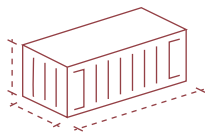


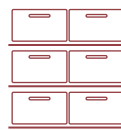
Necessità

- facilità di trasporto e stoccaggio
- costruzione senza l'uso di macchinari pesanti e/o manodopera specializzata
- utilizzo di minor quantità di materiale e leggerezza del sistema
- facilità e velocità di costruzione e smontaggio
- garantire il riuso dei singoli elementi
- garantire il comfort abitativo e il minor utilizzo di energia durante la fase operativa
- ottimizzazione delle componenti tecniche e impiantistiche
- garantire la reversibilità totale del sito

Caratteristiche



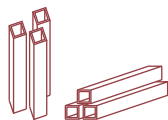
I singoli elementi che compongono il modulo abitativo devono rispettare uno standard dimensionale (shipping container 20 ft, UNI standard).



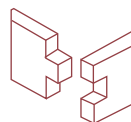
Gli elementi che compongono il modulo devono avere una geometria tale da ottimizzare al massimo lo spazio di stoccaggio.



È necessario che gli elementi che compongono il modulo abbiano dimensioni e peso tali da renderli facilmente maneggevoli da singoli individui.



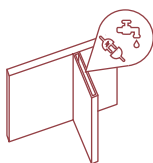
Minimizzare il numero delle tipologie degli elementi.



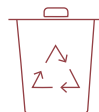
La modalità di assemblaggio degli elementi deve essere semplice da eseguire e facilmente reversibile.



Accorgimenti passivi inerenti la scelta di pacchetto performante, infissi, oscuranti e sistemi di riscaldamento e raffreddamento passivi o poco impattanti.



Utilizzo di pareti attrezzate prefabbricate nella quale sono concentrati tutti gli allacci.

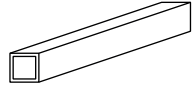


Predilezione della scelta di materiali facilmente riciclabili.

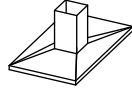
STRUTTURA - Elementi primari



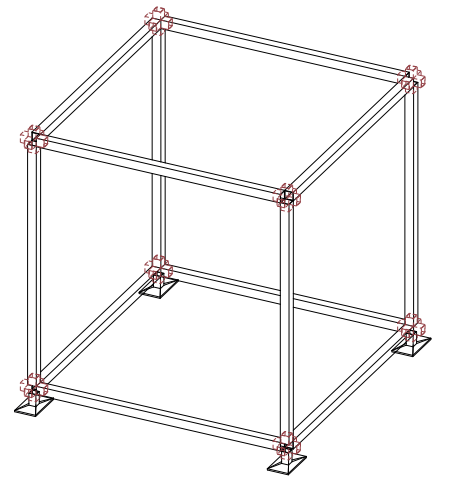
Pilastro
Tubolare in acciaio
Ø 100 mm; s 5 mm
h 3,30 m



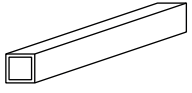
Trave
Tubolare in acciaio
Ø 100 mm; s 5 mm
h 3,30 m



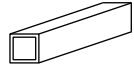
Attacco a terra
Piede di appoggio in acciaio, con altezza variabile per adattarsi al meglio al terreno



STRUTTURA - Elementi secondari



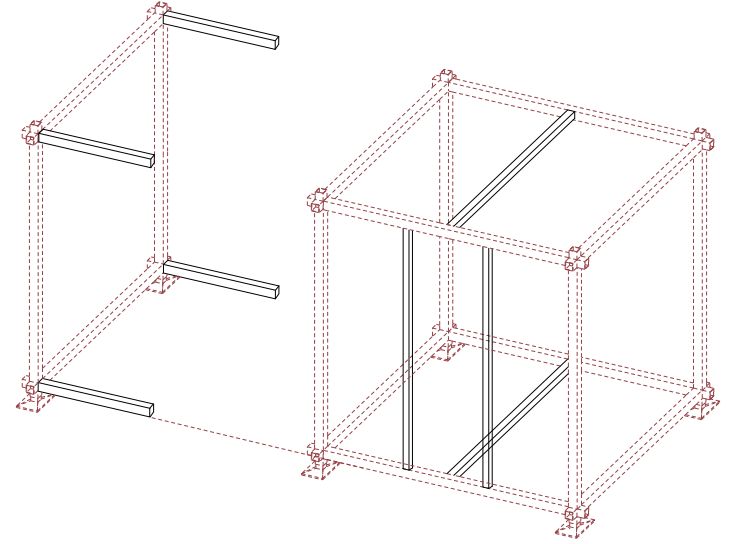
Trave secondaria
Tubolare in acciaio
Ø 80 mm; s 4 mm
h 3,30 m



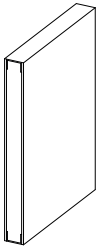
Trave - patio
Tubolare in acciaio
Ø 100 mm; s 5 mm
h 1,65 m



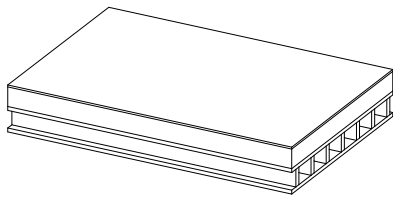
Montante - porta
Tubolare in acciaio
Ø 60 mm; s 3 mm
h 3,30 m



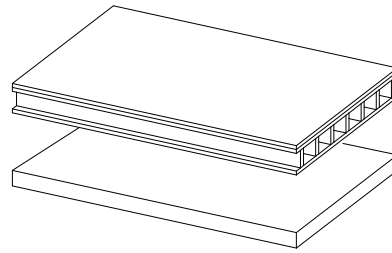
PANNELLI



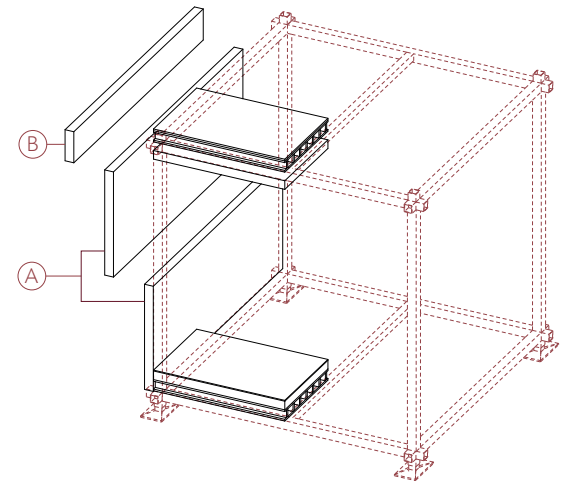
Parete esterna
Pannello prefabbricato
Tipo A: 1,40 m x 3,40 m
Tipo B: 0,50 m x 3,40 m



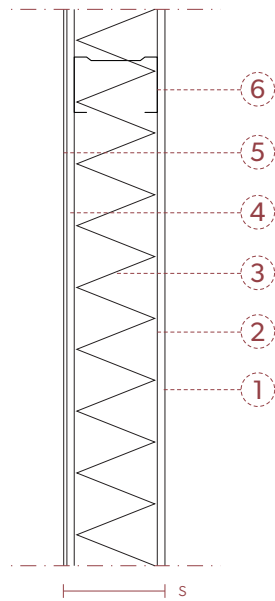
Solaio
Pannello prefabbricato
1,60 m x 1,10 m



Copertura
Pannello prefabbricato
1,60 m x 1,10 m



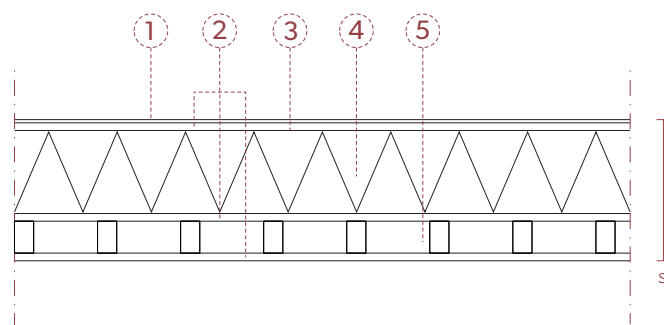
PANNELLI - Stratigrafie



Parete esterna

1. Lastra di gesso rivestito Gyproc 12,5 mm
2. Barriera al vapore
3. Isolante Gutex termoflex 140 mm
4. Lastra di OSB 3 12 mm
5. Strato di finitura esterna 7 mm
6. Profilo in acciaio sagomato a freddo a C

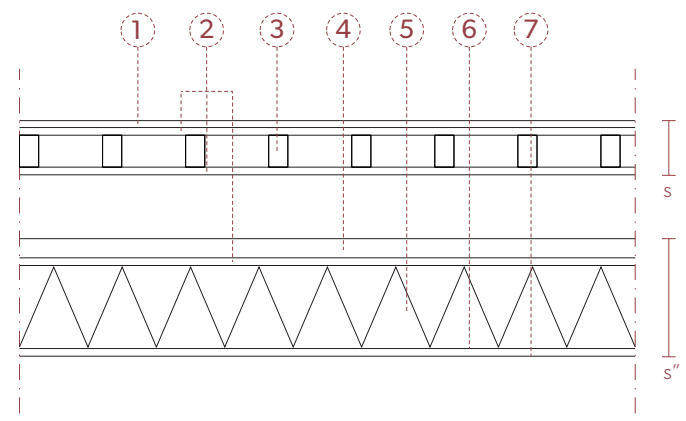
$U = 0,24 \text{ W/m}^2\text{K}$ $R = 4,21 \text{ m}^2\text{K/W}$
 $s = 171 \text{ mm}$



Solaio

1. Strato di finitura interna 7 mm
2. Lastra di OSB 4 12 mm
3. Barriera al vapore
4. Isolante Gutex termoflex 120 mm
5. Travetti di legno xlam 50x30 mm

$U = 0,25 \text{ W/m}^2\text{K}$ $R = 3,98 \text{ m}^2\text{K/W}$
 $s = 218 \text{ mm}$



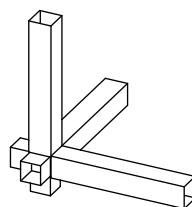
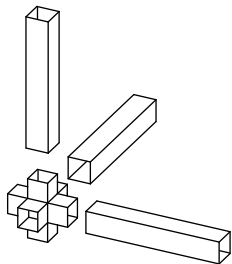
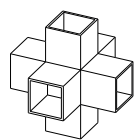
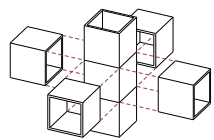
Copertura

1. Strato di finitura esterna 10 mm
2. Lastra di OSB 4 12 mm
3. Travetti di legno xlam 60x30 mm
4. Profilo in acciaio sagomato a freddo a U
5. Isolante Gutex termoflex 140 mm
6. Barriera al vapore
7. Lastra di gesso rivestito Gyproc 12,5 mm

