Type 1	2’5 x 1’0	2’5	20	50
Type 2	1’2 x 1’0	1’2	19	22’8
Type 3	2’2 x 1’0	2’2	10	22’0
			TOTAL	94’8 m2

Exterior doors area:

Door type	Dimensions (m)	Area (m2)	Units	Total area (m2)
Type 1	3’0 x 2’ 1	6’3	1	6’3
Type 2	2’4 x 2’1	5’04	1	5’04
			TOTAL	11’34 m2

The formula for the energy consumption of the building [(kW·h)/year] is:

Σ (A·U) · coefficient /1000

Having all the U-values and areas calculated, they must be multiplied (A · U):

PARTS OF THE BUILDING	AREA (m2)	U VALUE	A · U
FACADES	1491’7752	0’159	237’192
ROOF	983’5	0’152	149’492
GROUND FLOOR	1056’6864	0’644	680’506
WINDOWS	94’8	1’3	123’24
EXTERIOR DOORS	11’34	1’3	14’742

Σ(A·U)= 237’192+149’492+680’506+123’24+14’472=1204’902 W/°C

The coefficient depends on the place where the building is situated and the adequate temperature to be comfortable inside the building.

	Heat consumption rates ∆ty			
	Indoor temperature			
	18°C	20°C	**22°C**	24°C
Kiruna	158600	173200	187700	202300
Umea	120000	133200	146300	159400
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
Goteborg	76800	86900	97100	107300
Malmo	75400	85600	**95800**	105900

The nearest city to Halmstad, and therefore, the city in which temperatures are most similar, is Malmo, and a good indoors temperature is 22 ºC, so the coefficient is 95800.

Energy consumption of the building = Σ (A · U) · coefficient /1000= 1204’902 · 95800/1000

Energy consumption of the building = 115429’6116 kW·h/year

Then, we calculate the final result with the first formula:

$$\frac{\text{Energy consumption of the building (kW·h/year)}}{\text{Floor area Atemp (m2)}}$$

115429’6116/1056’6864=109’2373 Kw·h/m2·year < 110

So the thermal conditions of the enclosing parts of the building have been chosen correctly.

HEALTH AND SAFETY STUDY

HEALTH AND SAFETY STUDY

Safety and Health study establishes, during the construction of the work, the forecasts respect to prevention of risks and occupational accidents so that all the works that compose this work develop surely, avoiding dangerous actions or situations by lack of foresight, lack of information on the possible risks or means insufficiency, as well as the sanitary services common to the workers.

It will serve to give basic directives to the companies' contractors to carry out his obligations in prevention field of professional risks taking easy his development under the control of the Coordinator in Security and Health during the execution of the work.

A Plan to Emergencies is described in addition that guarantees performance standards at the time of facing situations of gravity which they could take place to assure the attendance, evacuation and putting out of danger of the personnel that works, or is in the work at the moment of the emergency.

The work consists of the construction of a hostel in Styrmansgatan with Stationsgatan, in Halmstad, Sweden.

The hostel will be located in Halmstad south-west of Sweden, beside the Nissan River according to graphic in the situation plane.

The site has a surface of 15538 m2 approximately.

Referring to the services, the lot has provision of electrical energy, water supply, residual water evacuation through formation communications net.

PROMOTER: HOGSKOLAN I HALMSTAD

BUDGET EXECUTION OF THE PROJECT: 1.313.473,56 EUROS

DURATION OF THE BUILD: The works starts on 18/June/2012 and finish on 1/March/2013

NUMBER OF WORKERS ANTICIPATED for the totality of the project will not surpass the number of 20 workers with different specialties.

Previous works to the realization of the work:

Before beginning the execution of a work, the first thing that it will be necessary to consider is the order of realization of the preliminary works, keeping in mind the risks that can involve.

The characteristics of the building won't only be known to build but rather, in the visit to the land registrations will be located, wells, caskets and everything that that indicates the existence of underground conductions, will be requested to the suppliers companies of service (water, gas, electricity) the different data where they are signal the situation of the different facilities.

During the previous phase to the execution of the work will be defined the services which can be affected and that they are necessary for the execution in different phases of the same one, it will be also proven if the structures of the adjacent buildings can suffer some damage during the execution of these previous works.

The level of risk that they offer, the provisional installation of electricity can damage at third, even it can cause serious accidents. The provisional installation of water, besides being able to cause damages at third, will also become special attention to the break of conductions of water that they can be the cause of detachments of the land with possible repercussions in the foundations in the adjacent buildings.

Finally for the execution of these works the first consideration will be to check the existence of air or underground conductions and to obtain the pertinent information on the same ones, the second consideration, not less important than the previous one it will be to know the data corresponding to the state of the buildings mediators. For the storing of materials and machinery, it loads and it discharges, as well as the auxiliary works will not be used the space of the lot occupied by the constructions that will be carried out.

Barriers

Before the beginning of the work, it will be carried out the hedge of the lot along all their perimeter, maintaining a distance of security from the barriers until the border of casting of lands similar to 2.00. This distance will stay so much in the perimeter of the work like in the access areas to the same of the machinery and of the personnel that works in her. The hedge will be carried out with welded net, supported with metallic feet fixed on bases of armed concrete, assuring its assurance and resistance. It will present the following ones characteristic:

- The height of the barrier will be same or superior to two meters.
- An access will be enabled for vehicles of 4.5m of width.
- An independent access will be enabled for personal with a width of leaf of 1m.
- Their height will be minimum of 2m.

Besides this protection hedge a signalling hedge exists, made so that it can be willing of vertical form and to inform for half symbols and colours that its location should not be passed over.

Signalling
It will present as minimum the following signalling:

- Forbidden to park in the area of entrance of vehicles.
- Forbidden the step of pedestrians for the entrance of vehicles.
- Obligatory to use the helmet in the enclosure of the work.
- Obligatory to use the footwear of security in the enclosure of the work.
- Forbidden the entrance to all people unaware to the work.
- Work poster.
- Danger: exit of vehicles.
- Danger: suspended loads.
- Sign of STOP in sense of exit of vehicles.

Electric power supply
According to that said previously we will check the pertinent information to what refers as regards electric facilities under floor or conduits for where cables of high intensity circulate or it lowers. Once known this and having the information of the supplier company will be marked the itinerary and depth of the underground conduction with the maximum precision. The axis of the conduction will be traced, being placed a poster that indicates the existent danger, being left an area of security, to both sides of the excavation axis, of 1.5m. The underground conductions of electricity, they will cover with sand, bricks, tape of plastic in red colour and filler material. With this information, it will be able to begin the works, hedges and provisional facilities of work. The measures to take will be:

1. They will be make with excavating shovel until the depth that the company authorizes. Starting from there the excavation will continue with manual tools not pointed.
2. The equipments of individual protection that the workers will use are helmets, gloves and dielectrics boots. The tools that use will be isolated.

Once we have covered the gutter and before a later mishap or modification is easy to determine its location if they are followed this: the minimum free depths, of the different types of service with relationship to the level of the sidewalk, measure in meters, will be:

- Electricity of High tension 1.2m
- Electricity of Low tension 0.7m
- Lighting 0.40m

Therefore as our line it will be of low tension of 380 volts we will locate it of the level from the sidewalk to 0.7 and the illumination to 0.40m.

The distances among conductions according to the N.T.E. -I.E.R. it has more than enough external net you line buried they will be:

- High tension, with line of low tension telephony, water, gas, etc... 0.25m
- Low tension with telephony, water, gas, etc.. 0.20m
- High tension with line A.T (to same tension) in the same gutter, 0.08m
- High tension with line of A.T with different tension 0.25m
- Low tension with line A.T 0.25m

According to N.T.E. -I.E.R and that predisposed by our project will use that of Low tension therefore we will have to keep in mind that pointed out previously concerning our line. Besides that described according to N.T.E. - I.E.R. for buried lines of low tension the minimum depth will be of 0.7m following the side walk line and with a minimum separation of 1m. We will also keep in mind that for the illumination their spread will be able to be carried out following the line of sidewalks with the medium ones from roadway separation to a minimum depth of 0.4m and a separation of the line of curb of 0.75m.

Once open the gutter:
1. Placement of layer of colored sand.
2. Placement of the protection conduction that it has also a certain colour.
3. Cover the conduction with colored sand and a plastic tape with an annotation.
4. Placement of line of bricks.

When is finished this it will proceed to cover and compact the earth.

Besides the previous considerations the elevation machines will have anchorages or electric blocks or mechanics that prevent to surpass the minimum distances of security, being signalled the areas that should not be passed over, by means of barriers that impede all contact with the parts in tension.

These barriers will notice from a sure and resistant way to mechanical efforts. The protection barriers are constructions formed by sunk supports and anchored in the floor being faced by means of cables. The supports will be united by charts, forming an insulating screen that protects of the one spread electric.

Water supply
This kind of underground canalizations of drinkable water, residual or of watering are conductions with flow and variable pressure before a break or overflow, they present flood risk, with nuisances and delays.

In our work, the installation of a provisional net of supply of drinkable water will be executed to satisfy the necessities. Once it is hired the supply of the assault with the supplier company, it will be settled the accountant, the general key and the exit to the different distributions. The assault is located in Styrmansgatan. It

will settle a derivation for the work huts that it will reflect buried, protected and signalled.

Provisional facilities of work service of hygiene:

Based on the maximum number of workers who can be found in work, we will determine the necessary surface and elements for these facilities. In our case the greater presence of simultaneous personnel obtains with 20 workers, determining the following sanitary elements:

Showers: 2
Toilets: 2
Washbasins: 2
Mirrors: 2

The clothes will be provided with seats and individual ticket offices, with key, to keep the clothes and the footwear. It must be had hot water and fries in showers and washbasins. Also, dining rooms equipped with tables and chairs in sufficient number will settle. In case restaurants exist next to the lot or bars are understood that the work is equipped for the dining room necessities. There will be a container for sweepings collection. Perfect state of cleaning and conservation will stay in. In the work office one will settle a medicine kit of first aid with the minimum content indicated by the effective legislation, and a multipurpose dry dust extinguisher.

Protection against fire:

Types of fires that we will be able to find:

- In the foundation: electrocution for contacts with buried electric facilities
- In the structure:
- Electrocution for accumulation of takings of earth of the electric machinery
- When placing the reinforced steel: fires for the high temperatures in the welding point and the projection of sparks and incandescent particles
- In the waterproof sheet of the cover:
- Fires and explosions.
- In the endings.
- In general in all the operations where electric machinery is used there are electrocution risk and fires, as well as whenever the welding is used.
- In the paintings and varnishes: explosions or fires for inflammation of the mixture of air/vapours of the solvents.
- In the permanent facilities.
- In general in all the operations where electric machinery is used there are electrocution risk and fires, as well as whenever the welding is used.
- Before the presence of gas the risk of explosions increases.

Facilities for the extinction of fires:
It will be in the work two extinguishers portable manuals of powder which can be use for everything. One will remain in the work hut, in an appropriate place for it, and the other one in the low plant of one of the housings located in the centre of the lot, in an appropriate place for it.

Personal protection for the workers:
- Helmet of incombustible material
- Clothes insulating of amianthus or knitted with aluminium
- Hull with amianthus visor or knitted aluminized
- Gloves
- Boots
- Leggings
- Masks
- Teams of autonomous breathing

Movements of Lands:

Description and organization of the works.

The topography of the land is sensibly horizontal without appreciable differences. The earth movements to carry out are:
- The cleaning of the layer of vegetable earth or clear.
- The excavation of the land until arriving to the bench mark required for the support of the foundation.

Detection of the most frequent risks
In the clear:
- Accidents, blows and collisions with machines and vehicles
- Overturns and false maneuvers of the machinery for movement of lands (excavating machines and trucks)
- Noise and vibrations
- Over efforts
- Others

In the realization of the excavation:
- Fallen to the same one and the different level of people or machinery
- Landslide of the land, buries (for filtrations, vibrations, it overloads, etc.)
- Accidents, blows and collisions with machines and vehicles
- Overturns and false maneuvers of the machinery for movement of lands (excavating machines and trucks)
- Fall of objects from a superior level
- Floods
- Noise and vibrations
- Over efforts
- Others

Preventive norms
In the clear:

- Before the beginning of the works, one will keep in mind the possible interference with affected services. If it is air electric lines, their discharge will be requested and it will be signalled with orange net, in a longitudinal way and at a distance of 5 meters (horizontal plane) regarding the affected line. Galibos will be placed if it affects in passing to areas and the line is to less than 5 meters of the highest element in the vehicle.

- It will be limited the interference with third placing foot barriers in passing in areas of pedestrians, making you use of the signaling if it is affected to circulation roads, using you signs as: "Warning gutters", Use of EPI's.(spanish)"

- The minimum distances of separation will be delimited among operatives in function of the tools that use.

- The operatives who don't manage the machinery will remain outside of the radius of action of the same one, paying special attention when they develop their work near the machines.

- The works will be suspended under the regimen of rains.

- When the vehicles circulate in normal direction to the cut, the enclosed area will enlarge that direction in two times the depth of the cut and not less than 4 meters when it is necessary to place signalings of reduction of speed.

- When the extracted lands are polluted they will be disinfected as well as the walls of the corresponding excavations.

- Anybody won't work simultaneously in vertical different levels of the same one. In the event of having to work under these conditions, the operative of the inferior level will remain with the helmet of security during his work.

- They will be revised the contentions before beginning the work day, tightening the elbow pieces when they have loosened

- They will be proven that they are expedite the beds of superficial waters.

- These preventions will be carried to an extreme after work interruptions of more than 1 day and/or atmospheric alterations as rains or icy.

- In the event of presence of water (strong rains, breaks of pipes, floods, etc.) it will proceed immediately to its reduces, in prevention of alterations of the land.

- The extracted lands will be gathered at a distance of the border of the excavation, as minimum, similar to the depth of the gutter. In contented gutters this distance will be same or bigger to 1 m.

- The contention elements won't be used to ascend or to lower the gutter.

- The contentions or part of these will take off when they stop to be necessary only and for horizontal fringes beginning with the inferior part of the cut.

- Any step that is necessary to make on the gutters, will be made with gangplanks protected in its perimeter with handrails of 0.90 m, intermediate bar and baseboard.

- It will prepare in the work, to provide in each case the indispensable team to the operative, of a provision of levers, wedges, bars, props and planks that won't be used for the contention and they will be reserved for their use by the salvage team, as well as of other means that can be good for eventualities or the operatives' aid that could have an accident.

- In the works in gutters will have a signalist in the hoisted of loads when the maneuvers are difficult or the field of vision is limited. The operatives won't remain under the loads. It will be verified the state of the elements daily of hoisted elements.

- It will be placed some endings which prevent that the vehicles approach on the edge of the gutters.

- To humidify the front of attack of the excavation to eliminate the powder that takes place as much as possible.

- When the level of noise taken place by the used machinery will be equal or bigger than 80 decibels the operatives has to use auditory plugs.

Personal protection
In the clear and in the excavation of gutters and wells:

- Polyethylene helmet (workers will use it, machinists and truck drivers that want or they should abandon the booths of conduction of the vehicles will use it too).
- Security footwear
- Security rubber boots (or PVC)
- Leather gloves and canvas against mechanical risks
- Work clothes
- Raincoats for humid or rainy atmospheres
- Auditory protection in works with pneumatic machinery
- Glasses against projections
- Mask of filter mechanic (against powder)
- Lumbar bands

Structure:

The accomplishment of a compound structure by concrete columns, concrete beams and hollow core slabs with topping concrete and supports and concrete footings.

When they don't occur, other indications must be understood that is continuous cords and with a thickness of equal throat to 70 % of the thickness of the thinnest element to unite.

It will be determined that the erection platform can support the construction and erection loads and provide verification to the crane owner/operator prior to the commencement of the work.

Formworks:
The formworks of the slabs will be of wood. Columns shall be made of metal.

More frequent risks:
- Loosening by badly piled up of the wood.
- Blows in the hands during nailing.
- Upsets of the wood packages (planks, boards, props, strap, supports, etc), during the manoeuvres of hoisting slabs.
- Fall of wood to the emptiness during the operations of take out the formwork.
- Fall of people by the edge or hollows of the forged one.
- Fall of people at the same level.
- Cuts when using the hand mountain ranges.
- Cuts when using the circular mountain range of table.
- Footsteps on sharp objects.
- Electrocution by cancellation of land takings of electrical machinery.
- Over exerts by inadequate positions.
- Blows in general by objects.
- Dermatoid by contacts with the cement.
- The derivates of works on wet surfaces.

Works of manipulation of the concrete:

A) More common detectable risks.

- Fall of people at the same level.
- Fall of people y/u objects at different level.
- Fall of people y/u objects to the emptiness.
- Formwork collapse.
- Formwork breakage.
- Footsteps on sharp objects.
- Footsteps on transit surfaces.
- The derived ones from works on humid or wet grounds.
- Contacts with the concrete (dermatitis by cements).

- Tramping.
- Electrocution. Electric touches.
- Others

B) Norms or preventive measures type of application during the spill of the concrete.

Spill by means of bucket or bucket.

- Forbidden to load the bucket over the permissible fully factored load of the crane that sustains it.
- The opening of the bucket for spill will be executed exclusively by the incorporated suitable mechanism to the same one in avoidance of accidents by
- Blockage or - corks.

B1) Norms or preventive measures type of application during the concrete process one of walls.

- Before the beginning of the spill of the concrete, the Overseer (or Ordered), will review the good state of security of the timbering of territories containment of the slopes of the drained one that they interest to the zone of wall that goes away has to concrete, to make the reinforcements or sanitation that were necessary.

- The access to extrados of the wall (formwork space between external and the slope of the drained one), will take place by means of ladders:
Forbidden access, formwork climbing, being an uncertain action.

- Before the beginning of the concrete one, the Overseer (or Ordered), will review the good state of security of the formworks ones in prevention of blowout and I spill.

- Before the beginning of the concrete, and as the formwork ends of the works of, the servicing platform of coronation of the wall from which will have been constructed to help the workings of vibrated spill and.

- The formwork for spill and vibrated platform of coronation of, that will settle down all along of the wall; it will have the following dimensions:

- Length: The one of the wall. - Width: 60cm. (3 planks minimum).

-Attachment: Struts on the formwork.

- Protection: Railing of 90 cm. of height formed by banister rails, intermediate strip and end tile of 15 cm.

- Access: By means of prescribed ladder.

- They will settle down to a minimum range of 2 m., (like general norm), forts tops of end of route, for the vehicles that must on the brink of madness come near the slopes of the drained one, to spill the concrete (Dumper, truck, concrete mixer).

- The concrete spill in the interior of the formwork one will be made distributing it throughout the same one uniformly, by regular layers, in avoidance of overloads props that can deform or burst the formwork.

B2) Norms or preventive measures of application during the concrete process one of forged pillars.

- Before the beginning of the concrete spill, the Overseer (or Ordered), will review the good state of the security of the formwork, in accident prevention by blow-out or I spill.

- Before the beginning of the concrete process, one will review the correct disposition and state of the networks of protection of the works of structure.

- Forbidden final, to climb up the formworks ones of the pillars or to remain in balance on such.

- Formworks will be watched good behavior during the spill of the concrete, paralyzing them at the moment that detects failures. The spill will not be started again until restoring the decreased stability.

- The chain of closing of the access of – turret or concrete tower – will remain moored, closing the set whenever on the platform exists some worker.

- The good state of the hollows in the forged one will be reviewed, reinstall – the covers that lack and nailing the releases, daily.

- The good state of the visors of protection against fall of objects, being solved will be reviewed daily the deteriorations.

- Accesses easy and safe will be arranged to arrive at the work places.

- Forbidden to concentrate concrete loads in a single point. The spill will be made extending the concrete with smoothness without abrupt unloading, and in ample surfaces.

- Movable platforms of minimum of 60 cm. wide will settle down (3 joined planks to each other), from which they execute the works of vibrated of the concrete.

- Belt roads will settle down on the surfaces to concrete formed by lines of 3 planks of minimum total width of 60 cm.

- Forbidden to journey itself being above directly on the curved parts of the stern (ceramics or concrete), fall prevention at different level.