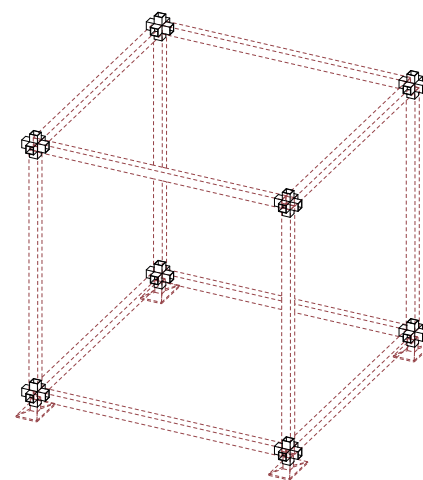
$U = 0,22 \text{ W/m}^2\text{K}$ $R = 4,56 \text{ m}^2\text{K/W}$
 $s' = 100 \text{ mm}; s'' = 172 \text{ mm}$

GIUNZIONI

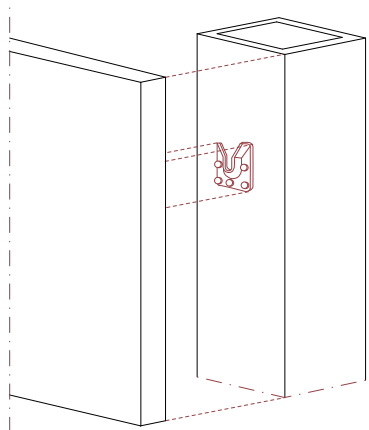
Tra elementi strutturali



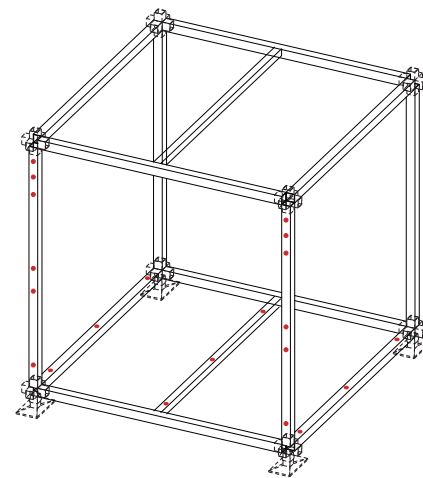
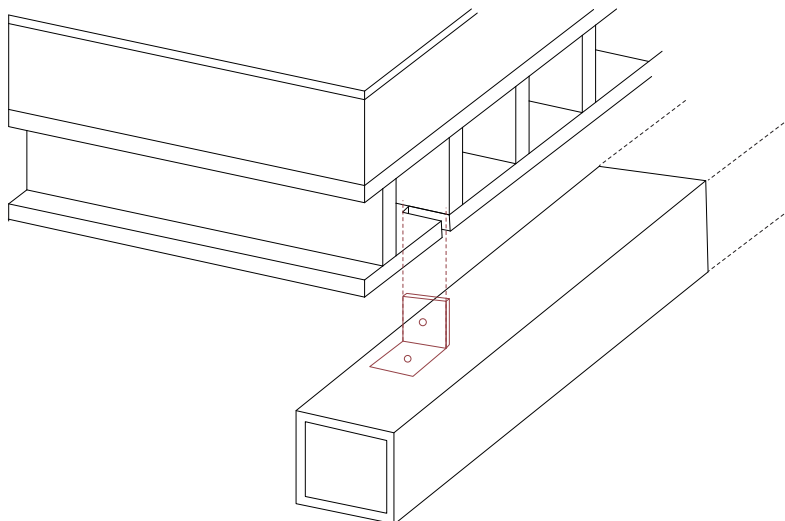
Giunto metallico



Tra struttura e pannelli esterni

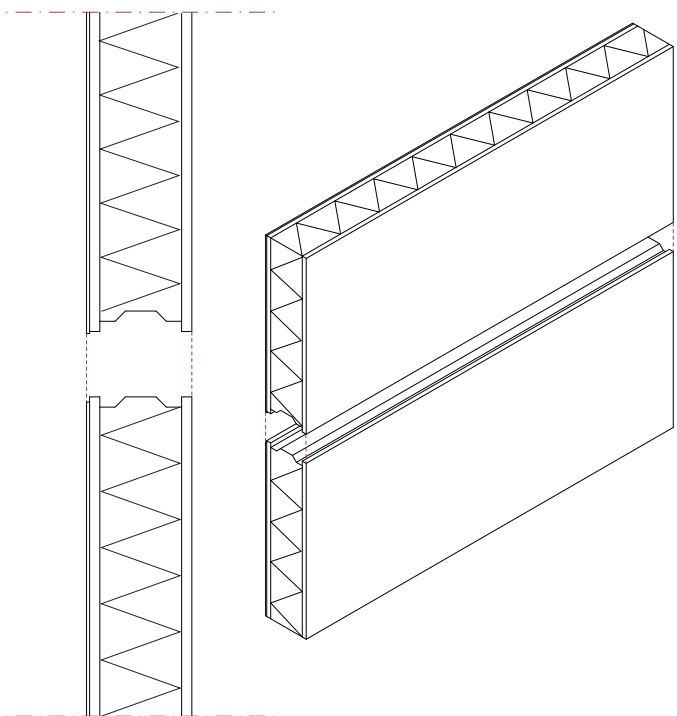


Tra struttura e solaio - tra struttura e copertura

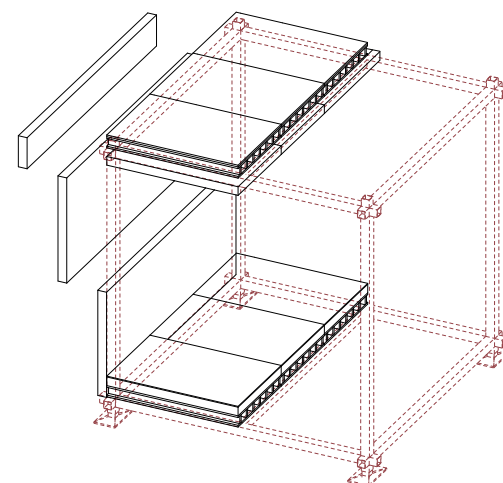
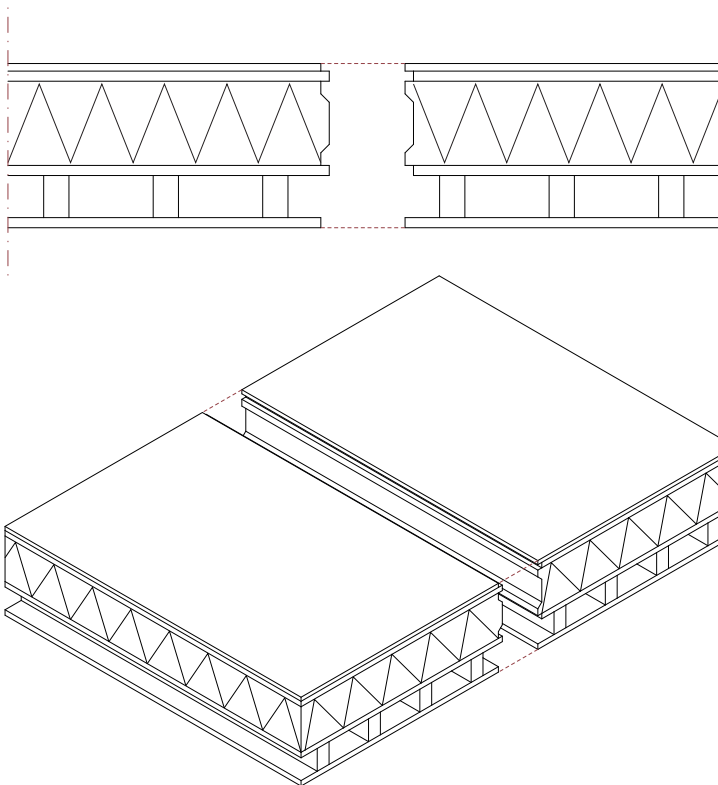


INCASTRI

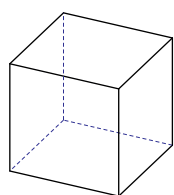
Tra moduli dei pannelli esterni



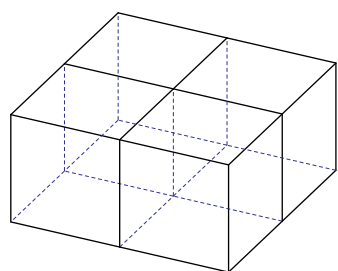
Tra moduli del solaio - tra moduli della copertura



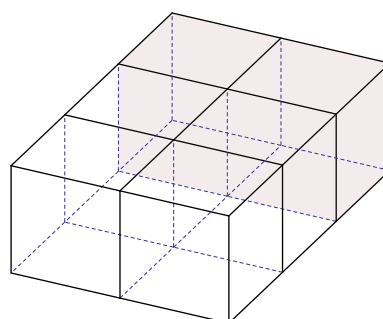
MODULARITÀ



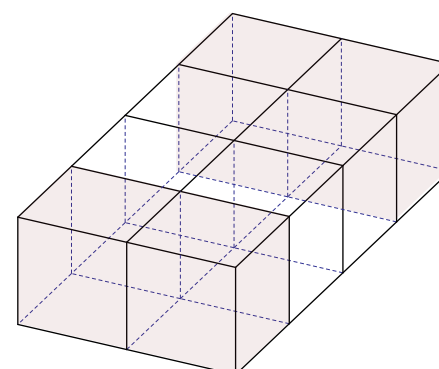
Cellula base
3,30 x 3,30 m



Modulo base x 2
6,60 x 6,60 m



Modulo base x 4
6,60 x 9,90 m



Modulo base x 6
6,60 x 13,2 m

COMPOSIZIONE

Necessità

- comfort abitativo
- massima flessibilità

Caratteristiche



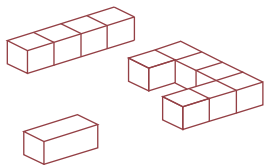
Accorgimenti passivi per ventilazione naturale e ombreggiamento dei locali esposti a sud



Ottenere differenti configurazioni in base alla grandezza del nucleo familiare

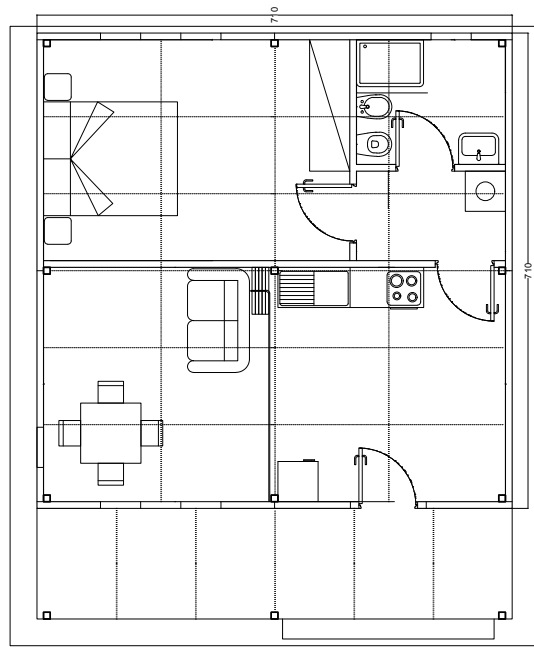


Garantire la possibilità di espansioni successive seguendo delle direttrici di sviluppo.








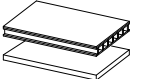

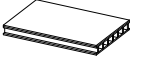



Garantire attraverso l'aggregazione di moduli base la possibilità di sviluppare più tipologie abitative in grado di rispondere alle diverse caratteristiche di contesto e densità

UNITÀ ABITATIVA - A 47 mq - 1/2 persone

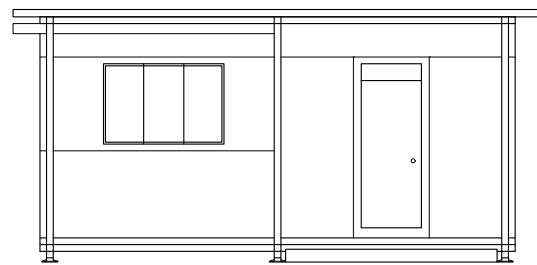
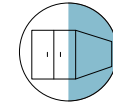
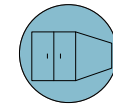


PIANTA scala 1:100

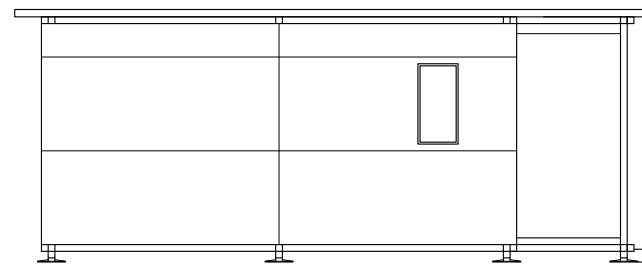
- | | |
|--|--|
|  Pilastro x 12 |  Giunti x 24 |
|  Trave x 28 |  Pannelli pareti esterne x 24 |
|  Attacco a terra x 12 |  Pannelli solaio x 24 |
|  Travi secondarie x 8 |  Pannelli copertura x 24 |
|  Travi patio x 6 |  Pannelli patio x 12 |
|  Montanti porta x 2 | |

Conteggio degli elementi

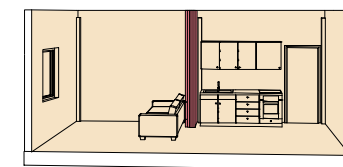
Volume 45 m³



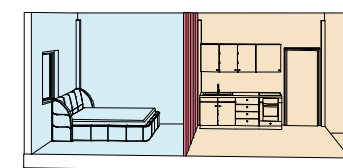
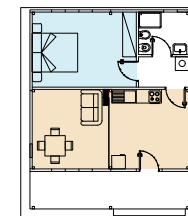
PROSPETTO SUD



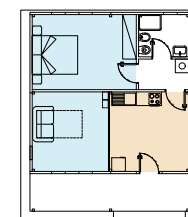
PROSPETTO OVEST



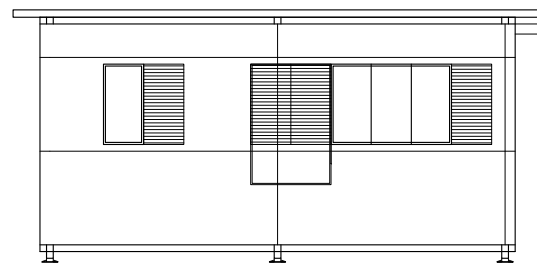
OPZIONE 1



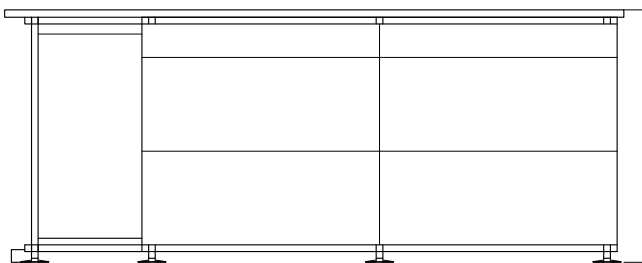
OPZIONE 2



Possibili layout - parete mobile

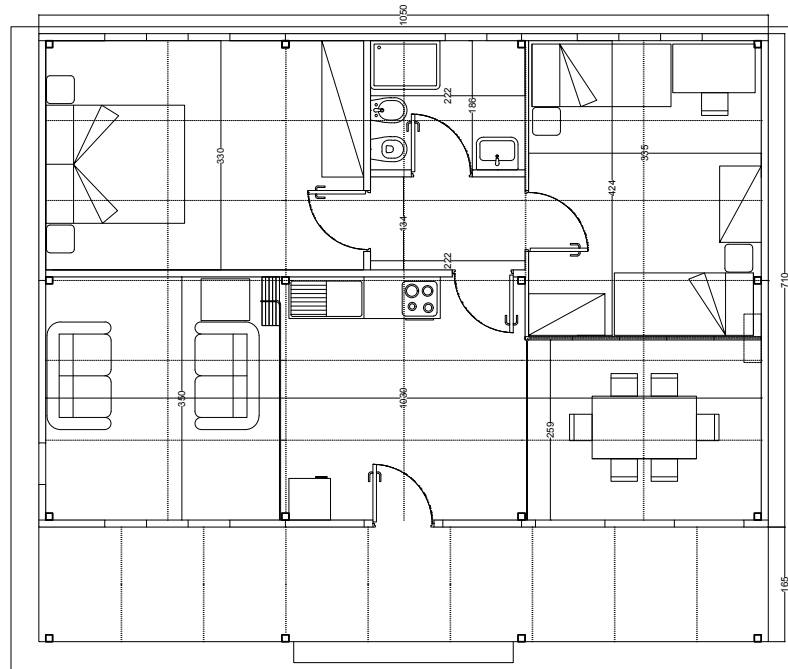


PROSPETTO NORD






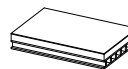

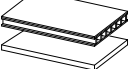





PROSPETTO EST

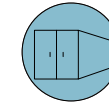
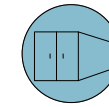
UNITÀ ABITATIVA - B 71 mq - 3/4 persone



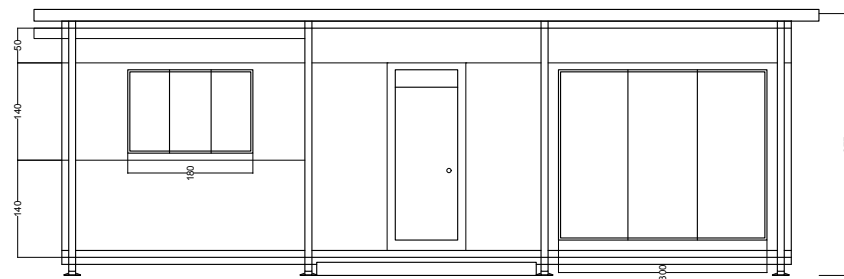
PIANTA scala 1:100

- | | | | |
|---|-----------------------|---|------------------------------|
|  | Pilastro x 16 |  | Giunti x 32 |
|  | Trave x 40 |  | Pannelli pareti esterne x 30 |
|  | Attacco a terra x 16 |  | Pannelli solaio x 36 |
|  | Travi secondarie x 12 |  | Pannelli copertura x 36 |
|  | Travi patio x 8 |  | Pannelli patio x 18 |
|  | Montanti porta x 2 | | |

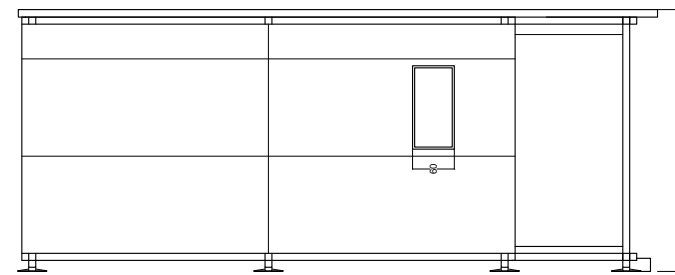
Volume 62 m³



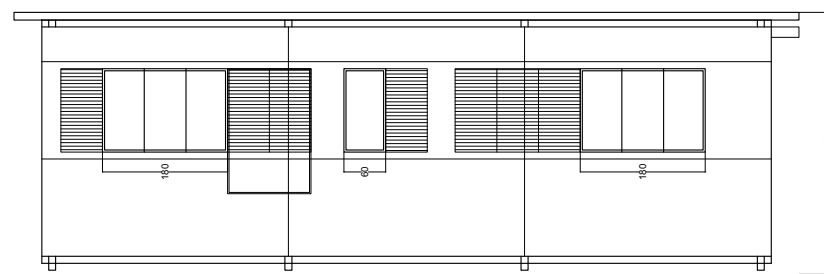
Conteggio degli elementi



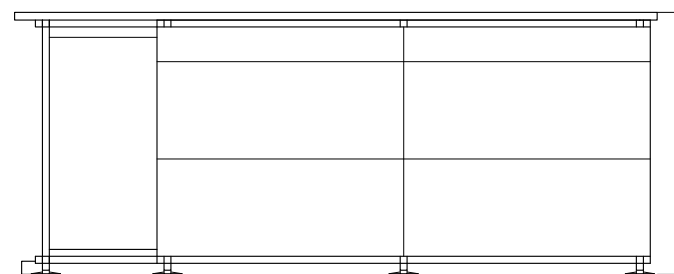
PROSPETTO SUD



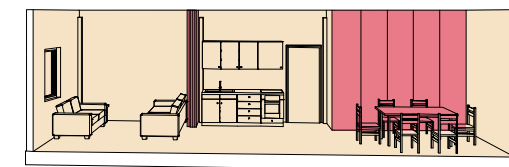
PROSPETTO OVEST



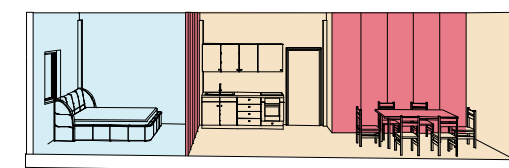
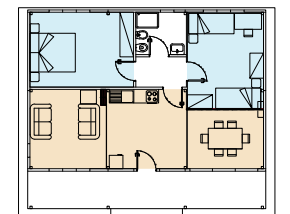
PROSPETTO NORD



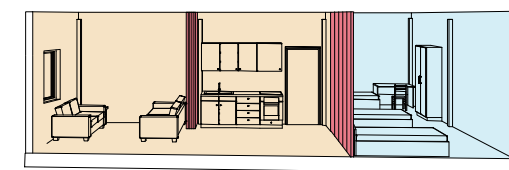
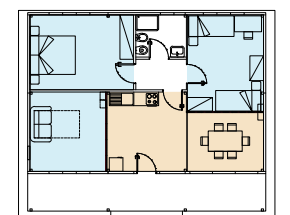
PROSPETTO EST