Permanent facilities:

Description and organization of the works

The permanent facilities can be subdivided in:
- Mechanical: elevators, electricity, plumbing, gas and special facilities
- Term mechanics: heating, air conditioning, ventilation.

The trust factor increases the number of accidents.

Detection of the most frequent risks
- Fall of personal to the same and different level
- Fallen of objects
- Cut for handling of manual tools
- Cut for handling of the guides and drivers
- Cut for the handling of foils
- Cut for the managing tools with edge
- Cut for the use of the glass fiber
- Risks that are detected during the connection tests and setting in-service of the installation. Being the most common:

-Electrocution or burns, for the bad protection of electric boxes, for incorrect maneuvers in the lines, for use of tools without isolation, for bridge of the protection mechanisms, for direct connections without pegs male-female.

- Trappings among heavy pieces
- The inherent ones to the use of the autogenous, electric welding, oxyacetylene and oxicut
- Footfalls on sharp objects
- Burns
- Over efforts
- Direct and indirect electric contacts
- Explosion of the torch or of the deposit of liquefied gas
- Trappings between engagements and transmissions, during the setting operations to point or assembly
- The inherent accidents to the auxiliary equipment to use
- Dermatosis for contacts with fibers

Personal protection
- Polyethylene helmet, during the displacements for the work and in places with risk of fall of objects or of blows
- Insulating boots for electricity (in connecting works)
- Security boots (in wired)
- Insulating gloves

- Leather gloves
- Work clothes
- Security belt. Types TO, B and C
- Belt appropriate tools
- Insulating carpet
- Checkers of tension
- Insulating tools

For welding works:

- Welder's glasses
- Welder's helmet
- Hand or fixed welder's screen
- Leather gloves
- Rubber gloves or of PVC
- Leather wrists that cover the arms
- Leather leggings
- Leather apron

Permanent electric facilities:

Description and organization of the works

The taking of earth will be carried out with cable. That specified in the Electro technical regulation of low tension will be continued in any event (it has already been justified before in the memory the reason why we will make use of the Spanish normative regarding the facilities).

Detection of the most frequent risks
- Fallen to the same and different level
- Cut and blows for handling of manual tools
- Cut for handling of guides and drivers
- More common risks during the connection and setting in service of the installation
- Electrocution or burns for bad protection in electric boxes
- Electrocution or burns for incorrect maneuvers in the lines
- Electrocution of burns for use of tools without appropriate isolation
- Electrocution or burns for check of protection mechanisms
- Electrocution or burns for direct connections without pegs male-female
- Others

Basic norms of security
- The portable electric tools will have double isolation of security

- In any case the disconnection of the machine will be made throwing of the Cable

- The security belts won't be used if they have deformed rings, or break points are appreciated
- The embedded conductors will be located in horizontal or vertical address, avoiding crossing the walls in diagonal

- The work place will be often ordered and cleaned in the phase of opening work and closing of holes for facilities, to avoid the risks of footfalls or stumbles

- The illumination of the cuts won't be inferior to 100 lux measured to 2 meters of the floor

- The illumination by means of portable ones will be made using tight lamp boxes with insulating handle fed to 24 volts

- Use of the pegs male-female

- The use of hand stairways or of scaffolds in places with fall risk from height It will be forbidden in work, installing the appropriate protection of security

- The tools to use will be protected with normalized insulating material
If a fire was originated in an installation in tension, they will come in the following way:

- The sources in tension will be disconnected

- Extinguishers that have the indication of not using in presence of electric current won't be used

- Insulating gloves will be used to hold the extinguisher

- The extinguisher will be at a minimum distance of 0.50 meters of the fire during its use in facilities of low tension.

Personal protection
- Security helmet
- Insulating boots for electricity (in connection works)
- Security boots (in wired)
- Insulating gloves
- Work clothes
- Security belt
- Maneuver bench
- Insulating carpet for works in tension
- Checkers of tension
- Belt tools appropriate

Installation of heating:

Description and organization of the works
The conductions will be made of steel galvanized for the tracts in common elements and of copper inside the housings. The elements of transmission of heat will be steel radiators.

As it goes getting up the structure, the columns of the heating system will be mounted, since they will reflect for the interior of walls and wrought. The installation corresponding to the heating elements will settle at the end.

Detection of the most frequent risks
- Fall to the same and different level
- Fallen of height
- Trappings among heavy pieces
- Infrared and ultraviolet radiations generated during the welding
- Explosions, as well as burns and fires
- The inherent ones to the use of the autogenous welding
- Blows and courts for the handling of tools
- Footfalls on sharp objects
- Over efforts
- Others

Basic norms of security
- The plumbing facilities in height will be executed when the definitive protection are lifted.
- The pipe transport to the shoulder for a single man, will be carried out inclining the load back, in such a way that the end that goes for before it overcomes man's height
- If exists electric lines in work position, they will be left without service, and if this was not possible it will be protected with insulating cases to avoid the direct contact
- They will recover the protection of the holes of the roofs once carried out the plumbed, the operative who carries out the plumbed will use security belt
- During the settling of canalization, files and channels, they will be proven the scaffolds daily
- The places where it is welded will be ventilated, the workers have to use mask, besides the protection glasses against the radiations
- The work place will stay always clean of rubbles and cuttings, retiring periodically those that take place and evacuating them to the rubbish storing.

Personal protection
- Security helmet
- Leather gloves and security boots
- Leather apron (for weldings)
- Glasses against projections
- Glasses against the radiations
- Mask

- Work clothes

Auxiliary equipment:

SCAFFOLDS. NORMS IN GENERAL

Detection of the most frequent risks
- Fallen at different level
- Fallen to the hole
- Fallen at the same level
- Throw out of plumb of the scaffold
- Contact with the electric power
- Throw out of plumb or fallen of objects (planks, tools, materials)
- Blows for objects or tools
- Trappings
- Those derived of the suffering of illnesses, not detected (epilepsy, vertigo, etc.)

Basic norms of security
- The work platform, will only be loaded with the strictly necessary materials to assure the continuity of the works, being distributed these evenly by the whole floor of the platform
- During the assembly works and disassembly they will use belts of security associated to anti-fall devices
- In any case the scaffolds will lean on supplementary elements formed by materials of low resistance or stability
- The hoisted of the loads will be made using pulleys (when some general hoisted equipment doesn't exist), they will be placed on the vertical element of anyone of the supplements of height that it consists the scaffold
- Protection visors will be used, under the area of work of the scaffolds embedded to the tubular structure, of rigid or elastic materials
- When one works on sidewalks in external walls, passing piazzas, that avoid the fall of objects or materials on those who circulate below the same ones, will be placed
- The works will be prohibited in days of strong wind, or when the adverse meteorological conditions advise this way it
- It will be forbidden to use scaffolds on the platforms of work of the tubular or hung scaffolds
- The platform will have a minimum dimension of 60 cm, with nonskid floor, provided of the following protection handrails:

Front = 70 cm
Later = 90 cm
Of closing = 90 cm

- They will be formed by handrails, intermediate chart and baseboard of 20 cm.

- The materials will be distributed evenly on the work platforms, in prevention of accidents for unnecessary overload
- It will be forbidden in this work to work on platforms located in levels below other platforms in those that one is working, in prevention of accidents for fallen of objects
- Anybody won't jump or run on the scaffolds
- The scaffolds will be free of brashes
- Any class of materials won't be thrown from the scaffolds
- In the disassembly they won't allow to fall charts, railway ties or any other element of the scaffold
- The minimum thickness of the planks which form the platform will be of 50 mm
- When the work platforms are to more than 2 meters high or facilitate an external fall of more than 2 meters, they will be protected in all their contour with handrails, they will be of 90 cm of minimum height, they will have handrails, intermediate list and baseboard
- The handrails will have a minimum resistance of group of 150 Kg/m
- The wood to use will be healthy, without defects neither knots visible, to avoid the risks for break of the planks that form a work surface

Personal protection
If exists expressed approval of the Ministry of Work and Social Security, the garments of personal protection to use in this work will be homologated.

Besides the obligatory personal protection garments to carry out the task specifies on a scaffold they must use

- Polyethylene helmet. Class N
- Security boots. Class III. Degree B
- Nonskid footwear
- Security belt. Class C. Type 2
- Work clothes

SCAFFOLDS ON BORRIQUETAS

Detection of the most frequent risks
- Fallen of the planks that form the platform, for excessive flight from the support in the borriquetas.
- Overturns for anchorage lack or of bracements
- Fallen of personal to different and at the same level
- Blows or splash during the assembly operations or disassembly
- Those derived of the use of planks and wood of small section or in not well state (breaks, shortcomings, swayings)

Basic norms of security
- A third part of the planks which form the floor of the platform, will be held to the borriquetas bundling of ropes
- The maximum separation among borriquetas will be of 2.50m, in the event of being armed it will be of 3.50 m

- They will be formed by a horizontal platform of 60 cm. of minimum width formed by three boards of 20 width cm, placed on two supports in form of invested "V".
- The minimum thickness of the planks which form the platform will be of 50 mm
- The planks that form the platform will stand out of their support in the borriqueta 20 cm maximum
- When the work platforms are at more than 2 meters high or they facilitate an external fall of more than 2 meters, they will be protected in all their contour with handrails, they will be of 90 cm of minimum height, they will have handrails, intermediate list and baseboard
- The handrails of they will have a minimum resistance of set of 150 Kg/m
- The platforms won't be overloaded, maintaining on it only the strictly necessary material for the continuity of the works and distributed evenly on the same one
- It will be forbidden to add strange elements to increase their height of the work platform, as well as the placement of borriquetas scaffolds of leaning in other borriquetas scaffold
- The support of the work platform will be carried out on the described supports, and never using blocks, drums, etc.
- Borriquetas scaffolds won't be used mounted total or partially on hung scaffolds
- The borriquetas will always be mounted perfectly to avoid the risks to work on inclined surfaces
- The metallic borriquetas of system of closing opening or scissor, they will be endowed with chain constrainer of the maximum, such opening that they guarantee their perfect stability
- The metallic borriquetas to sustain work platforms, located at two or more meters high will be braced to each other, by means of crossings of San Andres", to avoid the oscillatory movements that make the insecure scaffold
- The wood to use will be healthy, without defects neither knots visible, to avoid the risks for break of the planks that form a work surface

Personal protection
If exists expressed approval of the Ministry of Work and Social Security, the garments of personal protection to use in this work, they will be homologated.

Besides the obligatory protection garments to carry out the task specifies on the scaffolds on borriquetas, they must use you:

- Polyethylene helmet. Class N
- Nonskid footwear

TUBULAR METALLIC SCAFFOLDS

Detection of the most frequent risks
- Landslide of the scaffold due to being not well seated

- Oxidation of the elements that form it, mainly the unions, as well as the claws and screws
- Deformation of the elements of the scaffold due to over efforts
- Wrong adjusts from the fasteners and lack of calculation of the loads to support for the scaffold
- Fallen at different level
- Fallen to the hole
- Fallen at the same level
- Trappings during the assembly
- Fallen of objects
- Blows for objects

Basic norms of security

- The work platform, will only be loaded with the strictly necessary materials to assure the continuity of the works, being distributed these evenly by the whole floor of the platform
- During the assembly works and disassembly they will use belts of security associated to anti-falls devices
- In any case the scaffolds will lean on supplementary elements formed by materials of low resistance or stability
- The hoisted of the loads will be made using pulleys (when some general hoisted equipment doesn't exist), they will be placed on the vertical element of anyone of the supplements of height that it consists the scaffold
- Protection visors will be used, under the area of work of the scaffolds embedded to the tubular structure, of rigid or elastic materials
- When one works on sidewalks in external walls, passing piazzas, that avoid the fall of objects or materials on those who circulate below the same ones, will be placed
- The works will be prohibited in days of strong wind, or when the adverse meteorological conditions advise this way it
- The tubular scaffolds will be mounted according to the distribution and accesses indicated in the planes
- It will be forbidden to use borriquetas scaffolds on the platforms of work of the tubular scaffolds
- To communicate the different levels in the scaffold it is advised the employment of metallic stairways, being able to use those formed by subject "pates" by their center to a right foot, their minimum width will be of 50 cm
- When the land where the scaffold leans is not resistant, it must to be placed wooden sleepers on those the starting pieces will be nailed
- The metallic scaffolds will be mounted at a distance of 30 cm or smaller than it of the vertical wall
- They will be braced to strong points of the vertical walls, each 3 m in vertical and horizontal sense
- The platform will have a minimum dimension of 60 cm, with nonskid floor, provided of the following protection handrails:

Front: 70 cm
Later: 90 cm

Of closing: 90 cm

- They will be formed by handrails, intermediate chart and baseboard of 20 cm.
- In all the scaffolds, in the interior face of the front handrail the following signaling will be placed:

Obligatory use of the security belt
Obligatory use of the security helmet
Signaling with the text "It's forbidden to enter or to leave the scaffold without being anchored horizontally"

- The metallic scaffold won't be placed in streets with superior slopes to 20%
- They won't close the scaffolds vertically, with canvases or other elements for the fall risk because of strong winds, since these makes the function of a sail. If they are placed it will be proven that this canvas are provided of holes that let the air pass, eliminating in this way the flight risk
- In the event of be near to electric lines of low tension the tension of the line will be cut during the assembly and disassembly of the scaffold
- Before beginning the works the naked line it will be isolated with the appropriate dielectric, straying the line to 3 m of the area of influence of the works
- The coordinator of Security and Health in the execution of the works will have the responsibility to prove all the anchorages from the scaffold to the beginning of each day and the execution of all the norms of prevention of accidents
- A new level won't begin without before to have concluded the departure level, with all the elements of stability (with crosses of San Andres and bracements)
- The screws of the gags will crowd together being carried out an inspection of the tract executed before beginning the following one in prevention of the risks for the existence of slack screws equally or of lack of some of them
- It's possible to brace a tubular scaffold with the mooring from this to a prop firmly coined among the floors, or to a screw without end, coined firmly to the windowsills of a window or hole
- The bracements can also be made by a rigid bar. It will be forbiden the rope use, assimilable wires for this
- The materials will be distributed evenly on the work platforms, in prevention of accidents for unnecessary overload
- It will be forbiden in this work to work on platforms located in levels below other platforms in those that one is working, in prevention of accidents for fallen of objects
- Anybody won't jump or run on the scaffolds
- The scaffolds will be free of brashes
- Any class of materials won't be thrown from the scaffolds
- In the disassembly they won't allow to fall charts, railway ties or any other element of the scaffold

Personal protection
If exists expressed approval of the Ministry of Work and Social Security, the personal protection garments will be used in this work, they will be homologated.

- Polyethylene helmet. Class N
- Work clothes
- Nonskid footwear
- Security belt

Machinery in general:

Detection of the most frequent risks
- Overturn of the machine.
- Accidents.
- Those derived of the maintenance operations (burns, etc.).
- Vibrations and noises.
- Environmental powder, blows and projections.
- Fallen when ascending or to get off the machine.
- Fallen at any level.
- Collide against other vehicles.
- Blows with parts motives of the machine, to be in their action radio
- Sinkings.
- Formation of aggressive atmospheres or you bother.
- Explosion and fires.
- Entrapments.
- Cut.
- Contacts with the electric power.
- The inherent ones to the own use place.
- The inherent ones to the own work to execute.

Basic norms of security
- The motors with transmission through axes and pulleys will be endowed with security chassis (lawn mowers, saw, compressors, etc.).
- The electric motors will be covered with security chassis eliminating of chassis or important deteriorations of these.
- Is not allowed the manipulation of any component element of a machine worked by means of electric power, being connected to the supply net.
- The engagements of any type, of mechanical, electric or manual working, will be covered for security chassis antiatrapamientos.
- The irregular or damaged operation machines will be retired immediately for their repair.
- The damaged machines that they cannot retire they will signal with warning posters with the legend: "IT SCHEMES DAMAGED, NOT TO CONNECT"

- Is not allowed the manipulation and adjustment operations and arrangements of machines to the personnel not specialized specifically in the machine repair object.
- As additional caution to avoid the setting in service of damaged machines or of irregular operation, the starters will be blocked, or in their case, the electric fuses will be extracted.-
- The same person that installs the sign of warning of damaged machine will be the one in charge of retiring it, in prevention of connections or on in service outside of control.
- The authorized personnel will only be the one in charge of the use of a certain machine or machine tool.
- The machines that are not of manual sustentation will always lean on even elements and sign.
- The elevation or descent to machine of objects will be made slowly hoisting them in vertical address.
- The hooks of it hangs of the apparatuses of hoisting they will be free of loads during the descent phases.
- The loads of suspended transport will always be visible, with the purpose of avoiding the accidents for lack of visibility of the trajectory of the load.
- The angles without vision of the load trajectory will be replaced by means of operatives that using Known signs replaces the vision of the one mentioned worker.
- Is not allowed the permanency or the work of operatives in areas under the trajectory of suspended loads.
- The apparatuses of hoisting to use in this work, they will be equipped with constrainer of journey of the car and of the hooks, and of load in tip for interference.

Machinery for the movement of lands in general:

Detection of the most frequent risks
- Overturn of the machine.
- Accidents.
- Those derived of the maintenance operations (burns, etc.).
- Vibrations and noises.
- Thermal Estres
- Environmental powder and blows.
- Fallen when ascending or to get off the machine.
- Collide against other vehicles.
- Blows with parts motives of the machine, to be in their action radio
- To cross with electric lines
- Fires and explosions

Basic norms of security
- The handling of the machines will only be allowed to bigger than 18 years, with the formation and appropriate professional category, he/she will be proven that each driver has received the specific norms of security for his machine.

- They will be behind endowed with march lighthouses and advance, rear-view in both sides, luminous and acoustic signs.
- They will be endowed with a bridge of security antiovverturning and antiimpact.
- They will be endowed with a stamped extinguisher and with the corresponding revisions.
- Warning signs and stuck signs will be placed or received in the chassis of the machine.
- They will be inspected controlling the good operation of the motor periodically, hydraulic systems, controls, address, lights, acoustic signs (horn setback), transmitters, chains, tires and booth.
- Don´t work or to remain inside the radius of security of 5 meters of the arm of action of the machinery.
- The distance to any line of high tension will be as minimum 5 meters
- It won't be allowed to transport people on these machines, to avoid risks of accidents of fallen.
- They will settle you collide of security of journey end, before the coronation of courts of banks or embankments, marking the distance of approach of the machinery, to avoid the risks for the fall of the machine.
- The roads of internal circulation will be signalled by means of small flags and normalized signs of traffic.
- The drivers of the machines won't be able to abandon them without stopping the motor of the same ones, leaving the motors on the dot dead.
- Is not allowed the maintenance works or repair of the machinery with the motor in march, in prevention of unnecessary risks.
- The entrances and exits of the work will be carried out with caution, assisting the signs of an operative in charge of the maneuvers.
- The loads to transport will be the appropriate ones (not to surpass the maximum load) taking care that they don't stand out to avoid accidents.
- Is not allowed in this work the realization of replants you or of mensurations in the areas where they are operating the machines for the movement of lands. Before proceeding to the enunciated tasks, it will be necessary to stop the machinery, or to move away it to other cuts.
- Is not allowed the storing of lands to less than 2 m. of the border of the excavation.
- It won't be dug beyond the vertical of the machine.
- They will be parked or they will park outside of the work area

Personal protection

If exists expressed approval of the Ministry of Work and Social Security, the garments of personal protection to use in this work, they will be homologated.

- Polyethylene helmet. Class N. (of obligatory use to abandon the booth).
- Security glasses, Class C (in case the machine doesn't have booth)
- Leather gloves.
- Work clothes.
- Clothes for rainy time.
- Security nonskid boots. Class III.

- Protective auditory (obligatory if the beginner of noise is superior to 80 dB).
- Mask antipowder (in the event of being necessary)
- Belt abdominal antivibration.

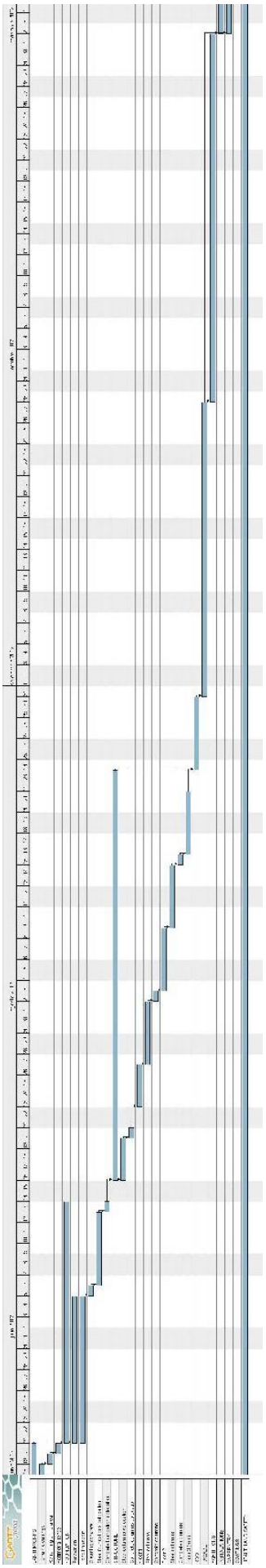
GANTT CHART

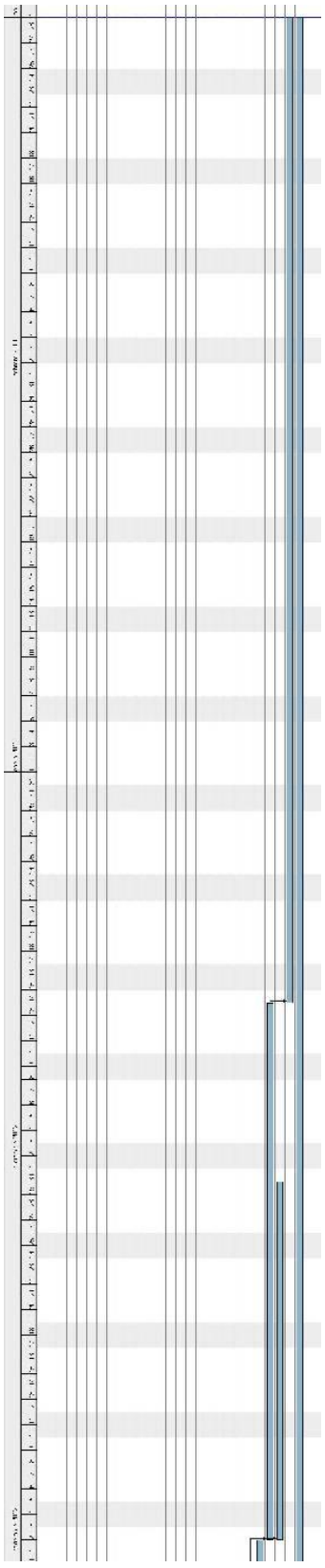
Hostel Halmstad

Tasks

Nombre	Fecha de inicio	Fecha de fin	Duración
EARTHWORKS	18/06/12	21/06/12	3
Terrain cleanings	18/06/12	19/06/12	1
Reframing of the area	19/06/12	20/06/12	1
Perimetral fence	20/06/12	21/06/12	1
FOUNDATION	21/06/12	14/07/12	17
Excavation	21/06/12	5/07/12	10
Land transport	21/06/12	5/07/12	10
Cleaning concrete	5/07/12	6/07/12	1
Steel foundations colocation	6/07/12	13/07/12	5
Concrete foundation colocation	13/07/12	14/07/12	1
STRUCTURE	16/07/12	24/08/12	29
Steel columns colocation	16/07/12	20/07/12	4
Concrete columns colocation	20/07/12	21/07/12	1
Floor 1	23/07/12	27/07/12	4
Steel columns	27/07/12	2/08/12	4
Concrete columns	2/08/12	3/08/12	1
Floor 2	3/08/12	9/08/12	4
Steel columns	9/08/12	15/08/12	4
Concrete columns	15/08/12	16/08/12	1
Floor 3 (roof)	16/08/12	22/08/12	4
ROOF	24/08/12	31/08/12	5
FACADE	31/08/12	28/09/12	20
PARTITIONS	28/09/12	2/11/12	25
INSTALATIONS	2/11/12	14/12/12	30
CARPENTRY	2/11/12	30/11/12	20
COATINGS	14/12/12	1/03/13	55
HEALTH AND SAFETY	18/06/12	1/03/13	184

María Molina Martín





BUDGET

RESUMEN DE PRESUPUESTO

Hostel

CAPITULO	RESUMEN	EUROS	%
CHAPTER 1	EARTHWORKS	3.758,70	0,40
CHAPTER 2	FOUNDATION	26.605,15	2,84
CHAPTER 3	STRUCTURE	189.370,18	20,25
CHAPTER 4	SALUBRITY	177,39	0,02
CHAPTER 5	FACADE	148.864,81	15,91
CHAPTER 6	PARTITIONS	133.962,46	14,32
CHAPTER 7	ROOF	95.478,18	10,21
CHAPTER 8	COATINGS	225.452,05	24,10
CHAPTER 9	CARPENTRY	32.219,82	3,44
CHAPTER 10	INSTALATIONS	79.500,50	8,50
	TOTAL EJECUCIÓN MATERIAL	**935.389,24**	
	13,00 % Gastos generales	121.600,60	
	6,00 % Beneficio industrial	56.123,35	
	SUMA DE G.G. y B.I.	177.723,95	
	18,00 % I.V.A.	200.360,37	
	TOTAL PRESUPUESTO CONTRATA	**1.313.473,56**	
	TOTAL PRESUPUESTO GENERAL	**1.313.473,56**	

Asciende el presupuesto general a la expresada cantidad de UN MILLÓN TRESCIENTOS TRECE MIL CUATROCIENTOS SETENTA Y TRES EUROS con CINCUENTA Y SEIS CÉNTIMOS

Halmstad, a 16 de junio de 2011.

El promotor **La dirección facultativa**

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	CAPÍTULO CHAPTER 1 EARTHWORKS								
01 01	**m2 Clean ground, mechanical**								
	Clearance and clearance by mechanical means.								
		1	57,18	18,48		1.056,69			
							1.056,69	1,00	1.056,69
01 02	**m3 Removal of topsoil, mechanical**								
	Removal and stacking of topsoil, carried out by mechanical means.								
		1	57,18	18,48	0,20	211,34			
							211,34	3,00	634,02
01 03	**m3 Trenching**								
	Excavation for trench formation on land resources, with backhoe, even manual help in areas of difficult access, cleaning and extraction of debris to the edges and transportation load.								
		121	3,30	0,30	0,40	47,92			
							47,92	10,63	509,39
01 04	**m3 Digging wells**								
	Excavation for formation of wells on land means, mechanically, backhoe, including manual help in areas of difficult access, cleaning and extraction of debris to the edges, not including transportation load.								
		70	1,00	1,00	0,60	42,00			
							42,00	12,75	535,50
01 05	**m2 Refining and cleaning of the excavation walls**								
	Refining and cleaning walls of the excavation by manual means, on land means not including transportation load.								
		2	57,18		1,00	114,36			
		2	18,48		1,00	36,96			
							151,32	4,61	697,59
01 06	**m3 Land Transport**								
	Land Transport Medium Density 1.50 t/m3, with maximum load dump truck 10 t., A distance of 10 km., With average speed of 40 km / h., Considering load times, leg, back and even download load with loader.								
		121	3,30	0,30	0,40	47,92			
		70	1,00	1,00	0,60	42,00			
							89,92	3,62	325,51
	TOTAL CAPÍTULO CHAPTER 1 EARTHWORKS								**3.758,70**

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	CAPÍTULO CHAPTER 2 FOUNDATION								
02 01	**m2 Cleaning concrete e=10 cm**								
	Cleaning concrete layer HM 15/B/20 prepared, soft consistency, maximum aggregate size 20 mm. and 10 cm. thickness at the base of the foundation, transported and put into work, according to regulations.								
		121	3,30	0,30		119,79			
		70	1,00	1,00		70,00			
							189,79	13,26	2.516,62
02 02	**m3 Reinforced concrete footings**								
	Concrete HA 30/B/40/IIa prepared, in footings, with an average amount of 30 kg. steel B 500 S, including cuts, separators, wire bound, vibrating and curing of concrete, including formwork.								
		70	1,00	1,00	0,60	42,00			
							42,00	204,29	8.580,18
02 03	**m3 Reinforced concrete beams braced**								
	Reinforced concrete, HA 30/B/20/IIIa + Qb prepared, in braces, with average amount of 30 kg. steel B 500 S, including cuts, separators, wire bound, vibrating and curing of concrete, including formwork.								
		121	3,30	0,30	0,40	47,92			
							47,92	323,63	15.508,35
	TOTAL CAPÍTULO CHAPTER 2 FOUNDATION.....								**26.605,15**

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	CAPÍTULO CHAPTER 3 STRUCTURE								
03 01	**m3 Reinforced concrete HA 25 columns**								
	Reinforced concrete of 25 N/m2 (HA 25/B/20/IIa) prepared, pillars of 30x30 cm. and height <3.5 m., with an average amount of 100 kg. steel B 500 S, even cured, metal formwork and formwork, according to regulations.								
	Ground floor	70	0,30	0,30	3,36	21,17			
	First floor	70	0,30	0,30	2,70	17,01			
	Second floor	70	0,30	0,30	2,70	17,01			
							55,19	315,96	17.437,83
03 02	**m3 Reinforced concrete HA 25 beams**								
	Reinforced concrete of 25 N/mm2, (HA 25/B/20/IIa), soft consistency, maximum aggregate size 20 mm, normal exposure general class, made from central to flat beams with an average amount of 160 kg steel B 500 S, even vibrating, curing, shuttering and stripping, according to regulations.								
		248	4,00	0,20	0,30	59,52			
		2	1,14	0,20	0,30	0,14			
		2	8,40	0,20	0,30	1,01			
							60,67	304,58	18.478,87
03 03	**m2 Slab unidirectional**								
	Slab unidirectional reinforced concrete of 25 N/mm2, (HA 25/B/20/IIa), soft consistency, maximum aggregate size 20 mm, general class of normal exposure, ME mesh 15x30 mm diameter or 5-5. steel B 500 T, with an amount of steel B 500 S of 1.30 kg., with armed joists to sing 25 +5 cm. and intereje of 70 cm., with vault ceramics, vibrating, curing, shuttering and stripping, according to regulations.								
	Slab of the roof	13	4,10	17,00		906,10			
	Second floor	2	4,10	8,40		68,88			
		2	4,10	5,49		45,02			
		11	4,10	17,00		766,70			
	First floor	2	4,10	8,40		68,88			
		2	4,10	5,49		45,02			
		11	4,10	17,00		766,70			
							2.667,30	55,51	148.061,82
03 04	**m2 Stair slab HA-25**								
	Inclined slab of stairs made of concrete work HA-25/B/20/IIa 20 cm thick with an average amount of 13 kg. steel B 500 S, with stairs training, shuttering, developed, vibration, curing and stripping, according to regulations.								
		2	8,40	2,71		45,53			
							45,53	118,42	5.391,66
	TOTAL CAPÍTULO CHAPTER 3 STRUCTURE								**189.370,18**

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	CAPÍTULO CHAPTER 4 SALUBRITY								
04 01	**u Chest pass 40x40cm**								
	Chest prefabricated polypropylene step, square, recordable, measures 40x40 cm, with lateral connections adaptable to pipes of diameter 75 to 250 mm, with blind cover and frame, manufactured by injection of polypropylene, fully installed.								
		3				3,00			
							3,00	5,05	15,15
04 02	**u Sink siphon**								
	Sink siphon K3 to DIN EN 1253, for bathrooms, terraces or patios, vertical outlet 50 mm diameter and glued joint by joint, body and PVC grid according to DIN 19599 and DIN 1299, evacuation speed 0 , 44 l / s, according to ISO DIS 9896, even rush to drain grid.								
		12				12,00			
							12,00	13,52	162,24
	TOTAL CAPÍTULO CHAPTER 4 SALUBRITY.....								**177,39**

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	CAPÍTULO CHAPTER 5 FACADE								
05 01	**m2 Brick facade 12cm**								
	Works of a face view of 11.5 cm thick, made of solid bricks of 24x11.5x5 cm, sitting with cement mortar M-5, with joints of 1 cm thick, rigged, even stakeout, level and plumb, share of enjarjes, waste and breakage of parts and wet cleaning, whereas 3% in respect of breaks and a 10% loss of mortar according to IS-F DB and NTE CTE / FFL.								
	East facade	1	57,18		9,86	563,79			
	Deduction of voids	-8	2,50		1,00	-20,00			
		-5	2,20		1,00	-11,00			
		-9	1,20		1,00	-10,80			
		-1	4,00		0,30	-1,20			
		-1	3,00		2,10	-6,30			
	West facade	1	57,18		9,86	563,79			
	Deduction of voids	-1	2,40		2,10	-5,04			
		-10	1,20		1,00	-12,00			
		-7	2,50		1,00	-17,50			
		-5	2,20		1,00	-11,00			
	South facade	1	18,48		9,86	182,21			
	Deduction of voids	-5	2,50		1,00	-12,50			
	North facade	1	18,48		9,86	182,21			
							1.384,66	50,53	69.966,87
05 02	**m2 Insulation EPS 1st layer**								
	Thermal insulation through double-wall facade sheet factory with expanded polystyrene (EPS) of 100 mm thick with a thermal conductivity of 0.033 W / mK and thermal resistance of 3.00 m2 K / W, E Euroclass reaction to fire, with marked EC code designation EPS-EN 13163 - T1-L1-S1-W1-P3-DS (N) 5-BS75-MU30a70 even proportion of clamping and cutting of the insulation.								
	East facade	1	57,18		9,86	563,79			
	Deduction of voids	-8	2,50		1,00	-20,00			
		-5	2,20		1,00	-11,00			
		-9	1,20		1,00	-10,80			
		-1	4,00		0,30	-1,20			
		-1	3,00		2,10	-6,30			
	West facade	1	57,18		9,86	563,79			
	Deduction of voids	-1	2,40		2,10	-5,04			
		-10	1,20		1,00	-12,00			
		-7	2,50		1,00	-17,50			
		-5	2,20		1,00	-11,00			
	South facade	1	18,48		9,86	182,21			
	Deduction of voids	-5	2,50		1,00	-12,50			
	North facade	1	18,48		9,86	182,21			
							1.384,66	24,16	33.453,39
05 03	**m2 Insulation EPS 2n layer**								
	Thermal insulation through double-wall facade sheet factory with expanded polystyrene (EPS) of 100 mm thick with a thermal conductivity of 0.033 W / mK and thermal resistance of 3.00 m2 K / W, E Euroclass reaction to fire, with marked EC code designation EPS-EN 13163 - T1-L1-S1-W1-P3-DS (N) 5-BS75-MU30a70 even proportion of clamping and cutting of the insulation.								
	East facade	1	57,18		9,86	563,79			
	Deduction of voids	-8	2,50		1,00	-20,00			
		-5	2,20		1,00	-11,00			
		-9	1,20		1,00	-10,80			
		-1	4,00		0,30	-1,20			
		-1	3,00		2,10	-6,30			

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	West facade	1	57,18		9,86	563,79			
	Deduction of voids	-1	2,40		2,10	-5,04			
		-10	1,20		1,00	-12,00			
		-7	2,50		1,00	-17,50			
		-5	2,20		1,00	-11,00			
	South facade	1	18,48		9,86	182,21			
	Deduction of voids	-5	2,50		1,00	-12,50			
	North facade	1	18,48		9,86	182,21			
							1.384,66	24,16	33.453,39
05 04	**m2 Cement mortar**								
	Finishing with cement mortar M-15 in inner vertical wall, plaster, not to master, plastering, as NTE-RPE-5..								
	East facade	1	57,18		9,86	563,79			
	Deduction of voids	-8	2,50		1,00	-20,00			
		-5	2,20		1,00	-11,00			
		-9	1,20		1,00	-10,80			
		-1	4,00		0,30	-1,20			
		-1	3,00		2,10	-6,30			
	West facade	1	57,18		9,86	563,79			
	Deduction of voids	-1	2,40		2,10	-5,04			
		-10	1,20		1,00	-12,00			
		-7	2,50		1,00	-17,50			
		-5	2,20		1,00	-11,00			
	South facade	1	18,48		9,86	182,21			
	Deduction of voids	-5	2,50		1,00	-12,50			
	North facade	1	18,48		9,86	182,21			
							1.384,66	8,66	11.991,16
	TOTAL CAPÍTULO CHAPTER 5 FACADE								**148.864,81**

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	CAPÍTULO CHAPTER 6 PARTITIONS								
06 01	**m2 Plasterboard db e-12.5**								
	Partition consists of a 70 mm galvanized structure, with channels like element as horizontal and the vertical uprights, with a wheelbase of 60 inches, and double plasterboard 12.5 mm thick, ready to paint, even staking, preparation , cutting and placement of the plates and support structure, level and plumb, formation of sub-frames, angles and step execution facilities, finished together, share of losses, breaks, fixing and cleaning accessories.								
	Ground floor	1	9,10		2,70	24,57			
		2	2,76		2,70	14,90			
		1	1,94		2,70	5,24			
		1	7,51		2,70	20,28			
		1	9,90		2,70	26,73			
		1	5,60		2,70	15,12			
		1	0,55		2,70	1,49			
		1	6,67		2,70	18,01			
		1	6,44		2,70	17,39			
		1	8,90		2,70	24,03			
		1	2,59		2,70	6,99			
		1	6,39		2,70	17,25			
		2	9,90		2,70	53,46			
		1	1,42		2,70	3,83			
		1	6,98		2,70	18,85			
		1	4,18		2,70	11,29			
		3	2,15		2,70	17,42			
		1	1,73		2,70	4,67			
	First floor	2	7,51		2,70	40,55			
		1	2,06		2,70	5,56			
		10	6,88		2,70	185,76			
		9	8,90		2,70	216,27			
		1	3,23		2,70	8,72			
		1	3,80		2,70	10,26			
		15	3,38		2,70	136,89			
		1	6,51		2,70	17,58			
		1	2,95		2,70	7,97			
	Second floor	2	7,51		2,70	40,55			
		1	2,06		2,70	5,56			
		5	6,88		2,70	92,88			
		5	8,90		2,70	120,15			
		1	7,53		2,70	20,33			
		3	7,68		2,70	62,21			
		1	8,10		2,70	21,87			
		1	7,25		2,70	19,58			
		1	6,06		2,70	16,36			
		3	7,68		2,70	62,21			
							1.392,78	55,06	76.686,47
06 02	**m2 Acoustic conditioning 1**								
	Soundproofing walls of local excess reverberations mainly in medium and high frequencies, based on an absorbent material layer of expanded polyurethane foam flexible with uniform surface texture and foam 25 mm thick, received on the upstream existing contact adhesive.								
	Ground floor	1	9,10		2,70	24,57			
		2	2,76		2,70	14,90			
		1	1,94		2,70	5,24			
		1	7,51		2,70	20,28			