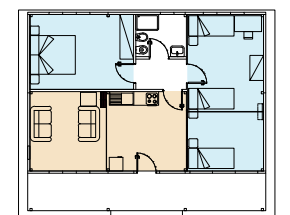
OPZIONE 1



OPZIONE 2

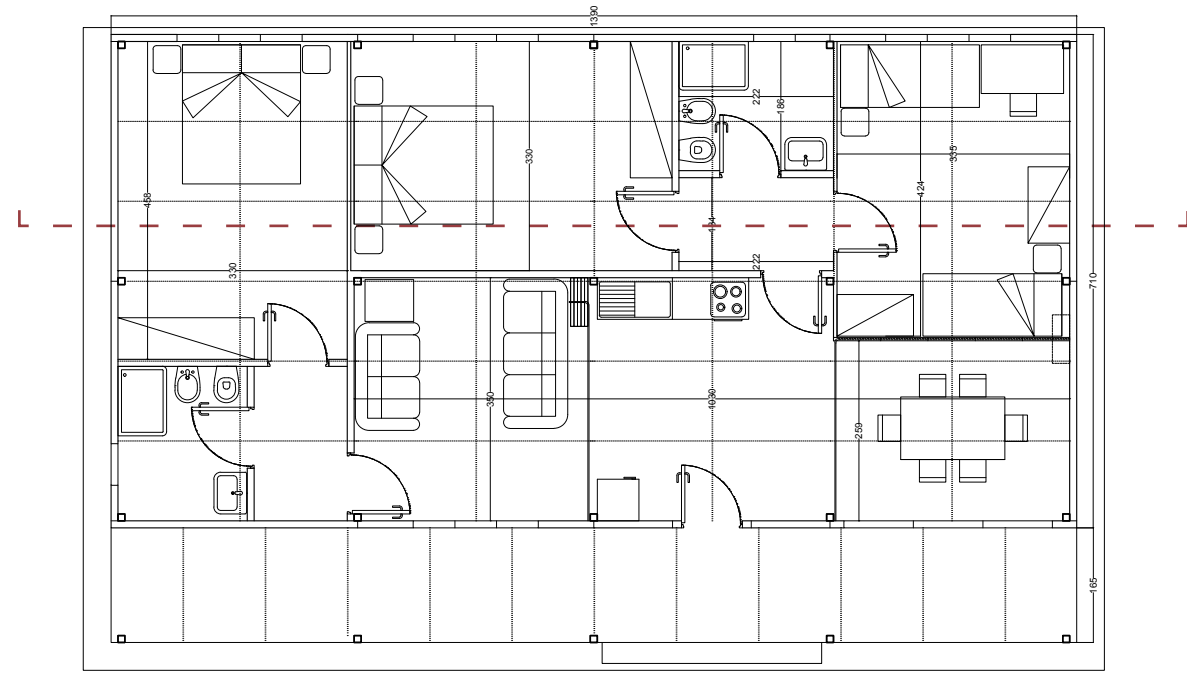


OPZIONE 3



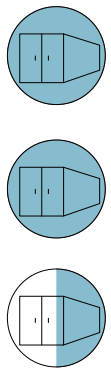











Possibili layout - parete mobile

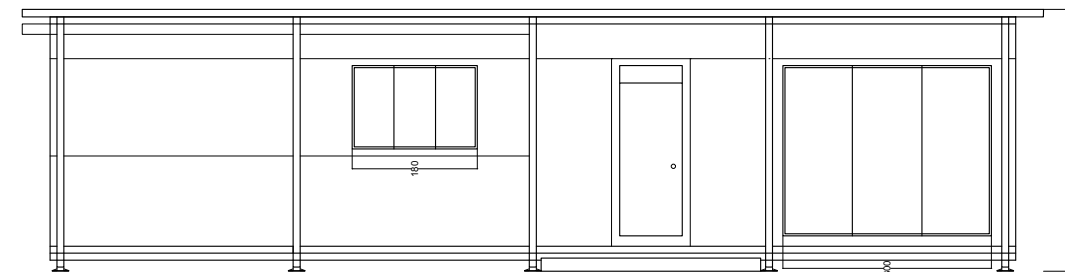
UNITÀ ABITATIVA - C 94 mq - 5/6 persone



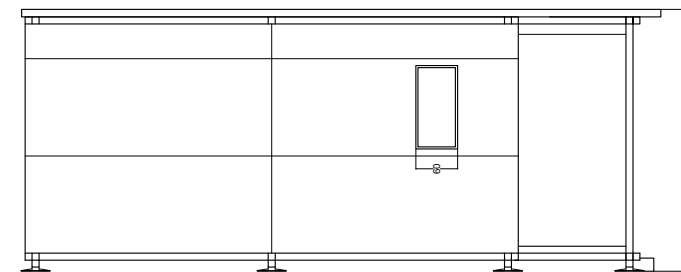
PIANTA scala 1:100

- | | | |
|---|--|---|
|  Pilastro x 20 |  Giunti x 40 | Volume 82 m³
 |
|  Trave x 52 |  Pannelli pareti esterne x 36 | |
|  Attacco a terra x 20 |  Pannelli solaio x 48 | |
|  Travi secondarie x 16 |  Pannelli copertura x 48 | |
|  Travi patio x 10 |  Pannelli patio x 24 | |
|  Montanti porta x 2 | | |

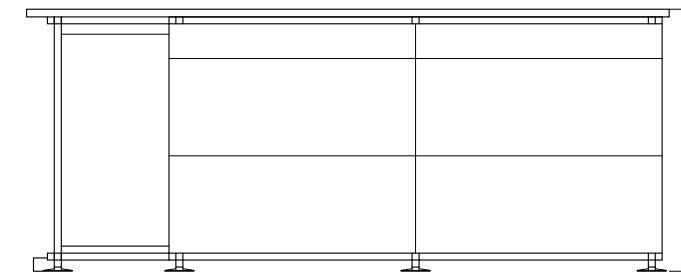
Conteggio degli elementi



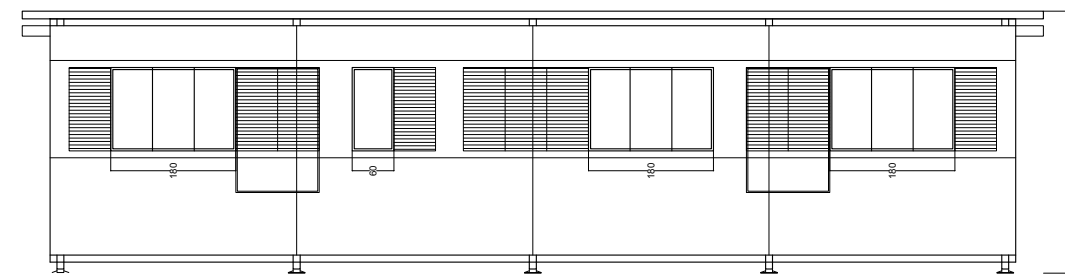
PROSPETTO SUD



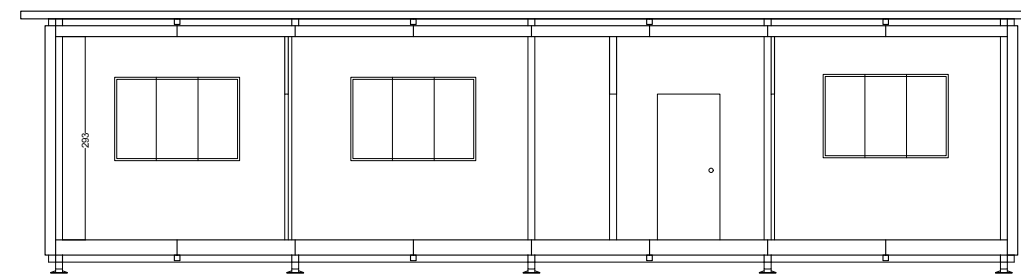
PROSPETTO OVEST



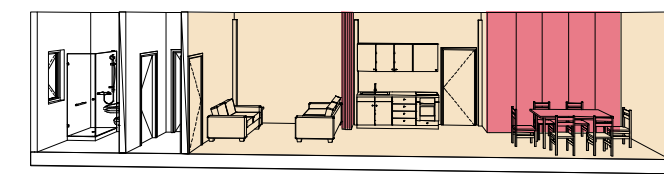
PROSPETTO EST



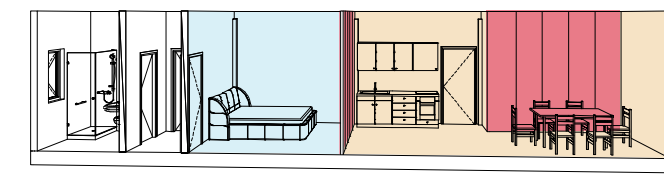
PROSPETTO NORD



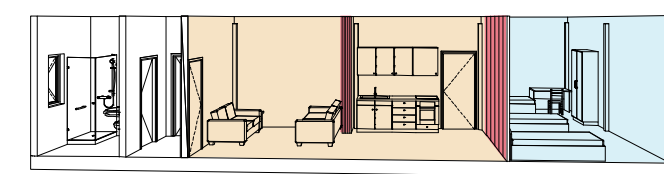
SEZIONE



OPZIONE 1

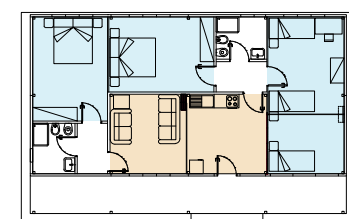
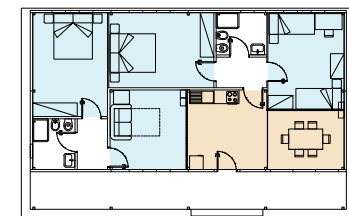
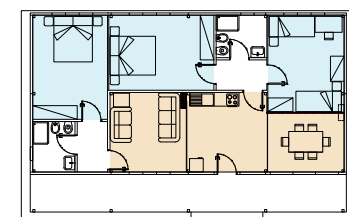