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
		1	9,90		2,70	26,73			
		1	5,60		2,70	15,12			
		1	0,55		2,70	1,49			
		1	6,67		2,70	18,01			
		1	6,44		2,70	17,39			
		1	8,90		2,70	24,03			
		1	2,59		2,70	6,99			
		1	6,39		2,70	17,25			
		2	9,90		2,70	53,46			
		1	1,42		2,70	3,83			
		1	6,98		2,70	18,85			
		1	4,18		2,70	11,29			
		3	2,15		2,70	17,42			
		1	1,73		2,70	4,67			
	First floor	2	7,51		2,70	40,55			
		1	2,06		2,70	5,56			
		10	6,88		2,70	185,76			
		9	8,90		2,70	216,27			
		1	3,23		2,70	8,72			
		1	3,80		2,70	10,26			
		15	3,38		2,70	136,89			
		1	6,51		2,70	17,58			
		1	2,95		2,70	7,97			
	Second floor	2	7,51		2,70	40,55			
		1	2,06		2,70	5,56			
		5	6,88		2,70	92,88			
		5	8,90		2,70	120,15			
		1	7,53		2,70	20,33			
		3	7,68		2,70	62,21			
		1	8,10		2,70	21,87			
		1	7,25		2,70	19,58			
		1	6,06		2,70	16,36			
		3	7,68		2,70	62,21			
							1.392,78	25,41	35.390,54
06 03	**m2 Plasterboard normal e-12.5**								
	Partition consists of a 70 mm galvanized structure, with channels like element as horizontal and the vertical uprights, with a wheelbase of 60 inches, and plasterboard and 12.5 mm thick, ready to paint, even staking, preparation , cutting and placement of the plates and support structure, level and plumb, formation of sub-frames, angles and step execution facilities, finished together, share of losses, breaks, fixing and cleaning accessories.								
	First floor	18	2,95		2,70	143,37			
		1	2,67		2,70	7,21			
		19	1,56		2,70	80,03			
	Second floor	9	2,95		2,70	71,69			
		1	2,67		2,70	7,21			
		10	1,56		2,70	42,12			
							351,63	36,83	12.950,53
06 04	**m2 Acoustic conditioning 2**								
	Soundproofing walls of local excess reverberations mainly in medium and high frequencies, based on an absorbent material layer of expanded polyurethane foam flexible with uniform surface texture and foam 25 mm thick, received on the upstream existing contact adhesive.								
	First floor	18	2,95		2,70	143,37			
		1	2,67		2,70	7,21			

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
		19	1,56		2,70	80,03			
	Second floor	9	2,95		2,70	71,69			
		1	2,67		2,70	7,21			
		10	1,56		2,70	42,12			
							351,63	25,41	8.934,92
	TOTAL CAPÍTULO CHAPTER 6 PARTITIONS.....								**133.962,46**

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	CAPÍTULO CHAPTER 7 ROOF								
07 01	**m2 Inverted roof**								
	Flat roof, walkable and non-ventilated private use, inverted, with fixed floor consists of aerated concrete layer thickness between 2 and 30cm finished with a leveling layer of 1.5 cm waterproofing cement mortar plastering for slope formation, separating layer based on polyethylene film 0.50 mm thick monolayer waterproofing membrane by not bonded to the support constituted by a sheet of ethylene propylene diene monomer EPDM 1.5 mm thick separating layer based on polyethylene film of 0 , 50mm thick insulation panels consisting of extruded polystyrene (XPS) de100mm. thickness and K = 0.027 W / m ° C, antipunzanante layer polyester felt made up of 300 g/m2, floor tile 20x10cm Catalan about 2.5 cm layer of cement mortar (1:6), including pre-cleaning of the support , stakeout, training bibs, mimbeles, sinks and other special reinforcing strips, overlaps, and wastage. Measured in horizontal projection.								
		1	56,20	17,50		983,50			
							983,50	97,08	95.478,18
	TOTAL CAPÍTULO CHAPTER 7 ROOF								**95.478,18**

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	CAPÍTULO CHAPTER 8 COATINGS								
08 01	**m2 False ceiling**								
	Formed with continuous false ceiling plasterboard 12.5 mm, edge tuning on longitudinal structure of teacher 60x27 mm. and perimeter profile 30x30 mm, anchor rod hang even share of hanging pieces, grading and treatment of joints, ready for painting.								
	Ground roof	1	12,78	8,48		108,37			
		1	21,38	17,50		374,15			
		1	12,78	5,82		74,38			
		1	5,27	3,08		16,23			
		1	2,00	2,96		5,92			
		1	8,48	8,90		75,47			
		1	13,20	8,90		117,48			
		1	13,20	6,86		90,55			
		1	8,48	4,18		35,45			
		1	4,18	4,18		17,47			
		1	4,18	2,03		8,49			
		2	1,21	2,03		4,91			
		1	1,52	2,03		3,09			
		1	13,32	1,50		19,98			
	First floor	1	12,78	8,48		108,37			
		1	14,80	5,82		86,14			
		1	7,29	3,20		23,33			
		1	43,42	1,48		64,26			
		18	2,86	2,58		132,82			
		1	2,58	2,58		6,66			
		9	4,18	4,20		158,00			
		9	1,22	2,67		29,32			
		1	4,60	4,20		19,32			
		1	1,64	2,67		4,38			
		1	3,89	6,22		24,20			
		1	7,16	6,22		44,54			
		7	4,18	6,22		182,00			
		8	1,22	2,67		26,06			
		1	4,20	2,67		11,21			
	Second floor	1	12,78	8,48		108,37			
		1	14,80	5,82		86,14			
		1	7,29	3,20		23,33			
		1	43,42	1,48		64,26			
		9	2,86	2,58		66,41			
		1	2,58	2,58		6,66			
		4	8,48	4,20		142,46			
		1	8,90	4,20		37,38			
		1	8,20	6,22		51,00			
		3	8,48	6,22		158,24			
		1	7,16	6,22		44,54			
		1	4,20	2,67		11,21			
		4	5,52	2,67		58,95			
							2.731,50	27,97	76.400,06
08 02	**m2 Plastic paint. Celings**								
	Coating based on acrylic matte plastic paint for protection and decoration of interior and exterior surfaces, resistant to sunlight, breathable and waterproof matte finish in white, on a horizontal surface of brick, plaster and cement mortar , after sanding small adhesions and imperfections, priming with diluted acrylic paint very thin filling of our RENOfloor faults and two coats of finish, as NTE/RPP-24.								

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	Ground roof	1	12,78	8,48		108,37			
		1	21,38	17,50		374,15			
		1	12,78	5,82		74,38			
		1	5,27	3,08		16,23			
		1	2,00	2,96		5,92			
		1	8,48	8,90		75,47			
		1	13,20	8,90		117,48			
		1	13,20	6,86		90,55			
		1	8,48	4,18		35,45			
		1	4,18	4,18		17,47			
		1	4,18	2,03		8,49			
		2	1,21	2,03		4,91			
		1	1,52	2,03		3,09			
		1	13,32	1,50		19,98			
	First floor	1	12,78	8,48		108,37			
		1	14,80	5,82		86,14			
		1	7,29	3,20		23,33			
		1	43,42	1,48		64,26			
		18	2,86	2,58		132,82			
		1	2,58	2,58		6,66			
		9	4,18	4,20		158,00			
		9	1,22	2,67		29,32			
		1	4,60	4,20		19,32			
		1	1,64	2,67		4,38			
		1	3,89	6,22		24,20			
		1	7,16	6,22		44,54			
		7	4,18	6,22		182,00			
		8	1,22	2,67		26,06			
		1	4,20	2,67		11,21			
	Second floor	1	12,78	8,48		108,37			
		1	14,80	5,82		86,14			
		1	7,29	3,20		23,33			
		1	43,42	1,48		64,26			
		9	2,86	2,58		66,41			
		1	2,58	2,58		6,66			
		4	8,48	4,20		142,46			
		1	8,90	4,20		37,38			
		1	8,20	6,22		51,00			
		3	8,48	6,22		158,24			
		1	7,16	6,22		44,54			
		1	4,20	2,67		11,21			
		4	5,52	2,67		58,95			
							2.731,50	4,62	12.619,53

08 03 **m2 Plastic paint. General partitions**

Coating based on acrylic matte plastic paint for protection and decoration of interior and exterior surfaces, resistant to sunlight, breathable and waterproof matte finish in white, on vertical surface of brick, plaster and cement mortar , after sanding small adhesions and imperfections, priming with diluted acrylic paint very thin filling of our RENOfloor faults and two coats of finish, as NTE/RPP-24.

Ground floor	2	9,10	2,70	49,14	
	3	2,76	2,70	22,36	
	2	1,94	2,70	10,48	
	2	7,51	2,70	40,55	
	2	9,90	2,70	53,46	
	2	5,60	2,70	30,24	

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
		2	0,55		2,70	2,97			
		2	6,67		2,70	36,02			
		2	6,44		2,70	34,78			
		2	8,90		2,70	48,06			
		2	2,59		2,70	13,99			
		2	6,39		2,70	34,51			
		4	9,90		2,70	106,92			
		2	1,42		2,70	7,67			
		2	6,98		2,70	37,69			
		2	4,18		2,70	22,57			
		1	2,15		2,70	5,81			
		1	1,73		2,70	4,67			
	First floor	4	7,51		2,70	81,11			
		2	2,06		2,70	11,12			
		10	6,88		2,70	185,76			
		9	8,90		2,70	216,27			
		9	6,22		2,70	151,15			
		1	3,23		2,70	8,72			
		1	3,80		2,70	10,26			
		15	3,38		2,70	136,89			
		1	6,51		2,70	17,58			
		1	2,95		2,70	7,97			
		18	2,95		2,70	143,37			
		1	2,67		2,70	7,21			
		19	1,56		2,70	80,03			
	Second floor	4	7,51		2,70	81,11			
		2	2,06		2,70	11,12			
		5	6,88		2,70	92,88			
		5	8,90		2,70	120,15			
		5	6,22		2,70	83,97			
		1	7,53		2,70	20,33			
		3	7,68		2,70	62,21			
		1	8,10		2,70	21,87			
		1	7,25		2,70	19,58			
		1	6,06		2,70	16,36			
		3	7,68		2,70	62,21			
		9	2,95		2,70	71,69			
		1	2,67		2,70	7,21			
		10	1,56		2,70	42,12			
							2.332,14	4,11	9.585,10
08 04	**m2 Tiled with ceramic tile 20x20cm**								
	Tiled with minimum joint (1.5 - 3 mm) made with single color tile 20x20 cm, placed in tile adhesive thin layer normal (C1) and grouting with cement slurry (L), even cutting and cleaning, as NTE/RPA-3 and Ceramic tile Guide.								
	Ground floor	1	2,15		2,70	5,81			
		1	1,11		2,70	3,00			
		1	0,50		2,70	1,35			
		1	2,76		2,70	7,45			
		4	4,18		2,70	45,14			
		4	2,03		2,70	21,92			
		2	3,88		2,70	20,95			
	First floor	18	2,95		2,70	143,37			
		1	2,67		2,70	7,21			

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
		19	1,56		2,70	80,03			
		19	2,58		2,70	132,35			
		18	2,86		2,70	139,00			
		1	2,58		2,70	6,97			
	Second floor	9	2,95		2,70	71,69			
		1	2,67		2,70	7,21			
		10	1,56		2,70	42,12			
		10	2,58		2,70	69,66			
		9	2,86		2,70	69,50			
		1	2,58		2,70	6,97			
							881,70	26,74	23.576,66
08 05	**m2 Terrazzo-tiled floor 40x40**								
	General coatings, except in kitchen and bathrooms. Pavement made with terrazzo tiles for normal, medium grain, 40x40 cm., Clear tones, placed on sand layer of 2 cm. minimum thickness, even baseboards 40x7 cm. of the same quality and color as the tile (considering 1m/m2), taking both with cement mortar M-5, including grouting with cement grout colored with the same color as the tiles, removal of debris and cleaning, matt polished finish according NTE/RSR-6 and NTE/RSR-26.								
	Ground roof	1	12,78	8,48		108,37			
		1	21,38	17,50		374,15			
		1	12,78	5,82		74,38			
		1	5,27	3,08		16,23			
		1	2,00	2,96		5,92			
		1	13,20	8,90		117,48			
		1	13,20	6,86		90,55			
		1	8,48	4,18		35,45			
		1	13,32	1,50		19,98			
	First floor	1	12,78	8,48		108,37			
		1	14,80	5,82		86,14			
		1	7,29	3,20		23,33			
		1	43,42	1,48		64,26			
		9	4,18	4,20		158,00			
		9	1,22	2,67		29,32			
		1	4,60	4,20		19,32			
		1	1,64	2,67		4,38			
		1	3,89	6,22		24,20			
		1	7,16	6,22		44,54			
		7	4,18	6,22		182,00			
		8	1,22	2,67		26,06			
		1	4,20	2,67		11,21			
	Second floor	1	12,78	8,48		108,37			
		1	14,80	5,82		86,14			
		1	7,29	3,20		23,33			
		1	43,42	1,48		64,26			
		4	8,48	4,20		142,46			
		1	8,90	4,20		37,38			
		1	8,20	6,22		51,00			
		3	8,48	6,22		158,24			
		1	7,16	6,22		44,54			
		1	4,20	2,67		11,21			
		4	5,52	2,67		58,95			
							2.409,52	38,88	93.682,14

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
08 06	**m2 Stoneware floor tiles 30x30**								
	Coatings for kitchen and bathrooms. Ceramic tiles with minimum joint (1.5 - 3 mm) made with monochrome glazed stoneware tile 30x30 cm, placed in tile adhesive thin layer normal (C1) and grouting with cement slurry (L), even and clean cuts, according to NTE / RPA-3 and Ceramic tile Guide.								
	Ground floor	1	8,48	8,90		75,47			
		1	4,18	2,03		8,49			
		1	4,18	4,18		17,47			
		2	1,21	2,03		4,91			
		1	1,52	2,03		3,09			
	First floor	18	2,86	2,58		132,82			
		1	2,58	2,58		6,66			
	Second floor	9	2,86	2,58		66,41			
		1	2,58	2,58		6,66			
							321,98	29,78	9.588,56
	TOTAL CAPÍTULO CHAPTER 8 COATINGS.....								**225.452,05**

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	CAPÍTULO CHAPTER 9 CARPENTRY								
09 01	**u Aluminum entrance door type 2**								
	Gateway double swing of 1.50m wide and 2.10m high made of lacquered aluminum seal 60 microns Qualicoat quality, white, with intermediate socket and bottom rail of the same material, hinges and mortice lock galvanized box and adjustable swing latch to receive glazing, including cutting, preparation and profile connections, fixing battens, pin and hanger hardware and security, placing seam sealing and cleaning as NTE/FCL-16.								
		1				1,00			
							1,00	322,46	322,46
09 02	**u Main entrance door aluminum type 1**								
	Gateway double swing of 1.80m wide and 2.10m high made of lacquered aluminum seal 60 microns Qualicoat quality, white, with intermediate socket and bottom rail of the same material, hinges and mortice lock galvanized box and adjustable swing latch to receive glazing, including cutting, preparation and profile connections, fixing battens, pin and hanger hardware and security, placing seam sealing and cleaning as NTE/FCL-16.								
		1				1,00			
							1,00	336,01	336,01
09 03	**u Window type 1**								
	Window of a hopper, made of anodized aluminum 15 microns with a quality seal EWAA-Euras with European channel, inner seal, sealing in the fence corners and accessories to ensure proper operation, finished in natural color to receive glazing up to 33mm, received on precerco of a hollow aluminum 255x105cm work prepared by anchoring pins every 50cm and less than 25cm from the corners taken with cement mortar, including setting out, installation, plumb and level, assembly and regulation Edge sealed with silicone and cleaning, as NTE-FCL.								
		20				20,00			
							20,00	261,59	5.231,80
09 04	**u Window type 2**								
	Window of a hopper, made of anodized aluminum 15 microns with a quality seal EWAA-Euras with European channel, inner seal, sealing in the fence corners and accessories to ensure proper operation, finished in natural color to receive glazing up to 33mm, received on precerco of a hollow aluminum 120x105cm work prepared by anchoring pins every 50cm and less than 25cm from the corners taken with cement mortar, including setting out, installation, plumb and level, assembly and regulation Edge sealed with silicone and cleaning, as NTE-FCL.								
		19				19,00			
							19,00	182,90	3.475,10
09 05	**u Window type 3**								
	Window of a hopper, made of anodized aluminum 15 microns with a quality seal EWAA-Euras with European channel, inner seal, sealing in the fence corners and accessories to ensure proper operation, finished in natural color to receive glazing up to 33mm, received on precerco of a hollow aluminum 225x105cm work prepared by anchoring pins every 50cm and less than 25cm from the corners taken with cement mortar, including setting out, installation, plumb and level, assembly and regulation Edge sealed with silicone and cleaning, as NTE-FCL.								
		10				10,00			
							10,00	246,84	2.468,40
09 06	**u Door type 3**								
	Swing pass Puerta varnished oak veneer, 2 203x82.5x3.5cm blind leaves smooth, with pine precerco 120x45mm, 120x30mm fence, flashing 70x12mm, 80mm brassed hinges and lock knob, and plumb even received the fence, blade set, attachment of the fittings, level, small equipment and tuning, as NTE/PPM-8.								

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
		4				4,00			
							4,00	430,58	1.722,32
09 07	**u Door type 4**								
	Swing pass Puerta varnished oak veneer, 2 203x72.5x3.5cm blind leaves smooth, with pine precerco 120x45mm, 120x30mm fence, flashing 70x12mm, 80mm brassed hinges and lock knob, and plumb even received the fence, blade set, attachment of the fittings, level, small equipment and tuning, as NTE/PPM-8.								
		1				1,00			
							1,00	424,54	424,54
09 08	**u Door type 5**								
	Swing pass Puerta varnished oak veneer, 1 sheet smooth 203x82.5x3.5cm blind with pine precerco 120x45mm, 120x30mm fence, flashing 70x12mm, 80mm brassed hinges and lock knob, and plumb even received the fence, blade set, attachment of the fittings, level, small equipment and tuning, as NTE/PPM-8.								
		71				71,00			
							71,00	256,89	18.239,19
	TOTAL CAPÍTULO CHAPTER 9 CARPENTRY.....								**32.219,82**

PRESUPUESTO Y MEDICIONES

Hostel

CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
	CAPÍTULO CHAPTER 10 INSTALATIONS								
10 04	**u Lift 8**								
	CE Electric elevator for 8 people (nominal load of 630 kg) with 3 stops, from 0.25 to 1 m / s speed and cabin height of 2.22 m and 110x140cm (W x D) with permanent electric lighting minimum of 50 lux, emergency light, signal overload and car doors and hallway telescopic opening side two sheets of 80x200 cm with stainless steel finish (corridor doors with fire resistance according to E 30 DB SI-1 CTE) installed in hollow 150x190 cm to 1.20 m and 3.60 m pit of security free path measured from the last stop light 50 lux at least 1 m from the roof of the cab and on the bottom of the pit and machine room of 190x300x200 cm located in the top of the shaft, with lighting of 200 lux at floor level including tractor group protected against direct electrical contact, cables and guide for vertical movement up and down the cabin, security devices with automatic doors, canopy, limiting speed cushions at the end of the trail and limit switch and switching devices in accordance with the specifications provided in the UNE 36715, UNE 58702:2005, IEC 58709:1985 and EN 81, fully installed, tested and working properly according to RD 57/2005.								
		1				1,00			
							1,00	13.186,86	13.186,86
10 01 01	**u Rush <15m Ø50mm**								
	Undertaken in general PVC pipes, 200 mm diameter, comprising collar double buttress, key field, male threaded sleeve, fifty feet low density polyethylene tube of 50 mm diameter and 10 atmospheres pressure and imput household connection, including registration casket 40x40 cm perforated brick 24x11, 5x9 cm, 5 cm slab of HM-20 with drain hole, trench and excavation rights and permissions for the connection, without replacement of flooring, fully installed, connected and in perfect working order.								
		1				1,00			
							1,00	863,01	863,01
10 01 02	**u Deposit**								
	Enamelled steel tank with DIN 4753, 500 liter capacity, for installation of hot water up to 10 bar at 90 ° C, conical coil primary circuit of high-performance, full control panel that includes thermometer, thermostat and switch winter / summer safety valve with pressure gauge, automatic power bleeder or above (depending on type, horizontal or vertical), shutoff valves (inlet, outlet, drain ..), power protection, valve, fittings and brackets for mounting upright electrifiable by electrical resistance in the secondary, with cathodic protection magnesium anode and an indicator of your state, fully installed, wiring and proper operating condition, including tests.								
		1				1,00			
							1,00	2.241,33	2.241,33
10 01 03	**u Heater**								
	Gas heater for hot water production, 18 l / min flow rate, indoor assembly without permanent pilot ignition, water power, even exhaust fumes and 5 m of medium length, hoses, fittings and brackets, fully installed, wiring and proper operating condition, including tests.								
		1				1,00			
							1,00	1.200,04	1.200,04
10 01 04	**u General meter**								
	Cold water meter with CE marking, single jet type, caliber 15 mm, two points of friction and rotary direct reading segment, pre-equipped for the pulse generator, for vertical or horizontal, according to the specifications provided in the UNE-EN 14154 "water meters", fully installed, tested and in good working order as Basic Standards Facilities Interior water Supply.								
		1				1,00			
							1,00	66,94	66,94

PRESUPUESTO Y MEDICIONES

Hostel

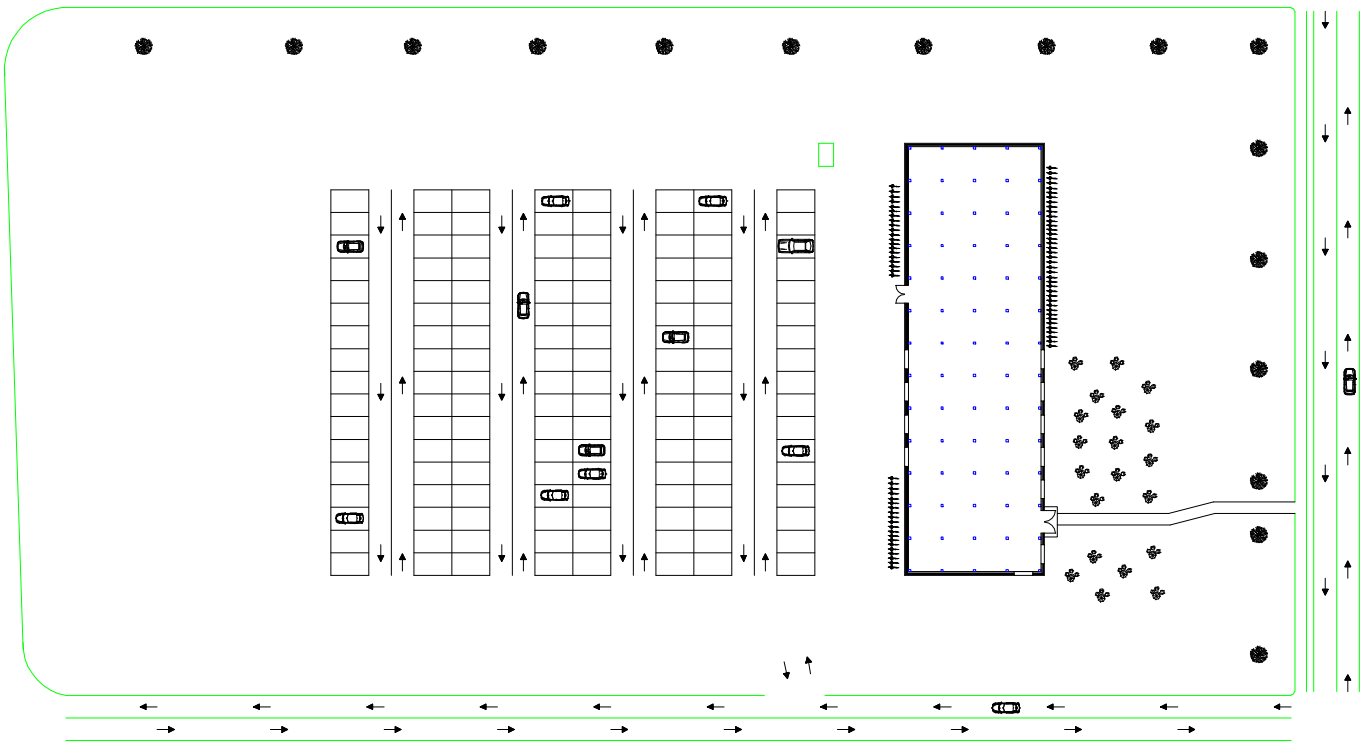
CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
10 01 05	**u Shower**								
	Shower porcelain, dimensions 70x70 cm and 10 mm thick, white background with marked slip AENOR, according to the Basic Standards for Facilities Interior Water Supply.								
		29				29,00			
							29,00	109,93	3.187,97
10 01 06	**u Toilet**								
	Low tank toilet bowl, white vitreous china, with lacquered seat and lid fall damped model, standard quality, mounting kit, elbow and plug-in, placed and masonry support.								
		32				32,00			
							32,00	197,00	6.304,00
10 01 07	**u Sink**								
	Sink 510x395 mm on top, without a pedestal, white vitreous china with game fixing anchors, including drain valve 1 1/2 "siphon tube, placed and masonry support.								
		31				31,00			
							31,00	117,05	3.628,55
10 01 08	**u Bidet**								
	Vitreous china bidet in white as standard with mounting kit, including drain valve 1 1/2 "siphon tube, placed and masonry support.								
		29				29,00			
							29,00	116,44	3.376,76
10 01 09	**u Kitchen Sink**								
	Stainless steel sink recessed, dimensions 600x500 mm, with a bucket, drain valve, chain, cap, siphon tube, placed and masonry support.								
		4				4,00			
							4,00	108,87	435,48
10 02 01	**u General protection box**								
	General protection box with double insulation scheme 7, with bases and fuse 250 A, equipped with 6-240 mm2 terminals for line deliverer and O in rush, made self-extinguishing material autoventilated, including neutral grounding cable VR 0.6 / 1 kV section 50 mm2 copper ax, fully installed in civil engineering niche, connected and in good working order, according NT-IEEV/89 and Regulation Electrotechnical Low Voltage.								
		1				1,00			
							1,00	286,89	286,89
10 02 02	**u Simple switch**								
	Switch medium quality waterproof flush with full mechanism with key 10A/250 V, even small items and completely installed, wired and in good working order.								
		47				47,00			
							47,00	13,18	619,46
10 02 03	**u Double switch**								
	Switch waterproof switch built of average quality with full mechanism with key 10A/250 V, even small items, fully installed, connected and in good working order.								
		80				80,00			
							80,00	13,18	1.054,40

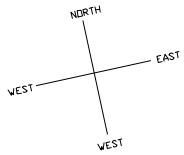
PRESUPUESTO Y MEDICIONES

Hostel

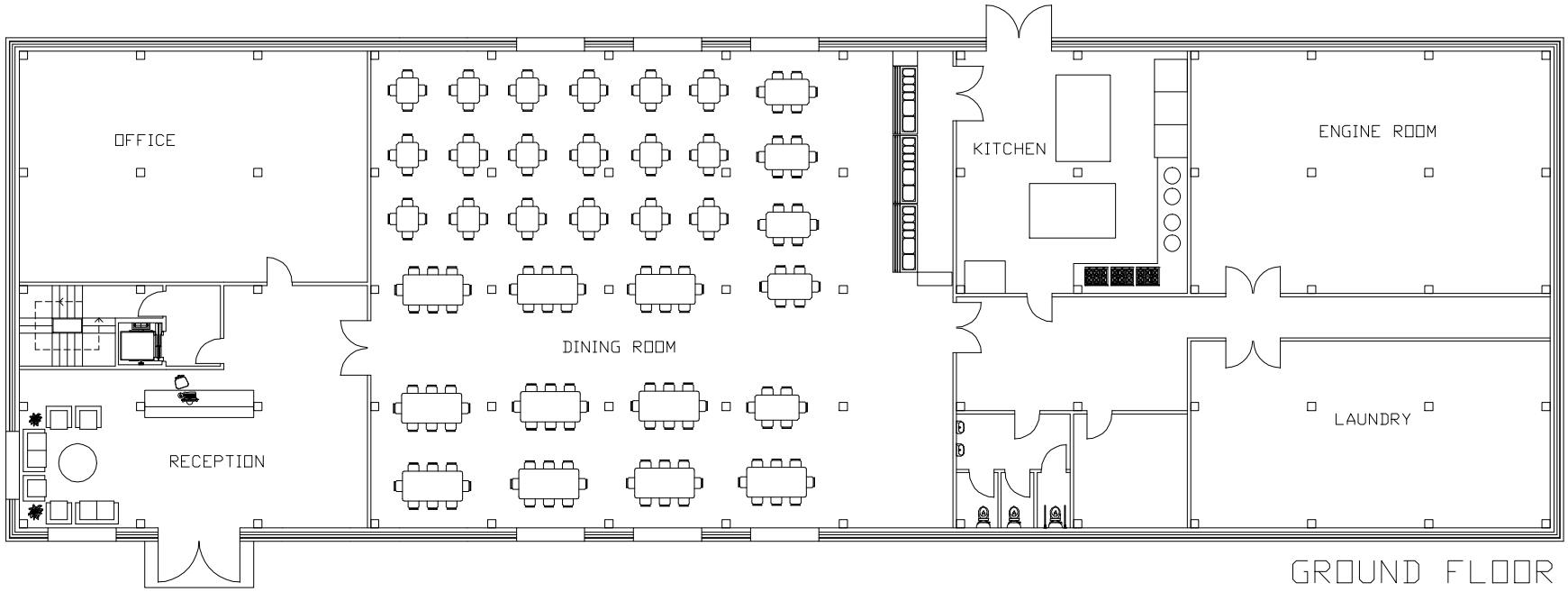
CÓDIGO	RESUMEN	UDS	LONGITUD	ANCHURA	ALTURA	PARCIALES	CANTIDAD	PRECIO	IMPORTE
10 02 04	**u Socket**								
	Outlet, medium-quality waterproof recessed installations, 2 pole + earth side with full mechanism 10/16A, 230 V, protective cover and cover, even under fully installed, connected and in good working order, according the Low Voltage Electrotechnical Regulations.								
		157				157,00			
							157,00	13,59	2.133,63
10 02 05	**u Socket for kitchen and bathrooms**								
	Outlet, medium-quality waterproof recessed installations, 2 pole + earth side with full mechanism 10/16A, 230 V, protective cover and cover, even under fully installed, connected and in good working order, according the Low Voltage Electrotechnical Regulations.								
		94				94,00			
							94,00	13,59	1.277,46
10 02 06	**u Simple point of light**								
	Single point of light built, installed single-phase copper wire with insulation rated voltage of 450/750 V formed by phase + neutral + earth of 1.5 mm2, under corrugated hose PVC double layer of 13.5 mm in diameter even switch 10A/250A medium quality waterproof and ceiling lamp with incandescent lamp of 75 W, fully installed, connected and in good working order, according to the Low Voltage Electrotechnical Regulations.								
		10				10,00			
							10,00	96,29	962,90
10 02 07	**u Switched point of light**								
	Point built light switched copper wire installed with single-phase insulation voltage of 450/750 V formed by phase + neutral + earth of 1.5 mm2, under corrugated hose PVC double layer of 13.5 mm in diameter even switch switchable medium quality 10A/250A tight and ceiling lamp with incandescent lamp of 75 W, fully installed, connected and in good working order, according to the Low Voltage Electrotechnical Regulations.								
		294				294,00			
							294,00	122,40	35.985,60
10 03 01	**u Radiator**								
	Element aluminum radiator with CE marking for hot water systems with a working pressure of 6 bar and 120 ° C temperature, dimensions 781x80x100 mm (H x W x D), a heat output of 122 kcal / h for a thermal 50 ° C and supplied batteries 3 to 14 elements linked together with steel sleeves and seal received in work complete as required for heat radiation defendant and installed to a minimum ground clearance of 12 cm and between 3 and 5 cm from the back wall, installing mono or bitubular, with share of links, reductions, sleeves, special silicone seals for high temperatures, plugs and brackets, after placement of the fitting radiator heating, trap and specific holder, including check, according to the specifications provided in the UNE-EN 442, fully installed, tested and working properly.								
		106				106,00			
							106,00	25,37	2.689,22
	TOTAL CAPÍTULO CHAPTER 10 INSTALATIONS.....								**79.500,50**
	TOTAL.....								**935.389,24**

PLANS



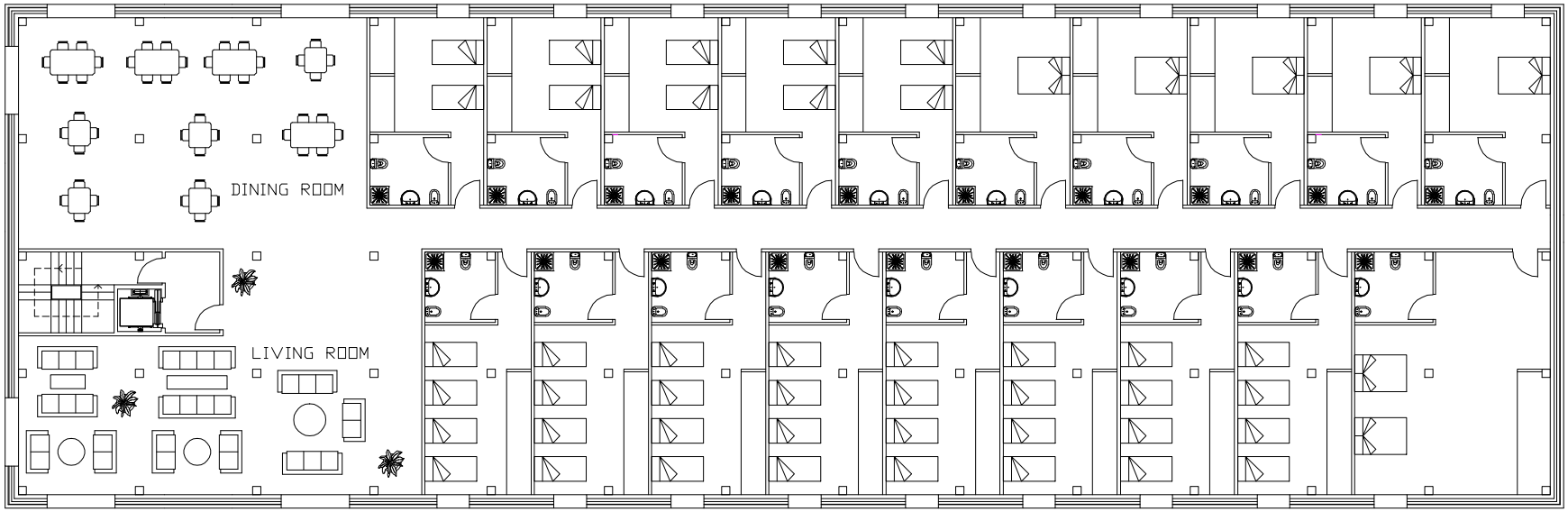


TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 0
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/1000	PLANO Location of the building on the lot	
DATE MAYO 2012		



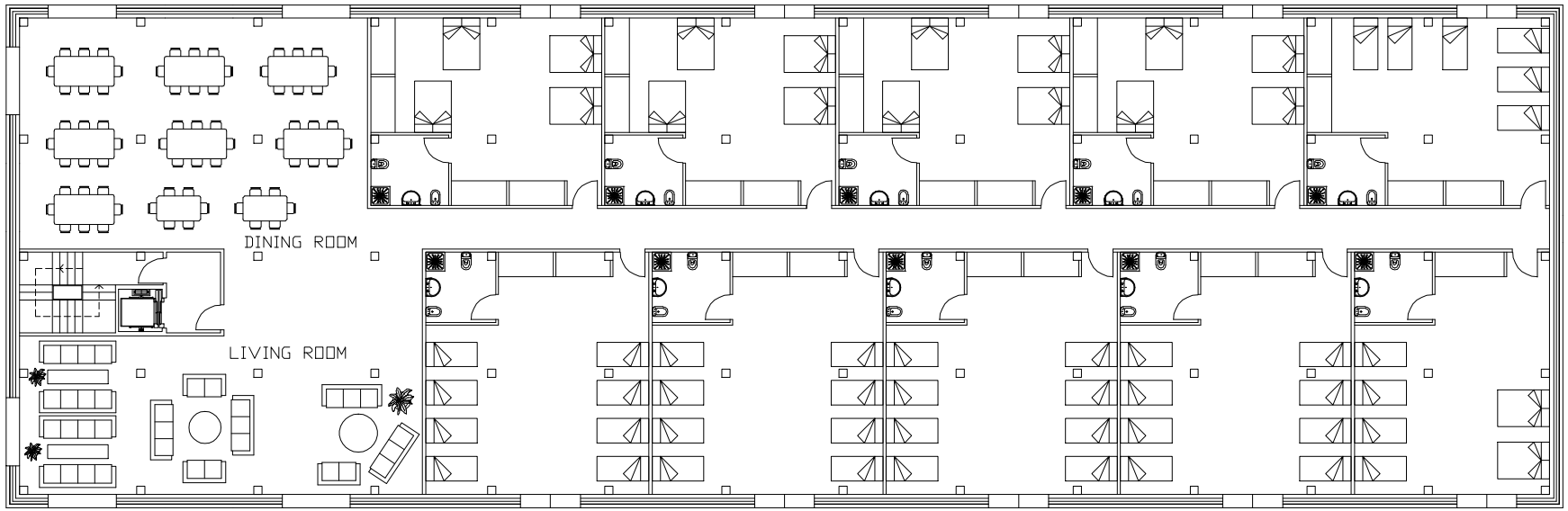
GROUND FLOOR

TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 1
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Distribution. Ground floor	
DATE MAYO 2012		



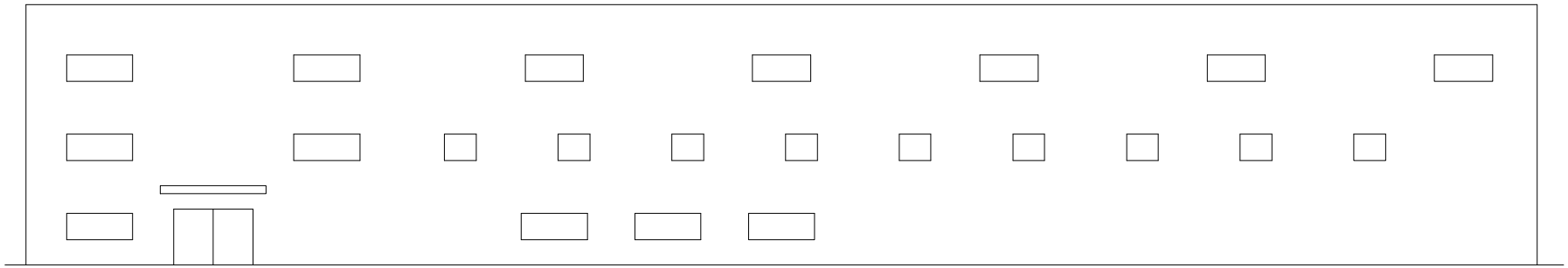
1ST FLOOR

TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 2
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Distribution. First floor	
DATE MAYO 2012		



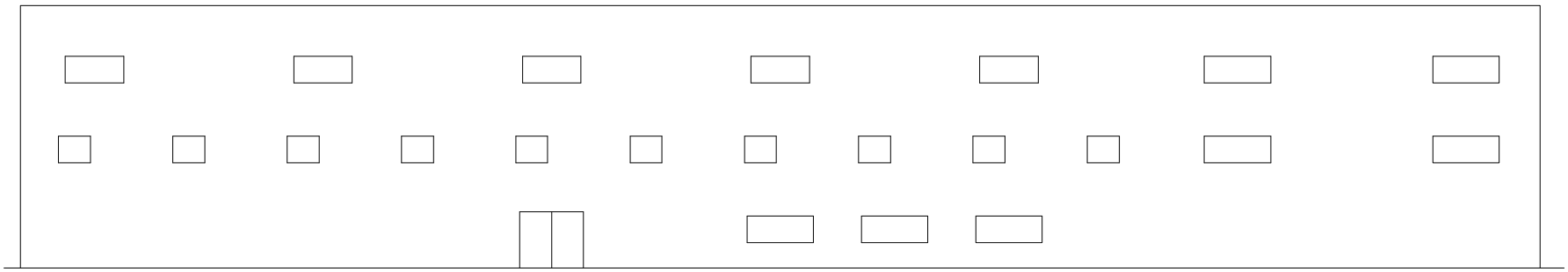
2ND FLOOR

TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 3
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Distribution. Second floor	
DATE MAYO 2012		



EAST FACADE

TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 4
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO East facade	
DATE MAYO 2012		