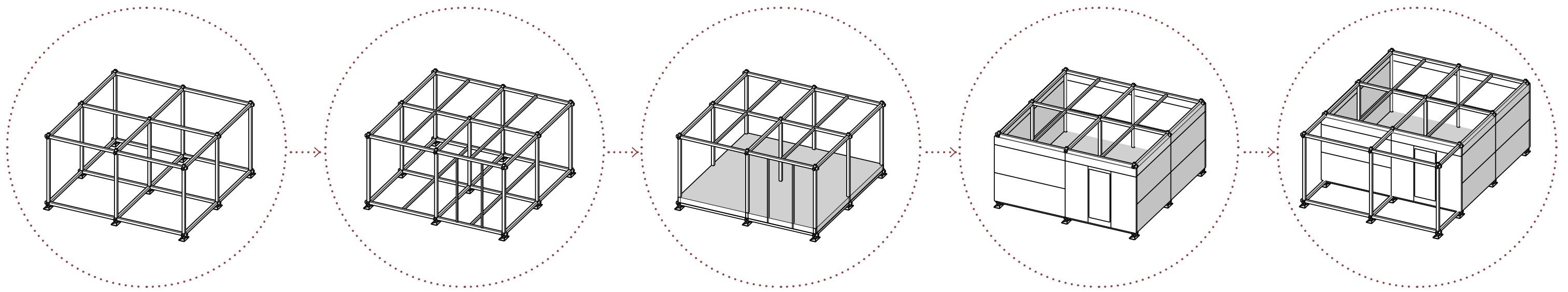
OPZIONE 2



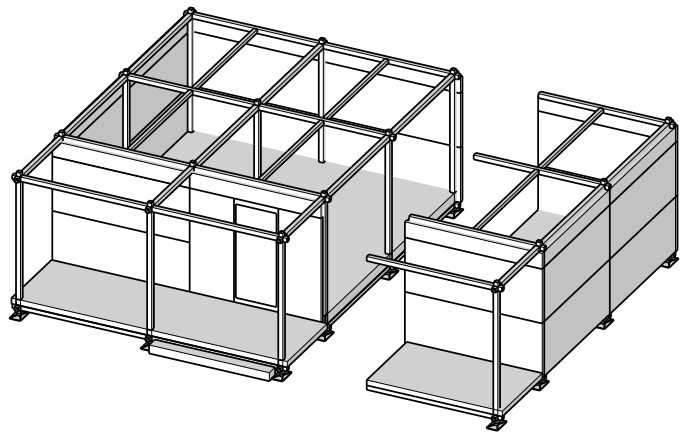
OPZIONE 3

Possibili layout - parete mobile

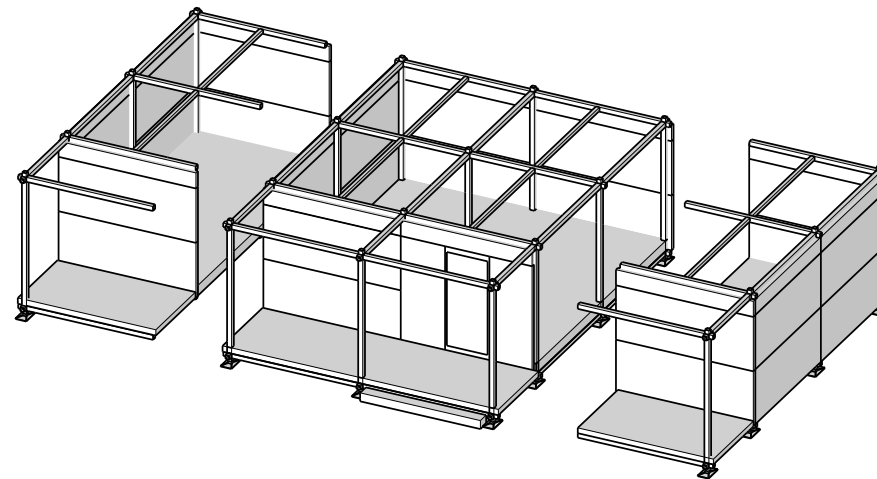




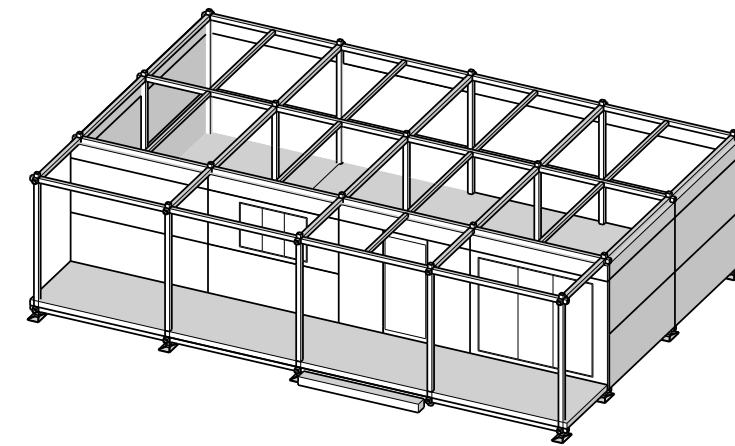
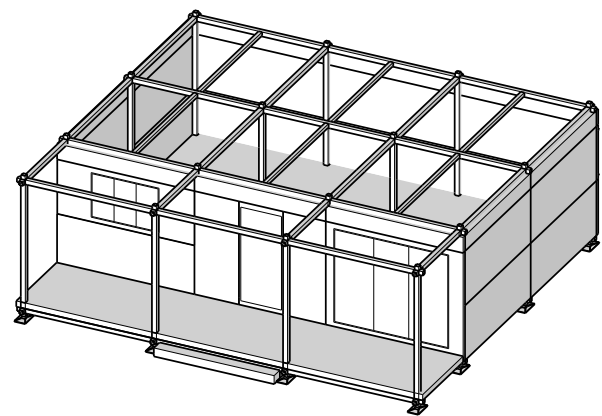
Sequenza degli elementi che compongono il **modulo abitativo A**



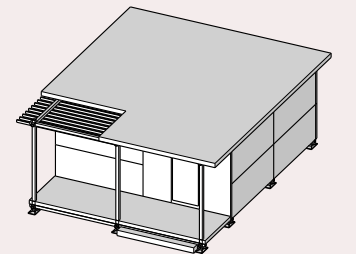
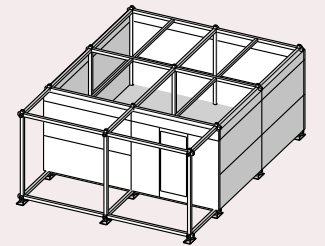
Modulo abitativo B



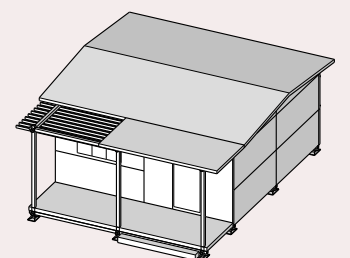
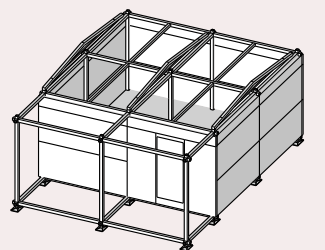
Modulo abitativo C



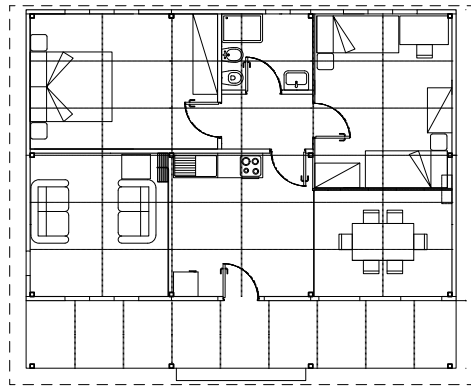
Tetto piano











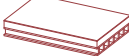


Tetto a falde



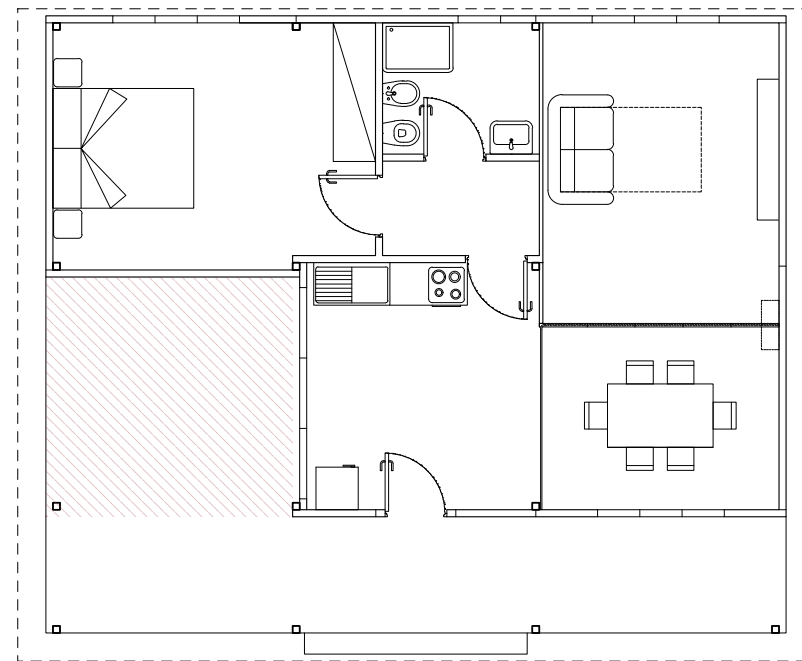
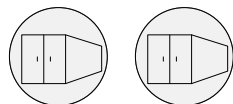
Unità abitativa B



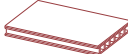
Pacchetto base di elementi di cui è composta

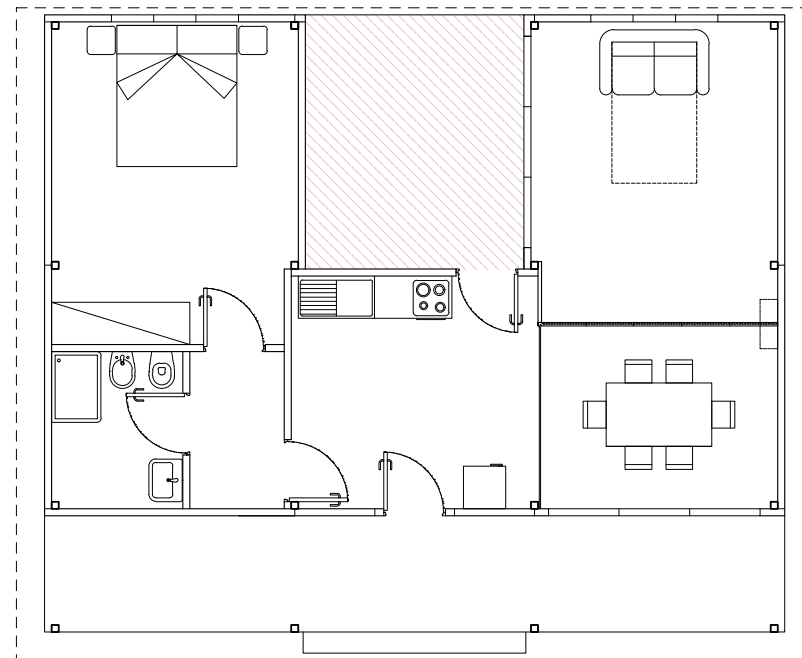
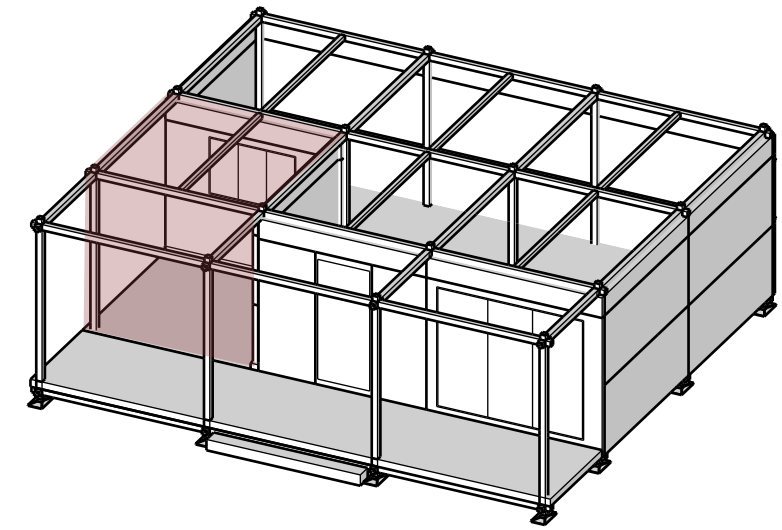
-  Pilastro x 16
-  Trave x 40
-  Attacco a terra x 16
-  Travi secondarie x 12
-  Travi patio x 8
-  Montanti porta x 2
-  Giunti x 32
-  Pannelli pareti esterne x 30
-  Pannelli solaio x 36
-  Pannelli copertura x 36
-  Pannelli patio x 18

Volume 62 m³

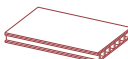


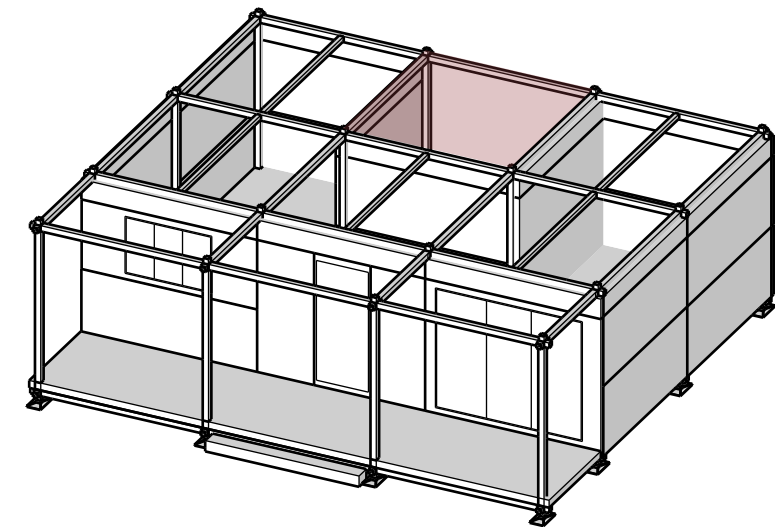
Unità abitativa alternativa B01 - scala 1:100

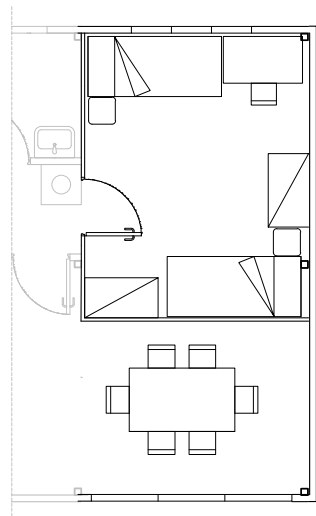
Pacchetto base +  Pannelli patio x 12



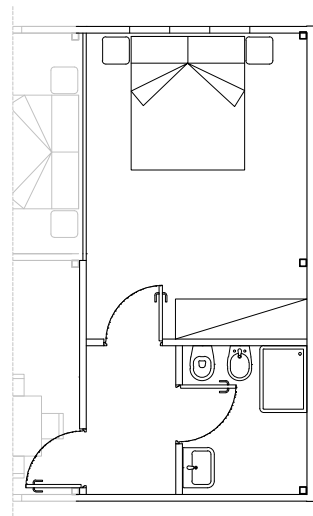
Unità abitativa alternativa B02 - scala 1:100

Pacchetto base +  Pannelli patio x 12

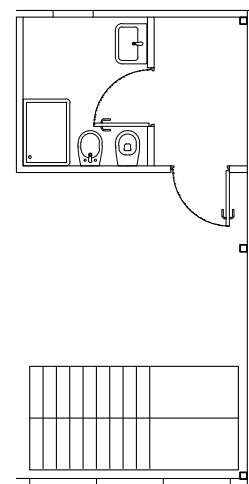




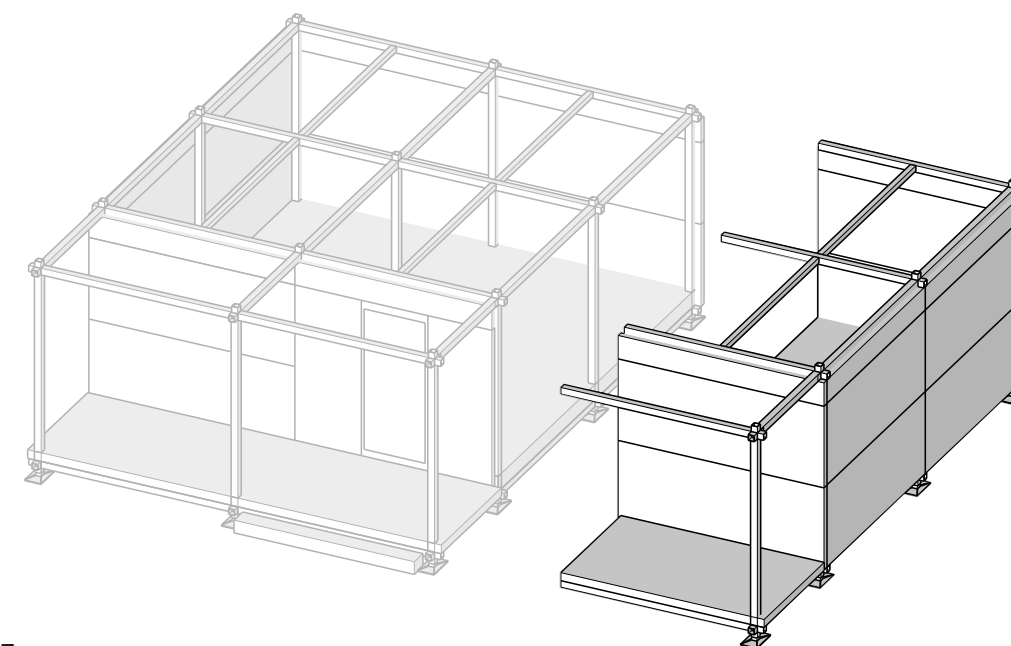
Camera doppia
+
Soggiorno



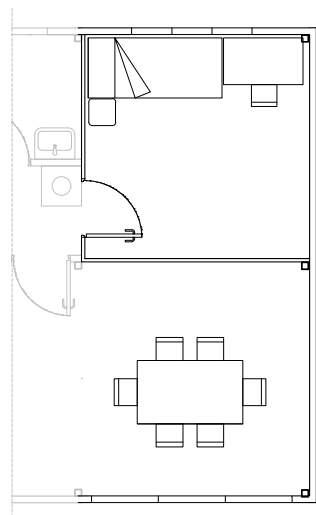
Camera doppia
+
Bagno



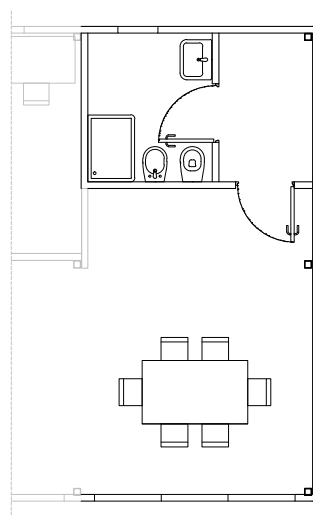
Scale
+
Bagno










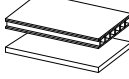

Espansione tipo
Modulo Base

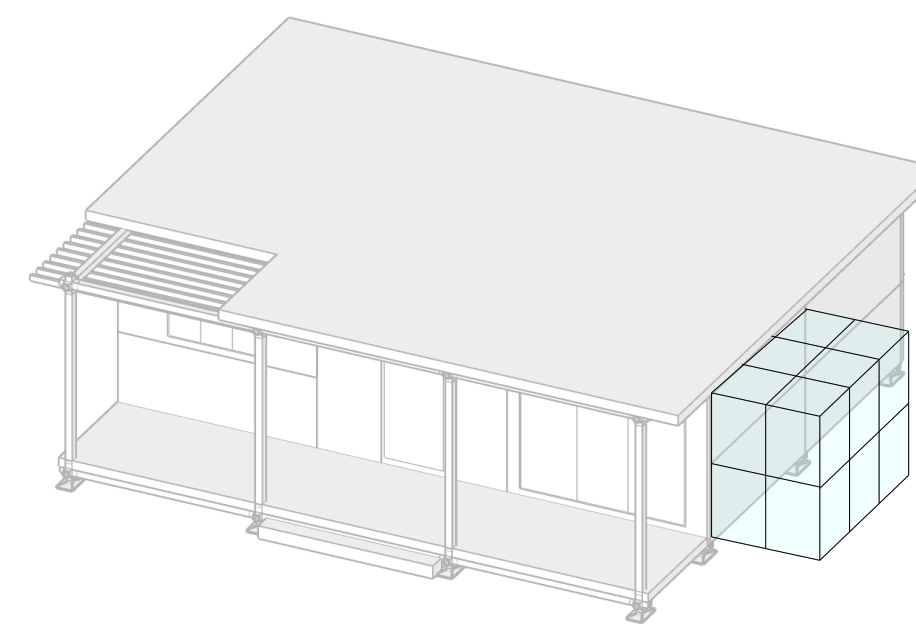


Camera singola
+
Soggiorno



Bagno
+
Soggiorno

-  Pilastro x 3
-  Trave x 10
-  Attacco a terra x 3
-  Travi secondarie x 6
-  Giunti x 6
-  Pannelli pareti esterne x 6
-  Pannelli solaio x 12
-  Pannelli copertura x 12
-  Volume 18 m³



Serra Bioclimatica

INSEDIAMENTO

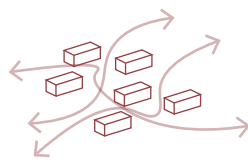
Necessità

- garantire una buona accessibilità all'area
- garantire la socialità e stimolare il rapporto di vicinato
- comfort abitativo
- espansioni successive
- accessi e circolazione interna