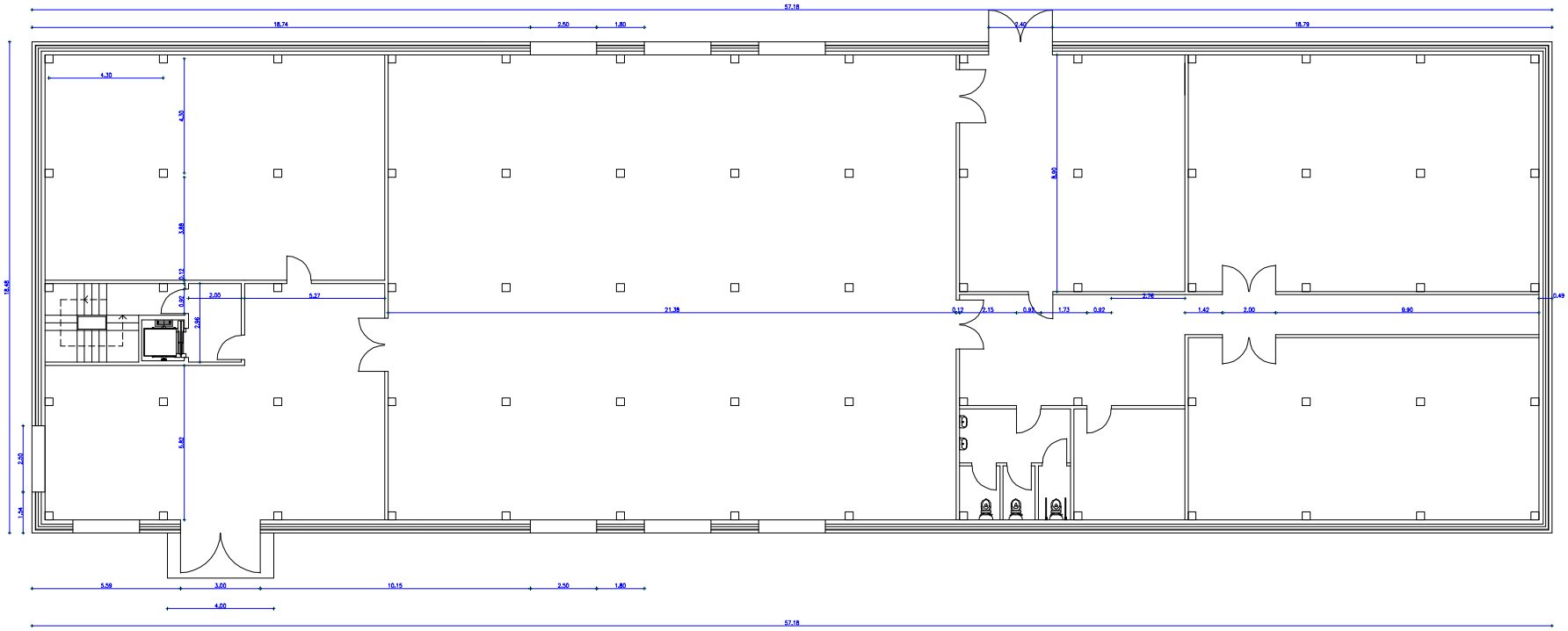
WEST FACADE

TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 5
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO West facade	
DATE MAYO 2012		

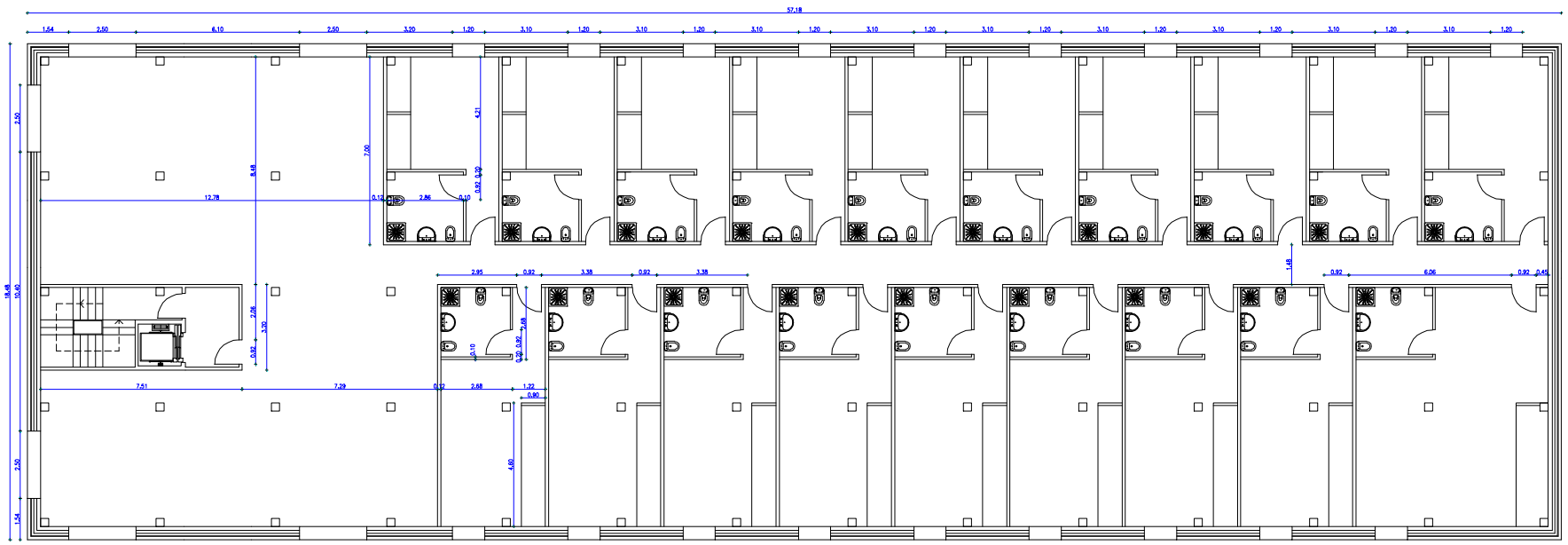
SOUTH FACADE

NORTH FACADE

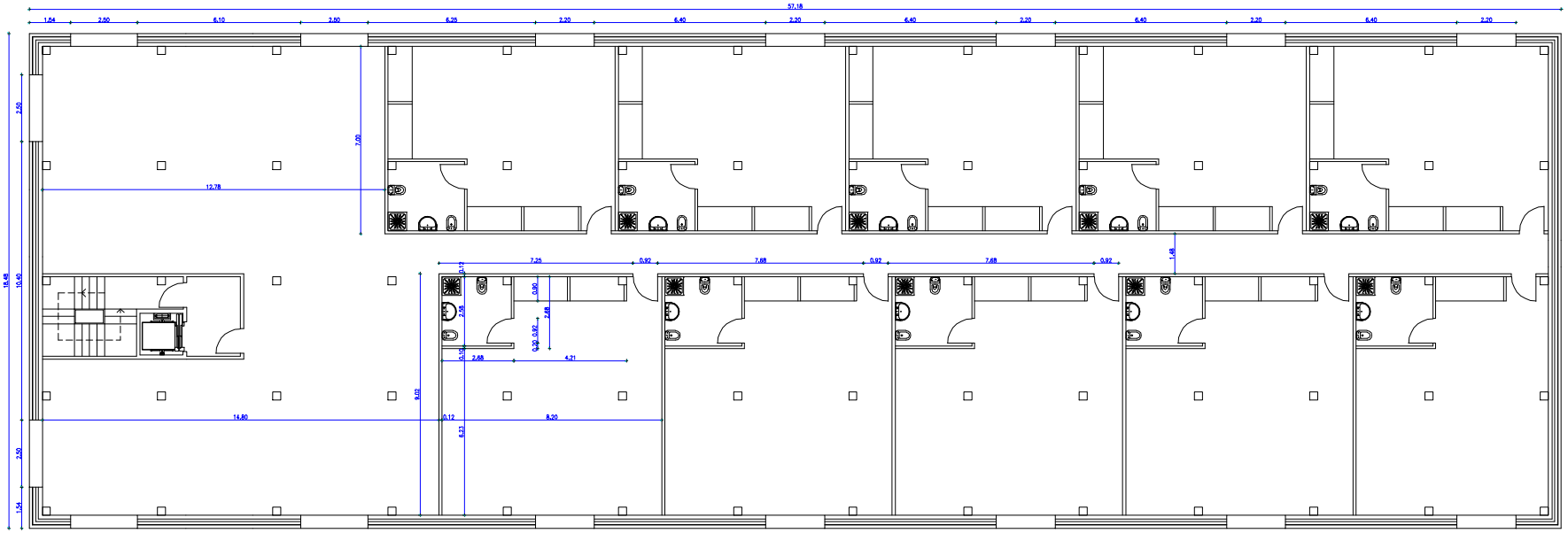
TITLE: FINAL PROJECT- HOSTEL		PLAN Nº: 6
AUTHOR: MARÍA MOLINA MARTÍN		
SITUATION: HALMSTAD- SUECIA		SIGNATURE:
SCALE: 1/250	PLANO: South and North facades	
DATE: MAYO 2012		



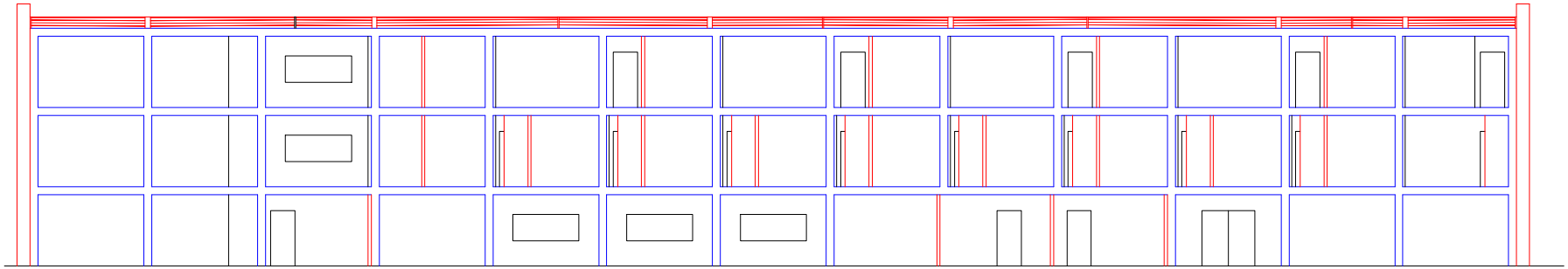
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 7
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Dimensions. Ground floor	
DATE MAYO 2012		



TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 8
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Dimensions. First Floor	
DATE MAYO 2012		

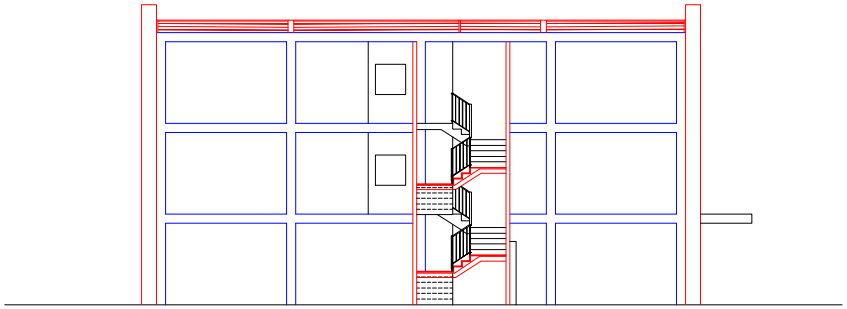


TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 9
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Dimensions. Second floor	
DATE MAYO 2012		



SECTION A-A'

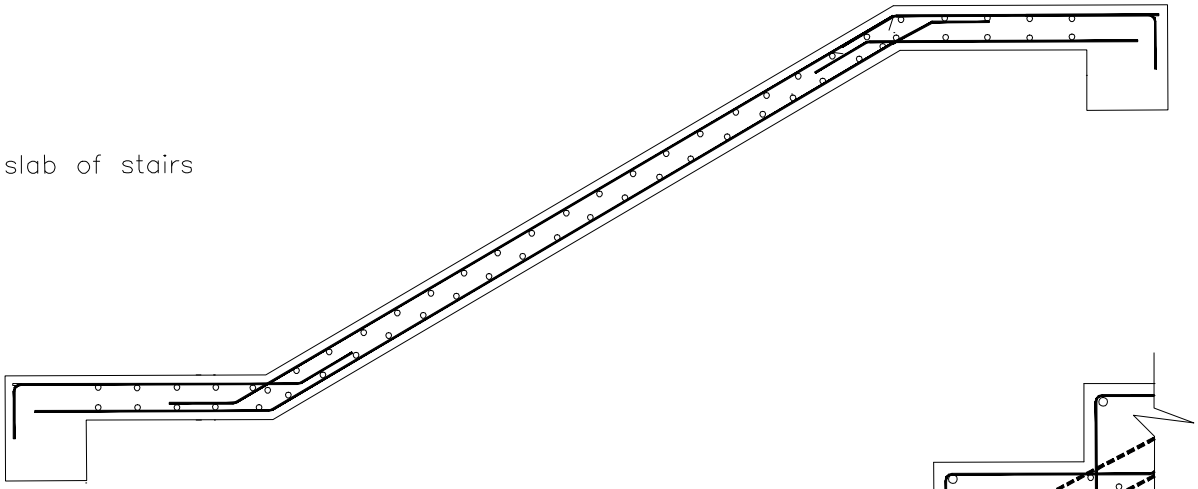
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 10
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Section A-A'	
DATE MAYO 2012		

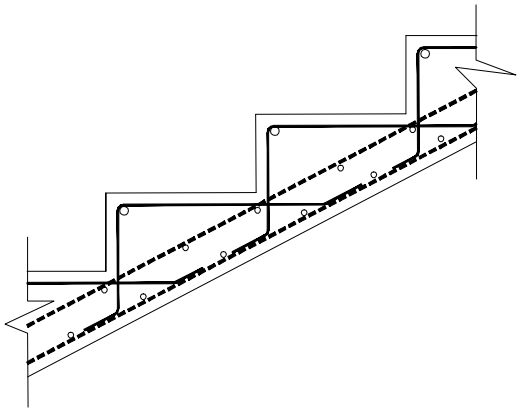


SECTION B-B'

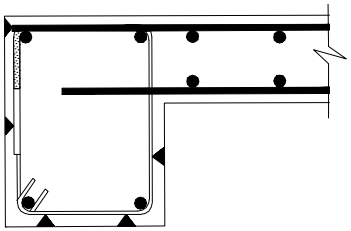
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 11
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Section B-B'	
DATE MAYO 2012		

Detail of the slab of stairs



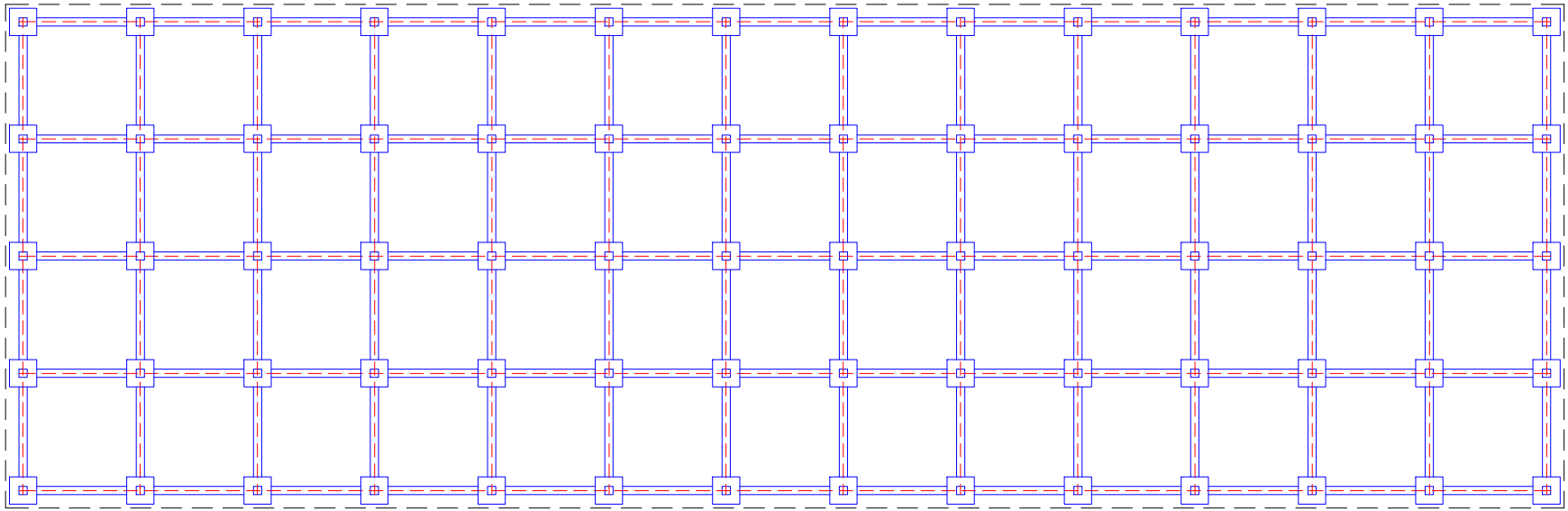


Detail of training steps



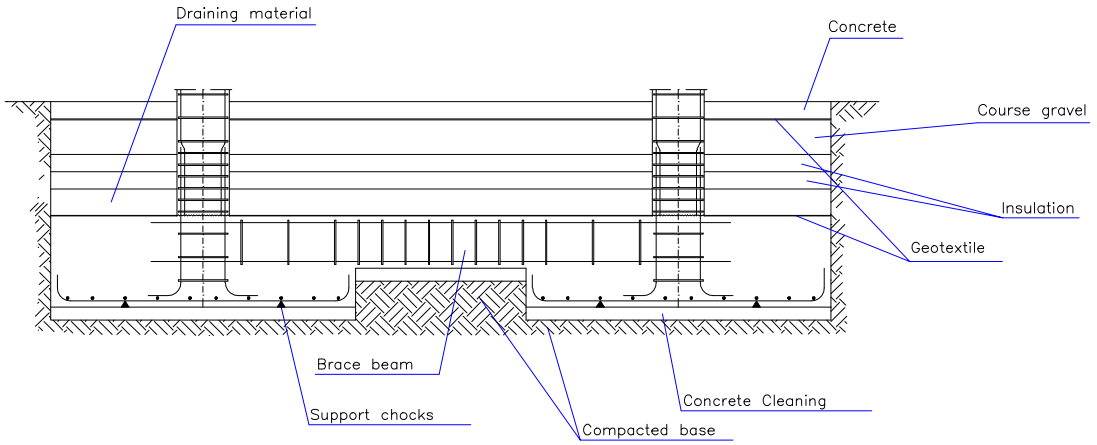
Detail starting

TITLE: FINAL PROJECT- HOSTEL		PLAN Nº: 12
AUTHOR: MARÍA MOLINA MARTÍN		
SITUATION: HALMSTAD- SUECIA		SIGNATURE:
SCALE: /	PLANO: Details of the stairs	
DATE: MAYO 2012		

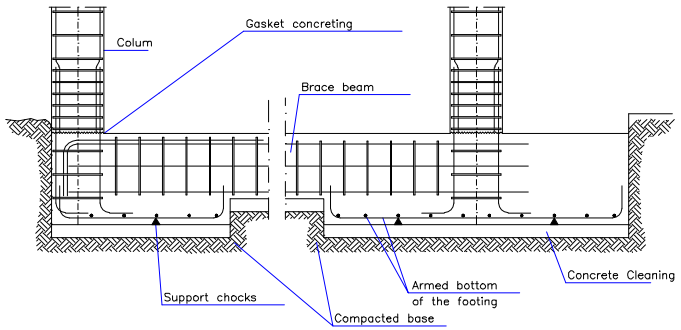


TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 13
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Foundation	
DATE MAYO 2012		