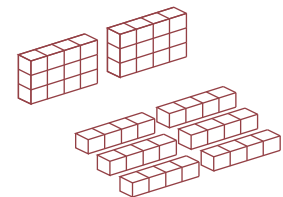
Caratteristiche



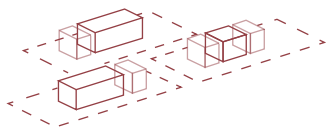
Progettazione di spazi per la collettività e servizi alla persona



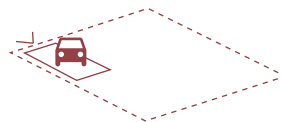
Garantire una disposizione e un orientamento delle unità abitative tali da fornire privacy, ventilazione e ombreggiamento



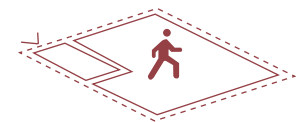
Modulare la composizione delle unità abitative in base alla densità, in modo da creare diverse tipologie di insediamento



Predisposizione di aree specifiche che seguano le direttrici di espansione delle unità abitative



Predisposizione di un'area destinata a parcheggi laterale all'insediamento

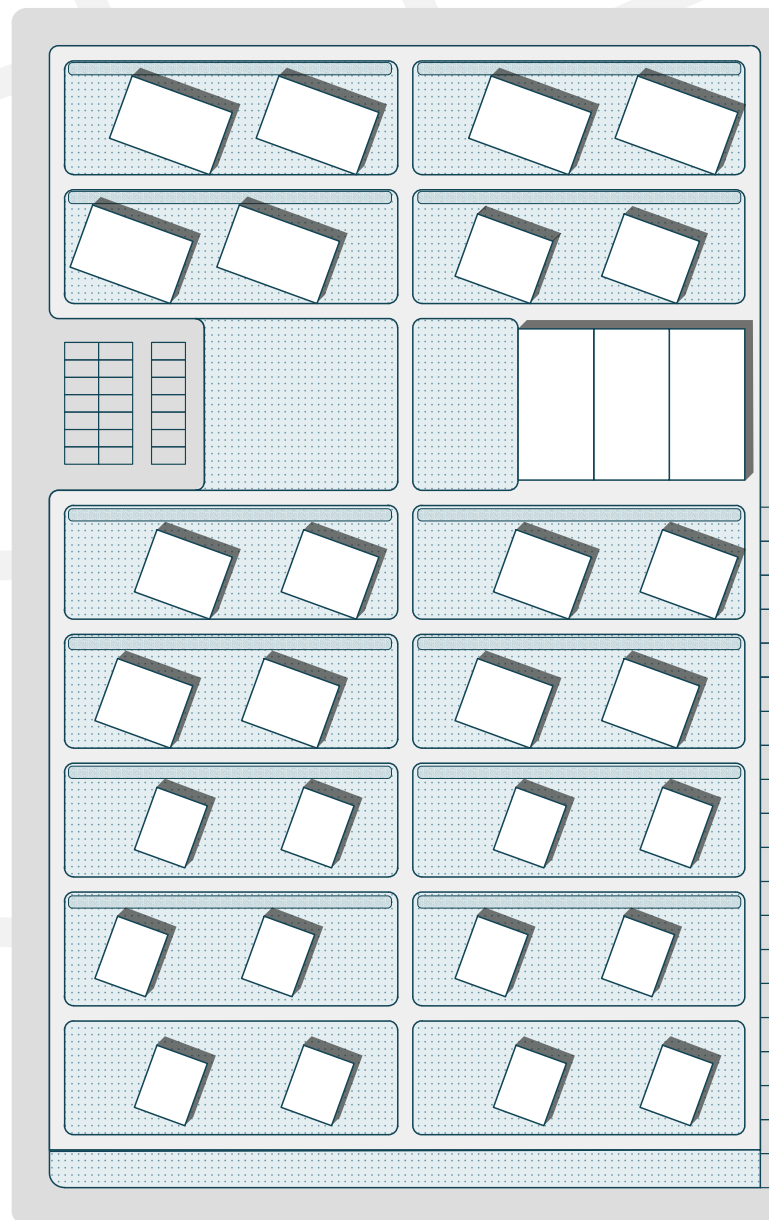


Garantire la sola circolazione pedonale all'interno dell'area

TIPOLOGIA DI INSEDIAMENTO A

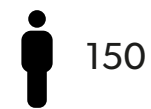


100

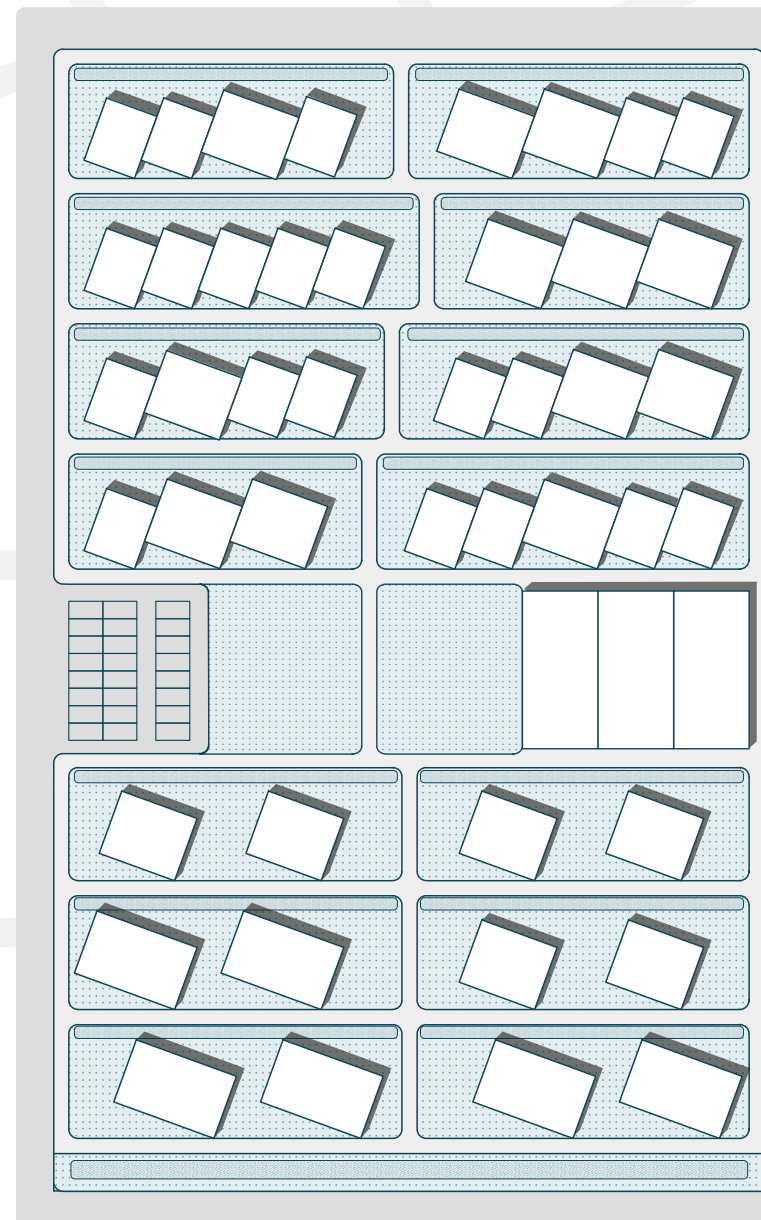


Area: 15 000 m²
Abitanti insediati: 100
Posti auto: 40
Verde attrezzato: 880 m²
Spazi per la comunità: 600 m²

TIPOLOGIA DI INSEDIAMENTO B

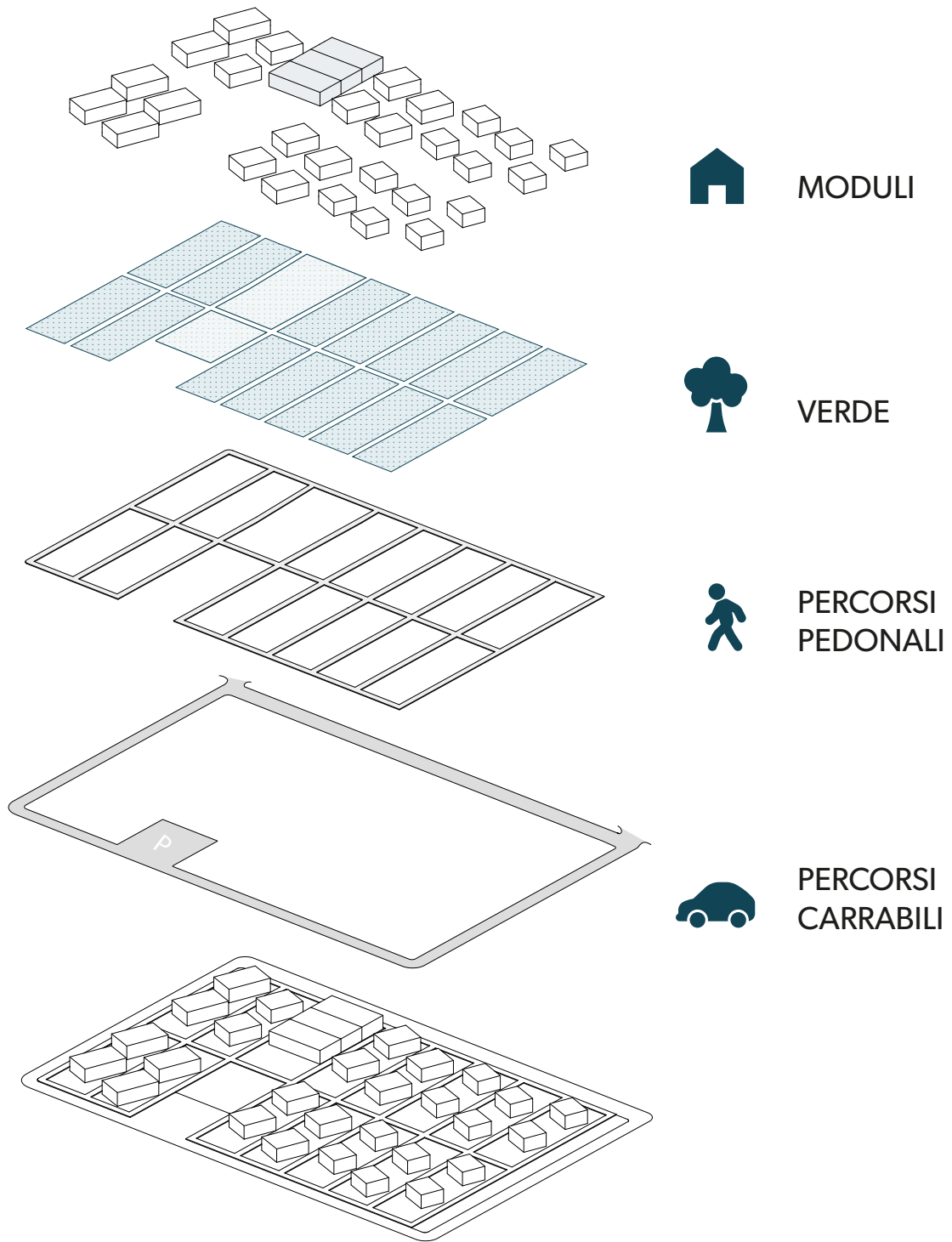


150



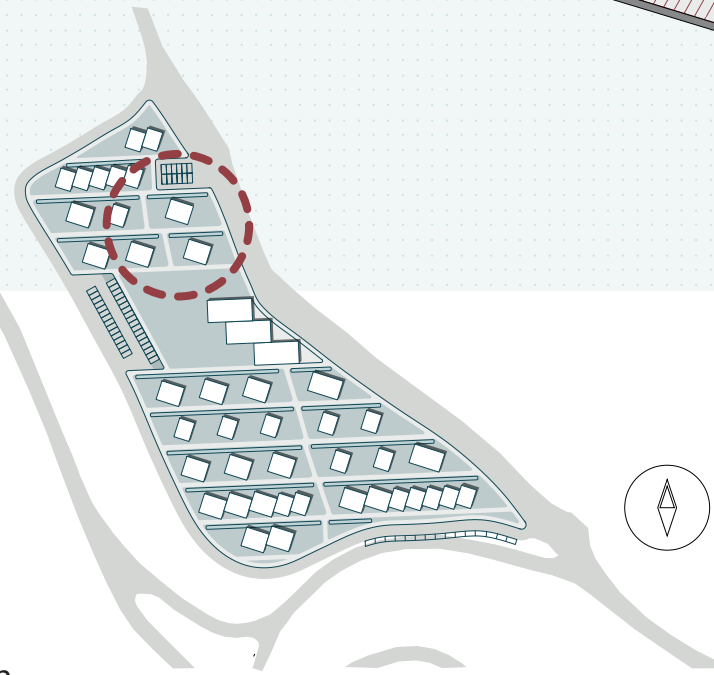
Area: 15 000 m²
Abitanti insediati: 150
Posti auto: 55
Verde attrezzato: 950 m²
Spazio comune coperto: 700 m²





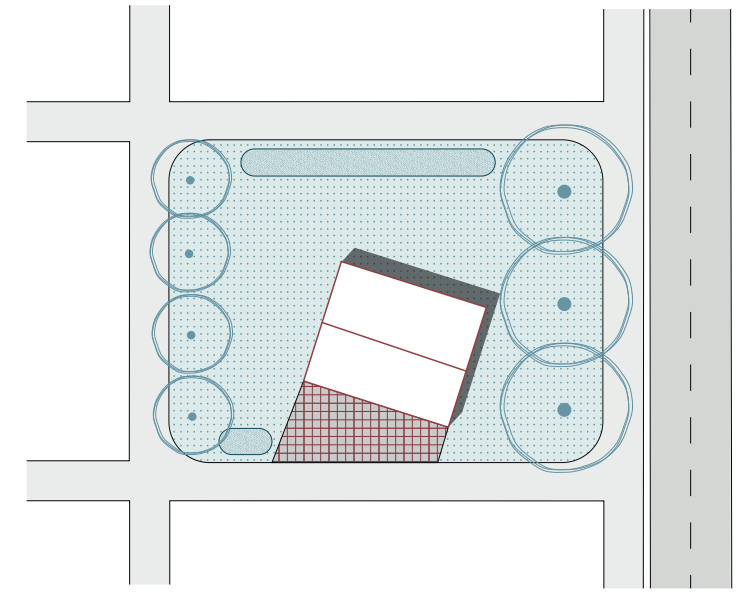


Vista assonometrica

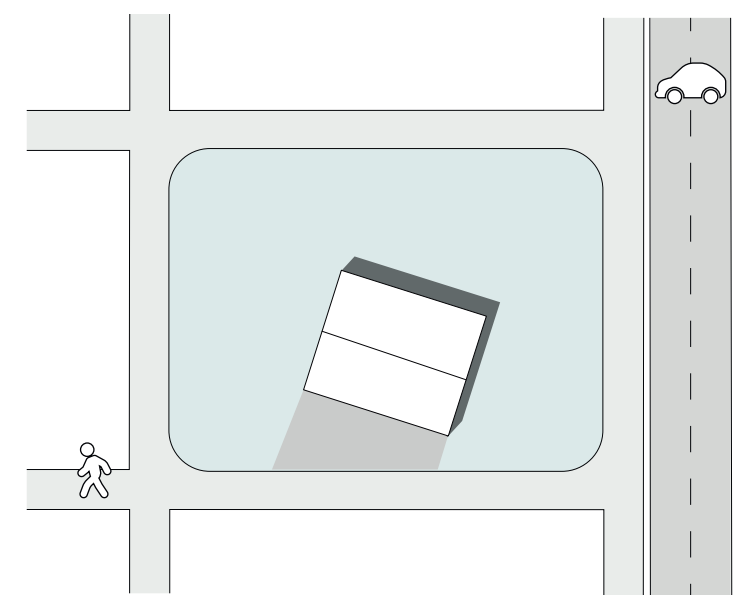


Keyplan

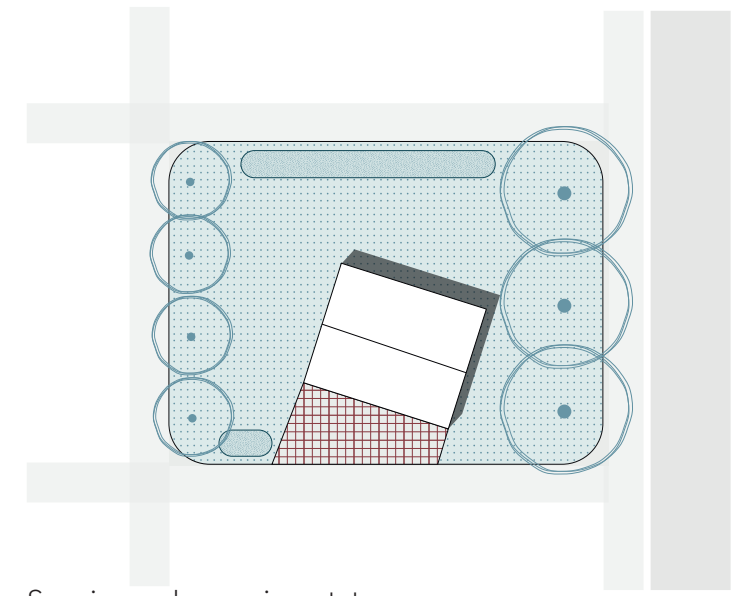
Schema del modulo all'interno del lotto



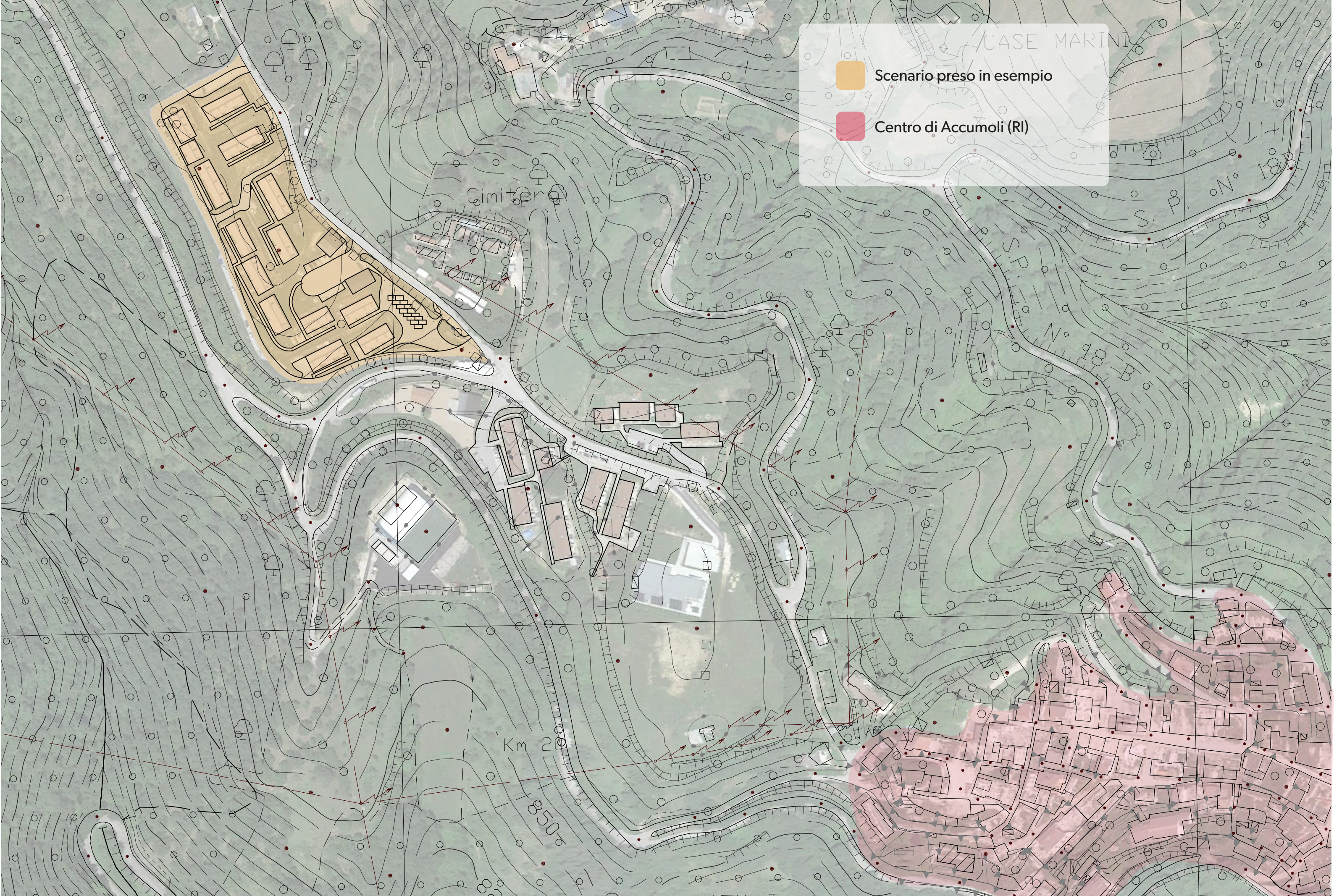
Planivolumetrico



Viabilità pedonale e carrabile



Spazio verde - pavimentato



CASE MARINI

- Scenario preso in esempio
- Centro di Accumoli (RI)

Cimitero

Km 200

850



SCENARIO PRESO IN ESEMPIO ACCUMOLI (RI)



Area: 17 000 m²
Abitanti insediati: 124
Posti auto: 60
Verde attrezzato: 0 m²
Spazio comune coperto: 0 m²



INSEDIAMENTO CONTESTUALIZZATO NELLO SCENARIO

 124

Area: 17 000 m²
Abitanti insediati: 124
Posti auto: 60
Verde attrezzato: 1 700 m²
Spazio comune coperto: 600 m²