Detail of brace beam between footings

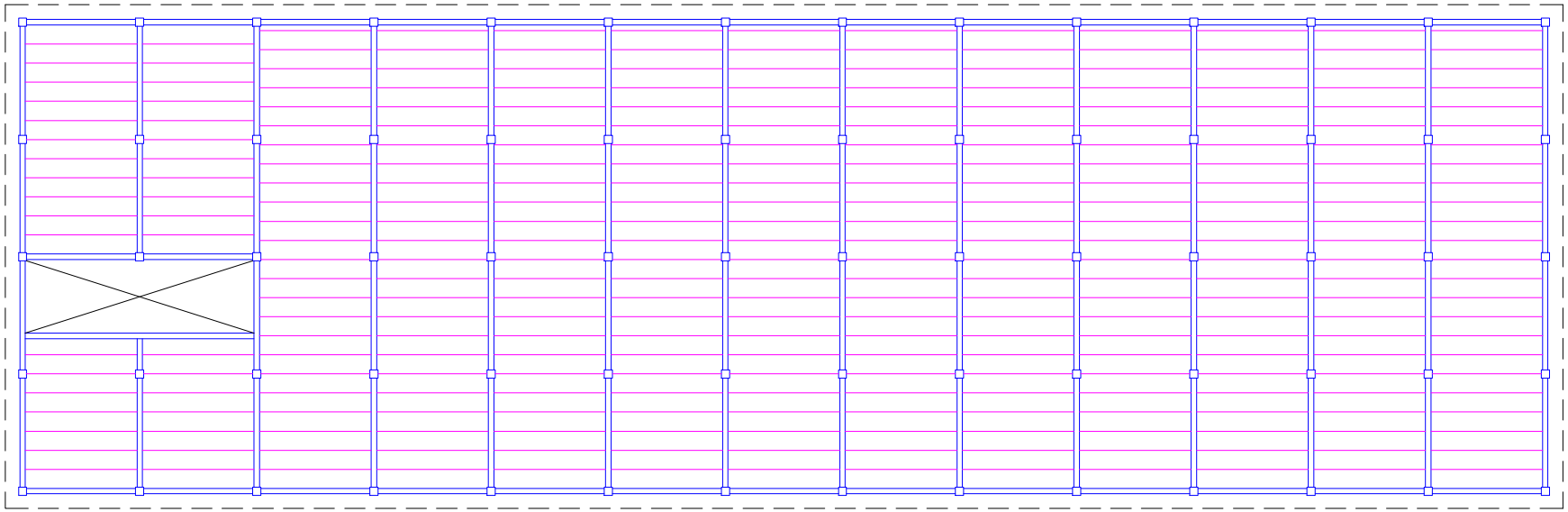


Corner footing, footing dividing and brace beam



TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 14
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE /	PLANO Details of foundation	
DATE MAYO 2012		

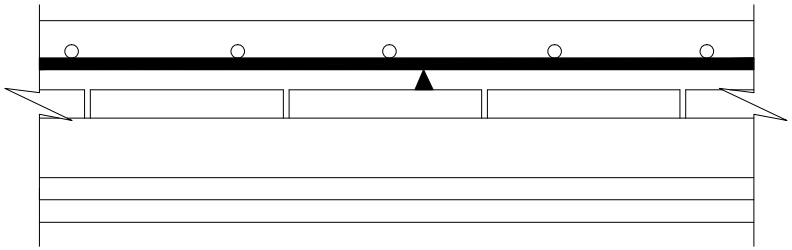
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 15
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Structure. First floor	
DATE MAYO 2012		



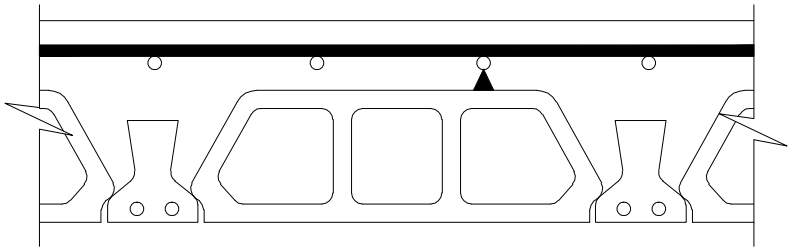
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 16
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Structure. Second floor	
DATE MAYO 2012		

TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 17
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Structure. Roof	
DATE MAYO 2012		

Detail of floor slab

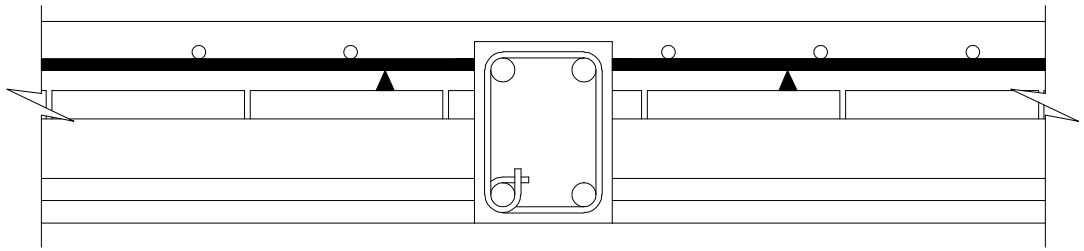


Longitudinal section

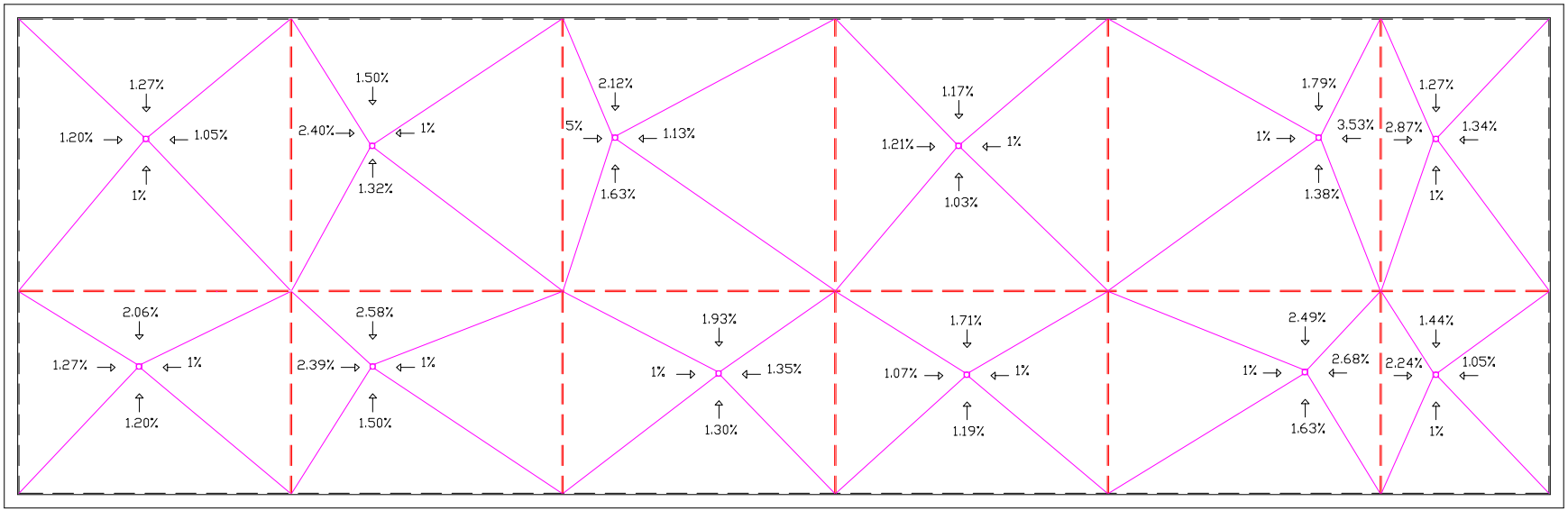


Cross section

Section of beam



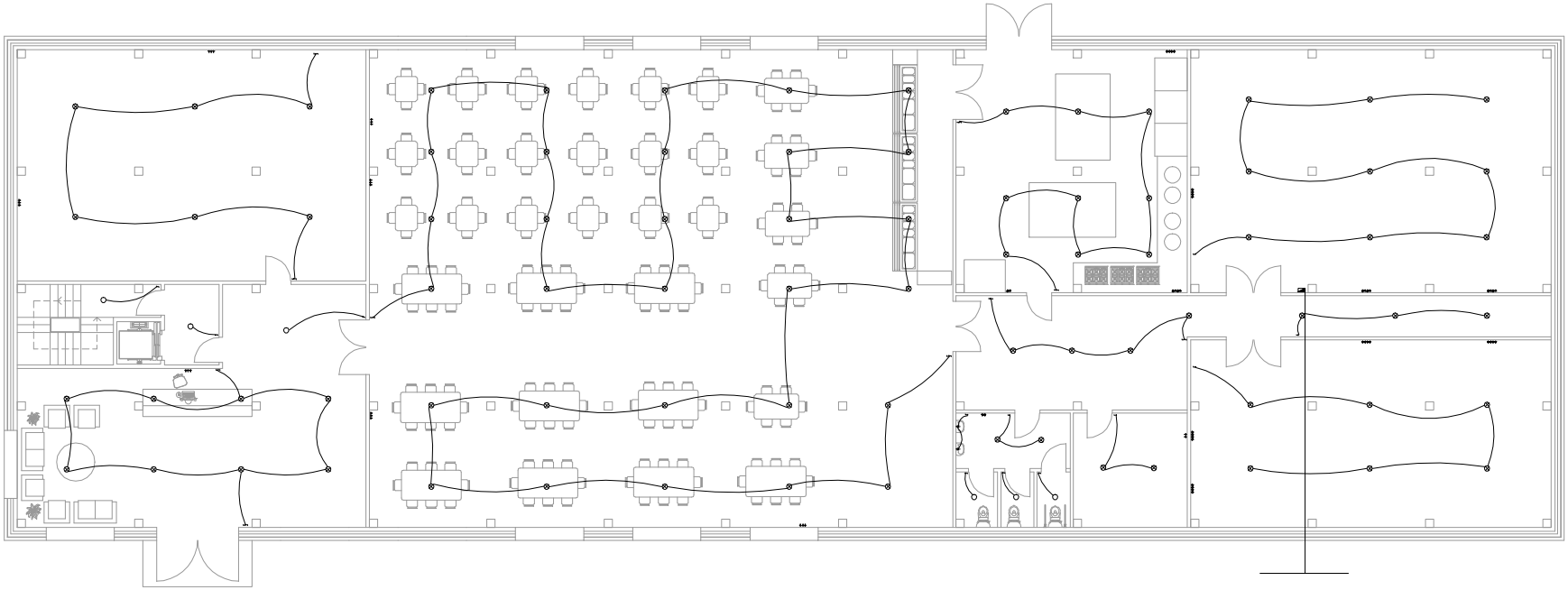
TITLE: FINAL PROJECT- HOSTEL		PLAN Nº: 18
AUTHOR: MARÍA MOLINA MARTÍN		
SITUATION: HALMSTAD- SUECIA		SIGNATURE:
SCALE: /	PLANO: Details of the slab	
DATE: MAYO 2012		



LEGEND

	Siphon drain
	Downpipe
	Direction of the slope
	Cover gasket
	Gasket between dropcloths

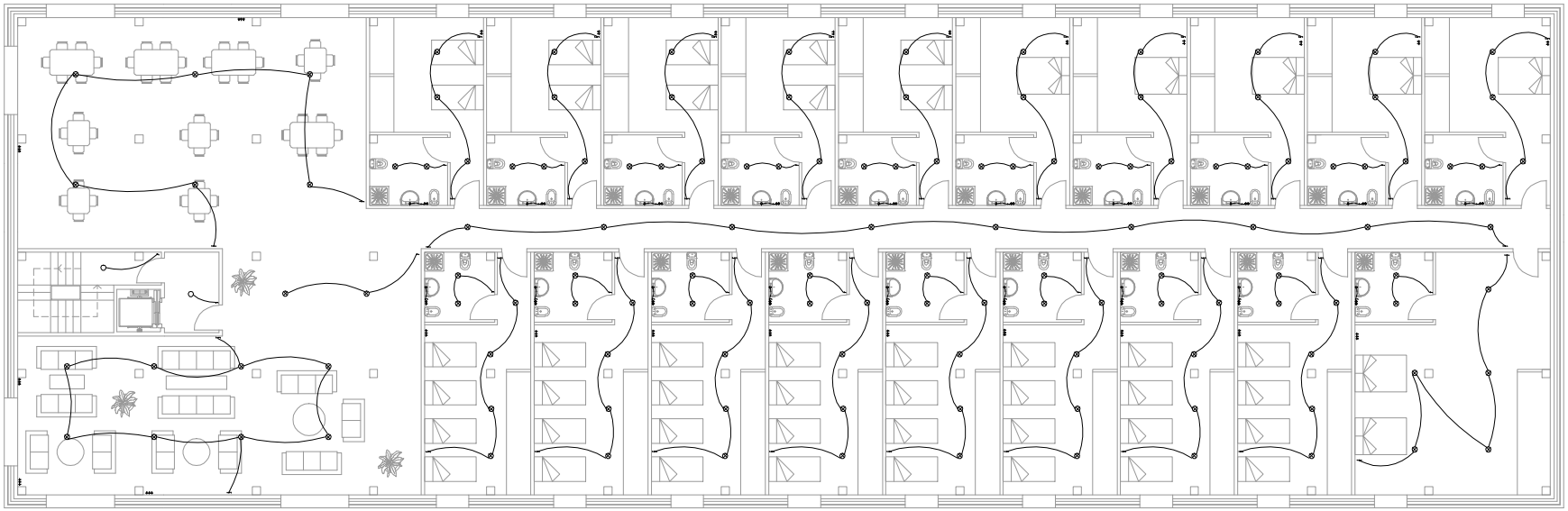
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 19
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Salubrity. Roof drainage	
DATE MAYO 2012		



LEGEND

○	Simple point of light, in ceiling
⊗	Switched point of light, in ceiling
◆	Simple point of light, in wall
⊷	Simple switch
⊷₂	Double switch
⊱	Socket
⊱	Socket for kitchen and bathrooms
▭	General distribution box

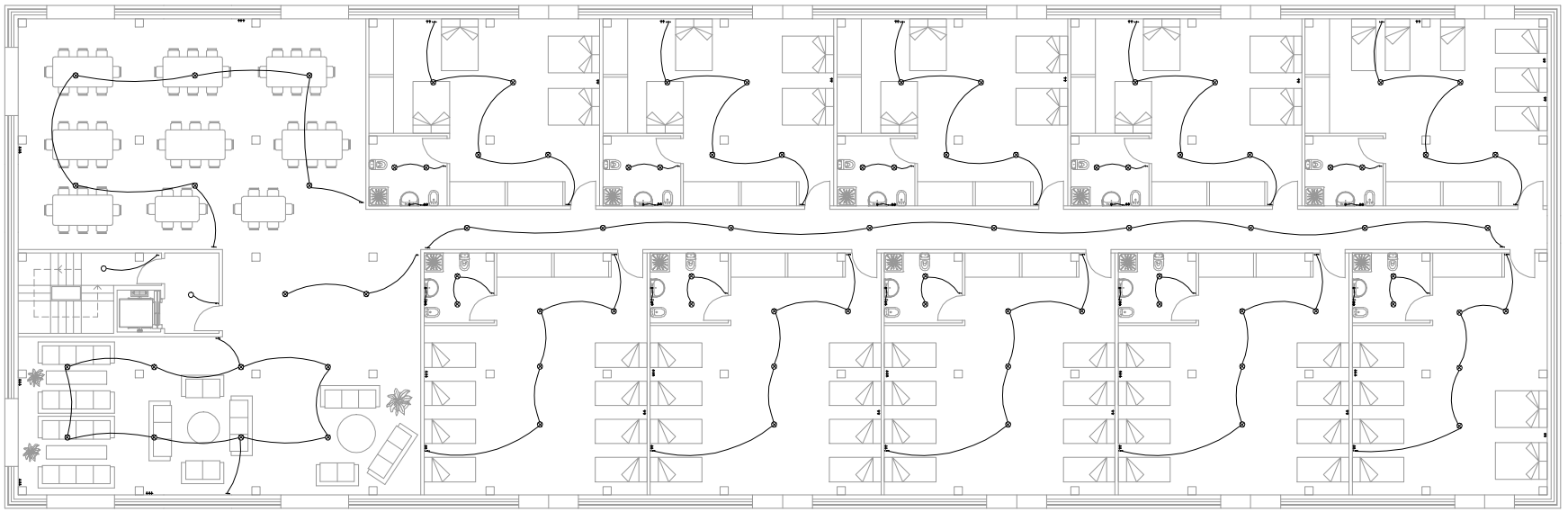
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 20
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Electricity. Ground floor	
DATE MAYO 2012		



LEGEND

○	Simple point of light, in ceiling
⊗	Switched point of light, in ceiling
●	Simple point of light, in wall
←	Simple switch
←←	Double switch
⊢	Socket
⊕	Socket for kitchen and bathrooms
▭	General distribution box

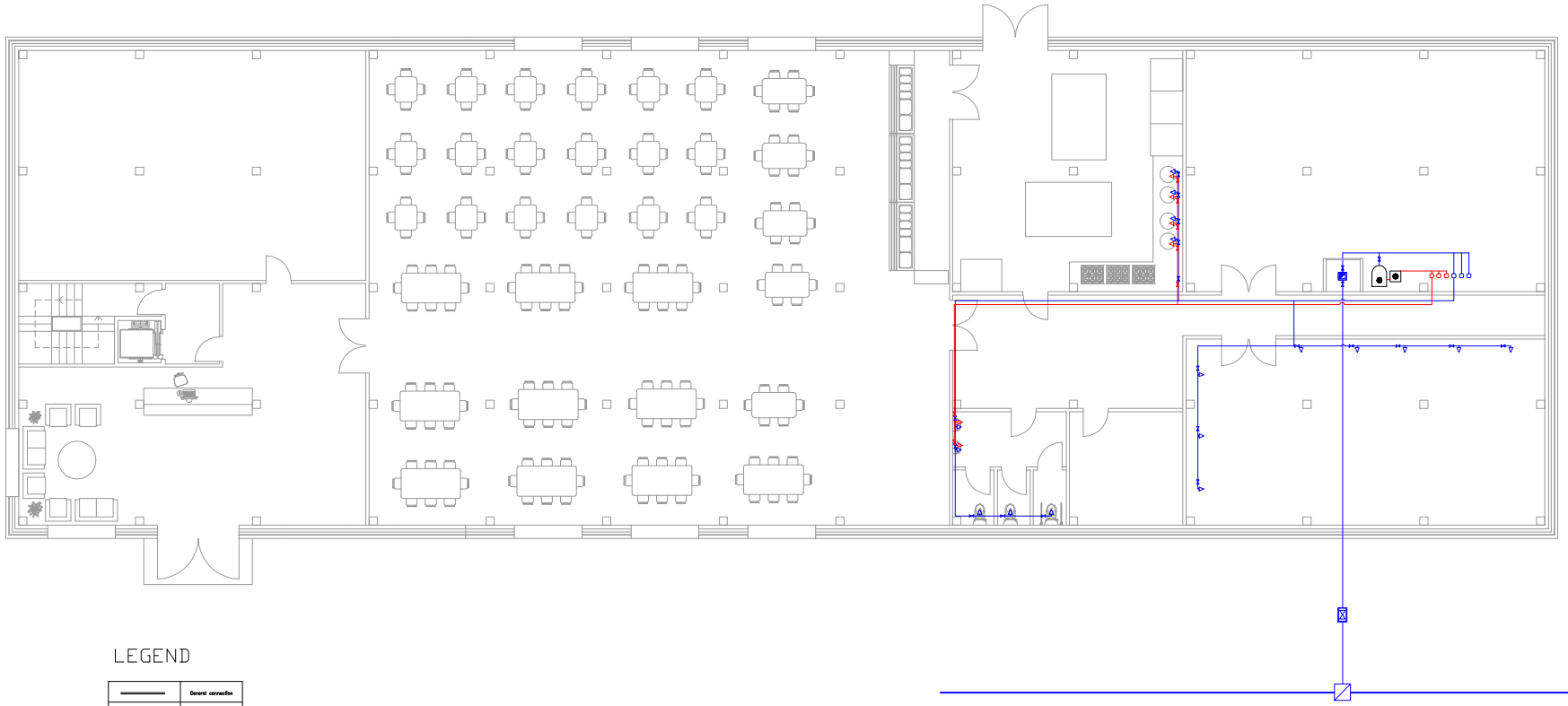
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 21
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Electricity. First floor	
DATE MAYO 2012		



LEGEND

○	Simple point of light, in ceiling
⊗	Switched point of light, in ceiling
●	Simple point of light, in wall
←	Simple switch
←←	Double switch
⊢	Socket
⊕	Socket for kitchen and bathrooms
▭	General distribution box

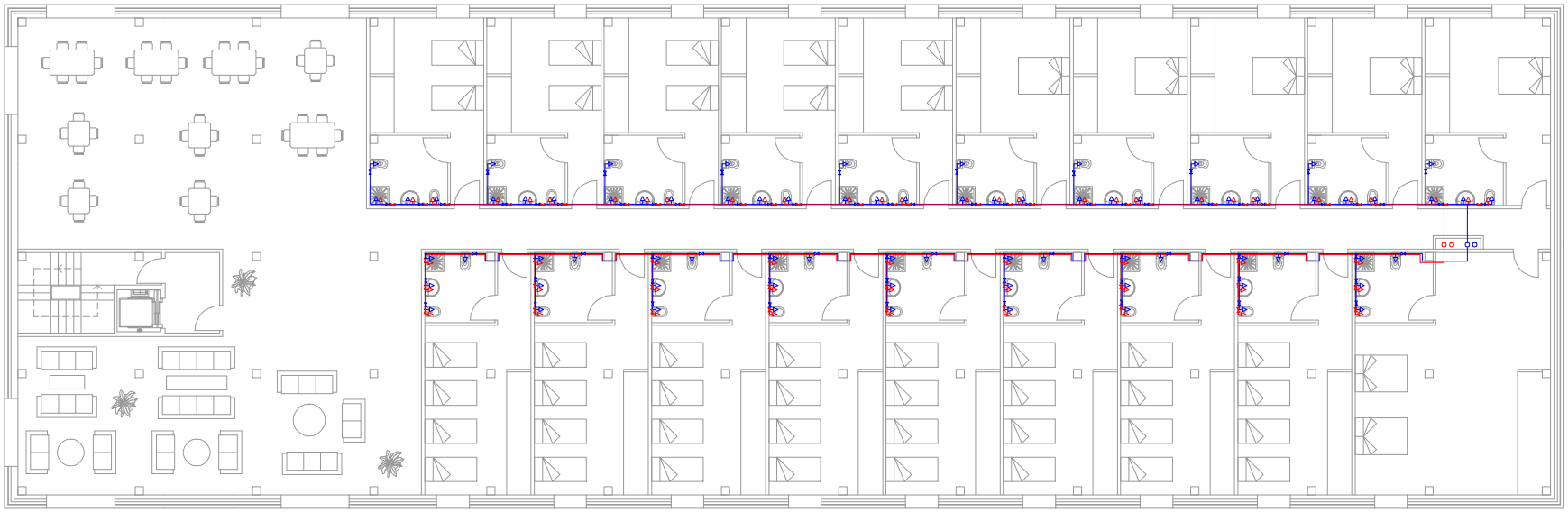
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 22
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Electricity. Second floor	
DATE MAYO 2012		



LEGEND

	General connection
	General meter
	Stopcock
	Registration Chest
	General cock
	Heater
	Deposit
	Cold water tap
	Hot water tap
	Cold water pipe
	Hot water pipe

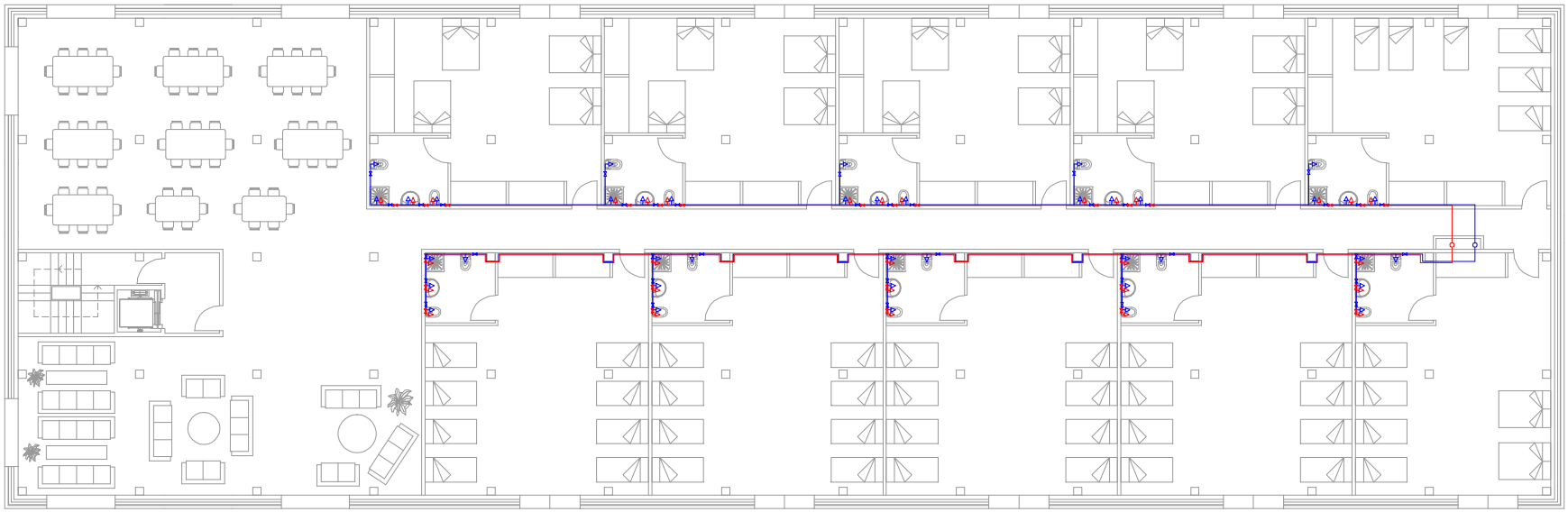
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 23
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Plumbing. Ground floor	
DATE MAYO 2012		



LEGEND

	General connection
	General meter
	Stopcock
	Registration Chest
	General cock
	Heater
	Deposit
	Cold water tap
	Hot water tap
	Cold water pipe
	Hot water pipe

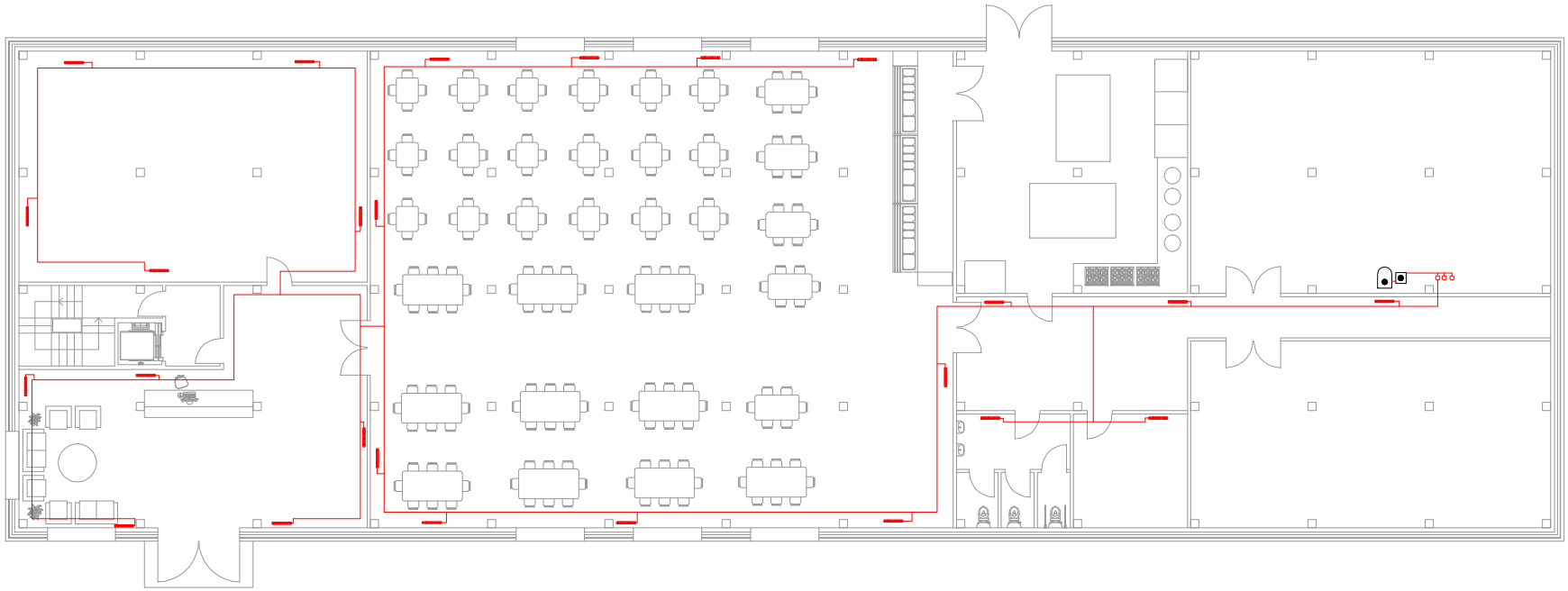
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 24
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Plumbing. First floor	
DATE MAYO 2012		



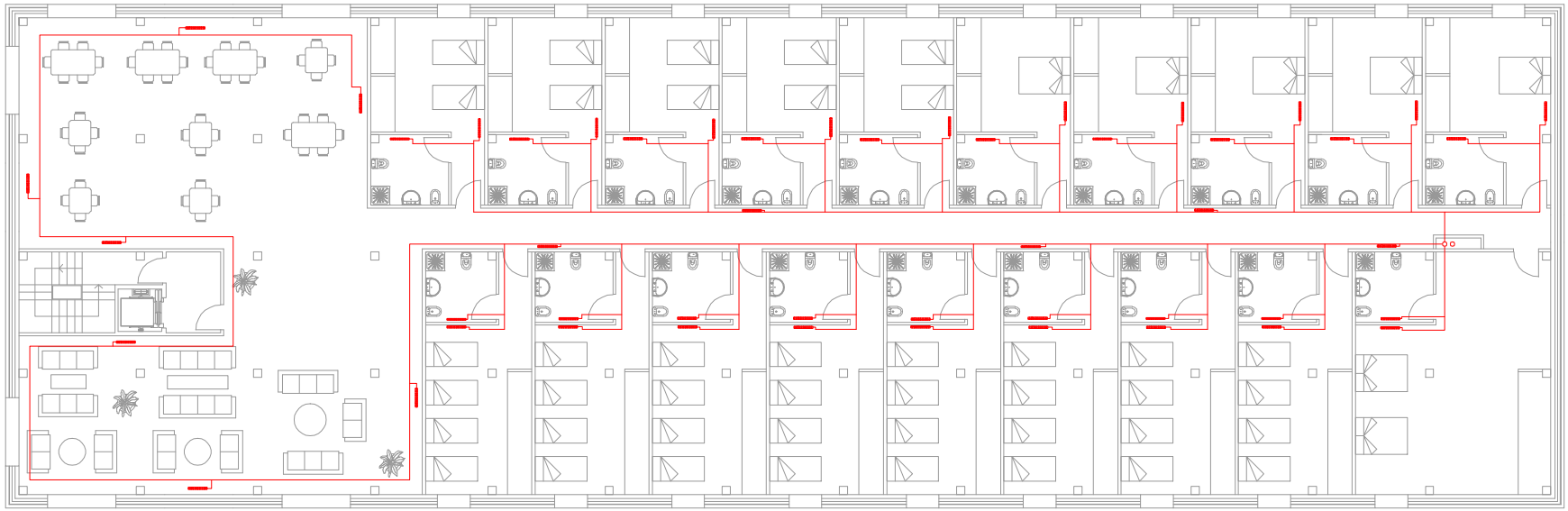
LEGEND

	General connection
	General meter
	Stopcock
	Registration Chest
	General cock
	Heater
	Deposit
	Cold water tap
	Hot water tap
	Cold water pipe
	Hot water pipe

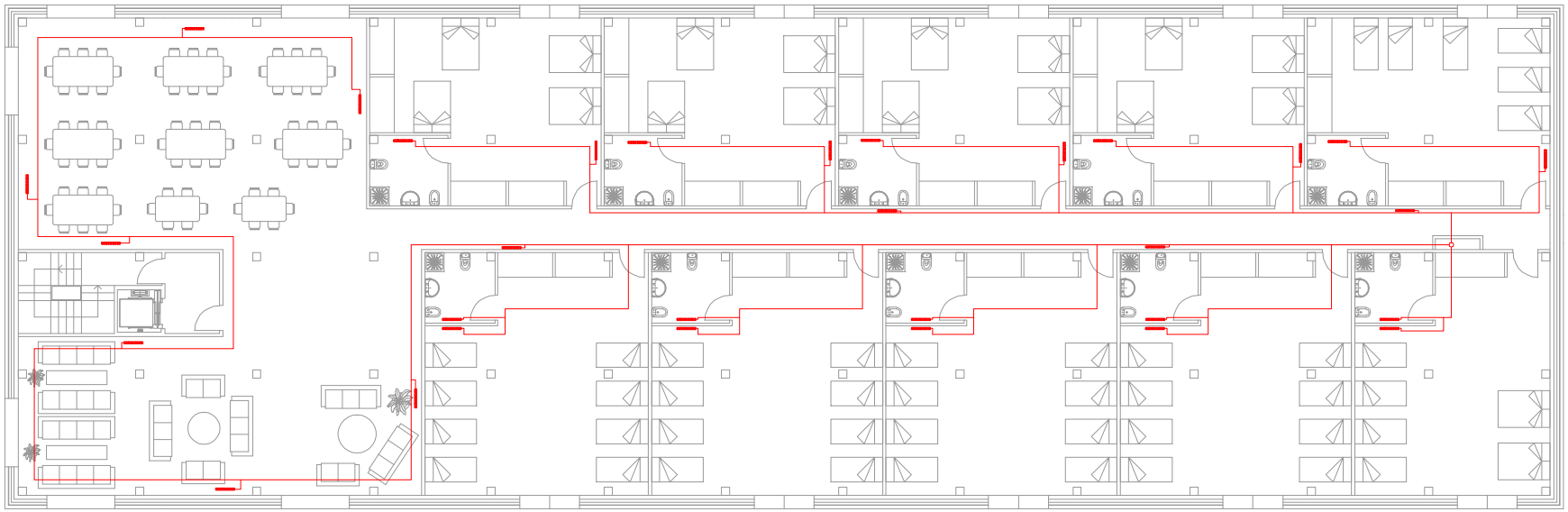
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 25
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Plumbing. Second floor	
DATE MAYO 2012		



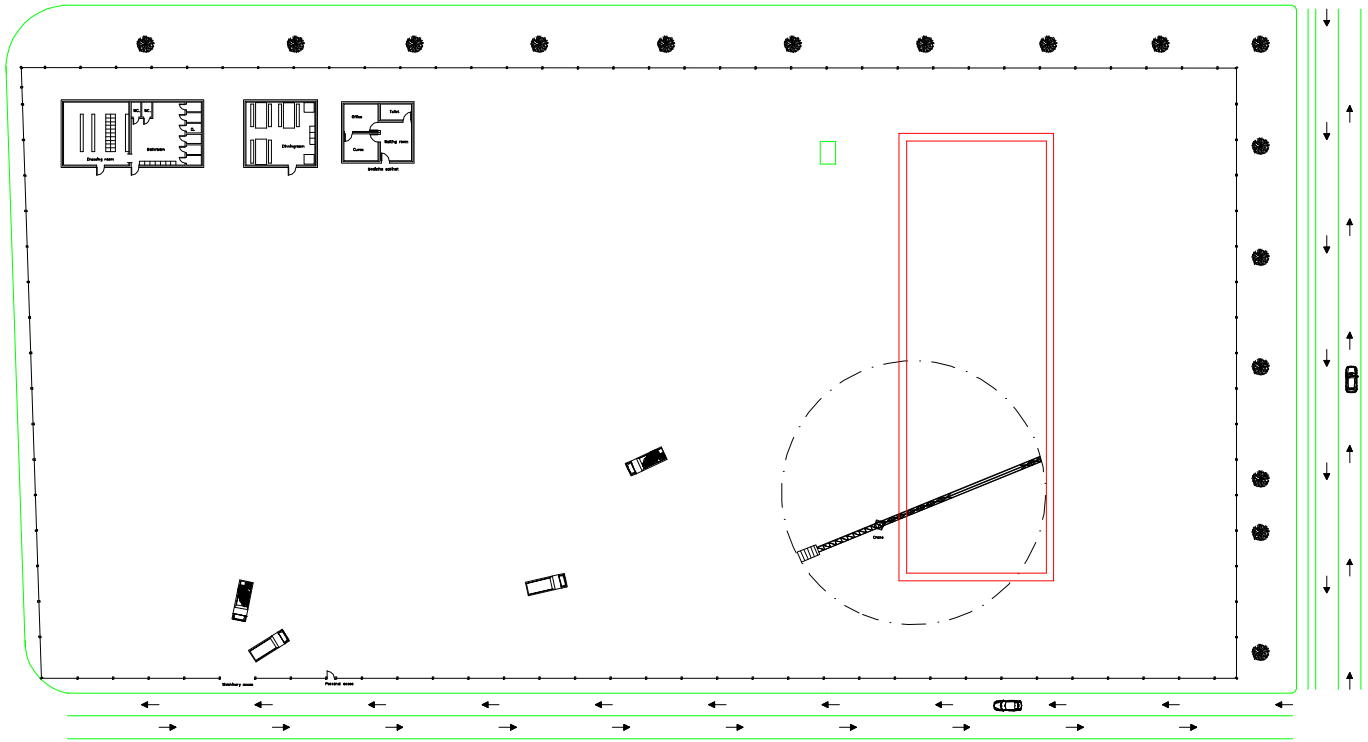
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 26
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Heating. Ground floor	
DATE MAYO 2012		



TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 27
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Heating. First floor	
DATE MAYO 2012		



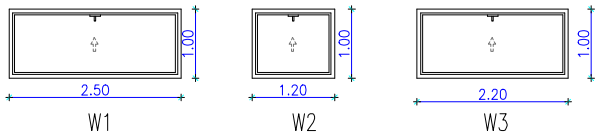
TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 28
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/250	PLANO Heating. Second floor	
DATE MAYO 2012		

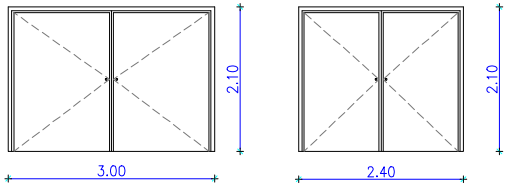


TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 29
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/1000	PLANO Health and safety	
DATE MAYO 2012		

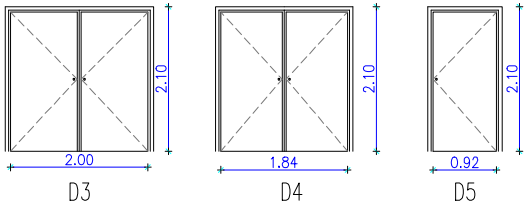
CARPENTRY

EXTERIOR CARPENTRY





INTERIOR CARPENTRY



CHARACTERISTICS

TYPE	UNITS	DIMENSIONS (mm)	MATERIAL	GLASS	APERTURA
Window 1	20	2500x1000	Aluminum	4/6/4	Tilt
Window 2	19	1200x1000	Aluminum	4/6/4	Tilt
Window 3	10	2200x1000	Aluminum	4/6/4	Tilt
Door 1	1	3000x2100	Aluminum	4/6/4	Folding
Door 2	1	2400x2100	Aluminum	–	Folding
Door 3	4	2000x2100	Wood	–	Folding
Door 4	1	1840x2100	Wood	–	Folding
Door 5	71	920x2100	Wood	–	Folding

TITLE	FINAL PROJECT- HOSTEL	PLAN Nº 30
AUTHOR	MARÍA MOLINA MARTÍN	
SITUATION	HALMSTAD- SUECIA	SIGNATURE
SCALE 1/110	PLANO Carpentry	
DATE MAYO 2012		