IX CBDEH

CONGRESSO BRASILEIRO PARA O DESENVOLVIMENTO DO EDIFÍCIO HOSPITALAR

CONEXÃO E DIVERSIDADE NOS ESPAÇOS DE SAÚDE

Lógica proyectual

CELLA
ESTUDIO DE
ARQUITECTURA


MISIONES


Iguauzu
Parana
PARAGUAY
Santa catarina
Capioví
Jardín América
Posadas
L.N. Alem
Rio Grande

Temas:

Uso de tecnologías apropiadas

Flexibilidad proyectual

Crecimiento indeterminado

Incremento de los espacios intermedios

Recuperación de la profundidad de la fachada

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ARQUITECTURA

Proyectos

Covid 19 - Unidades Sanitarias Complementarias

Hospital Regional Alem

Hospital Zonal Jardín America

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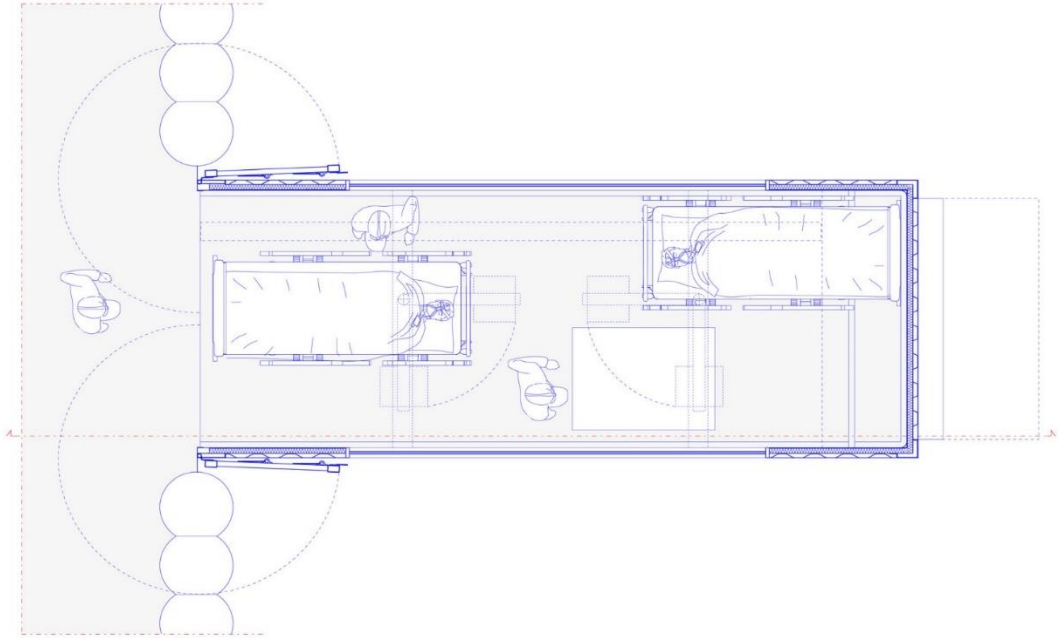
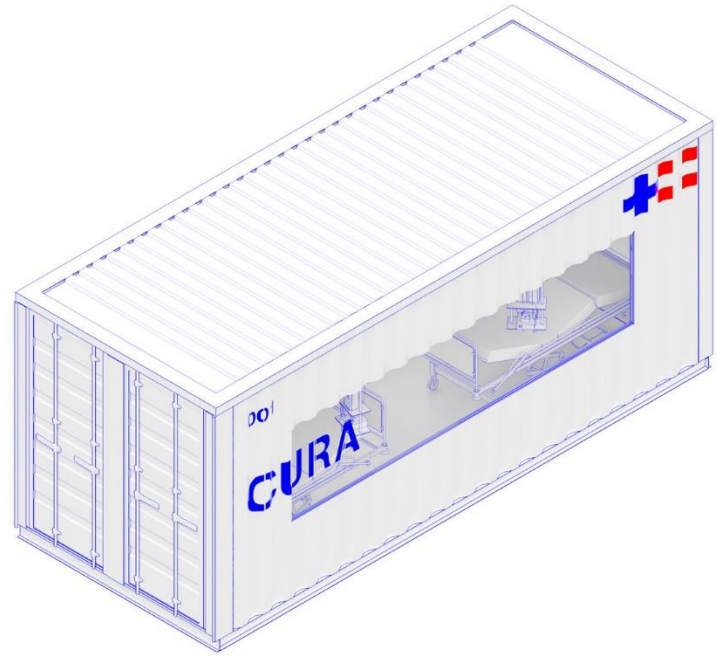
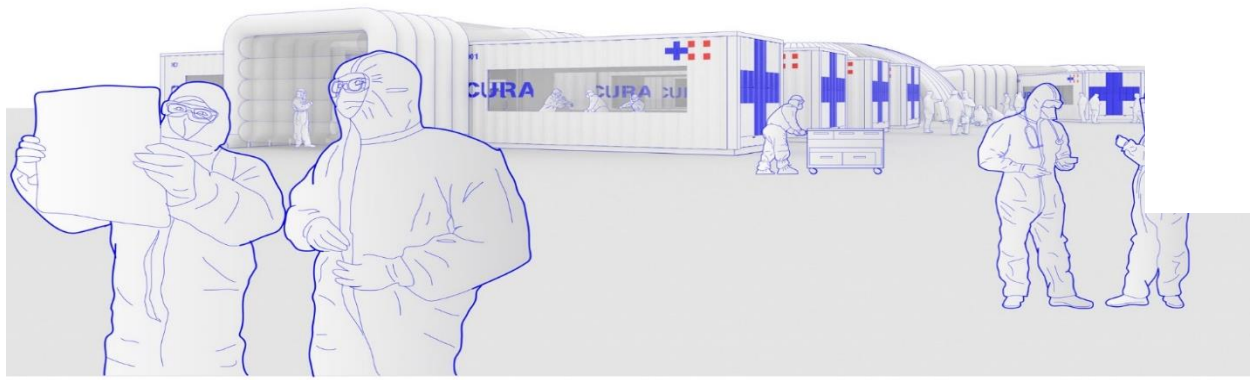
ARQUITECTURA







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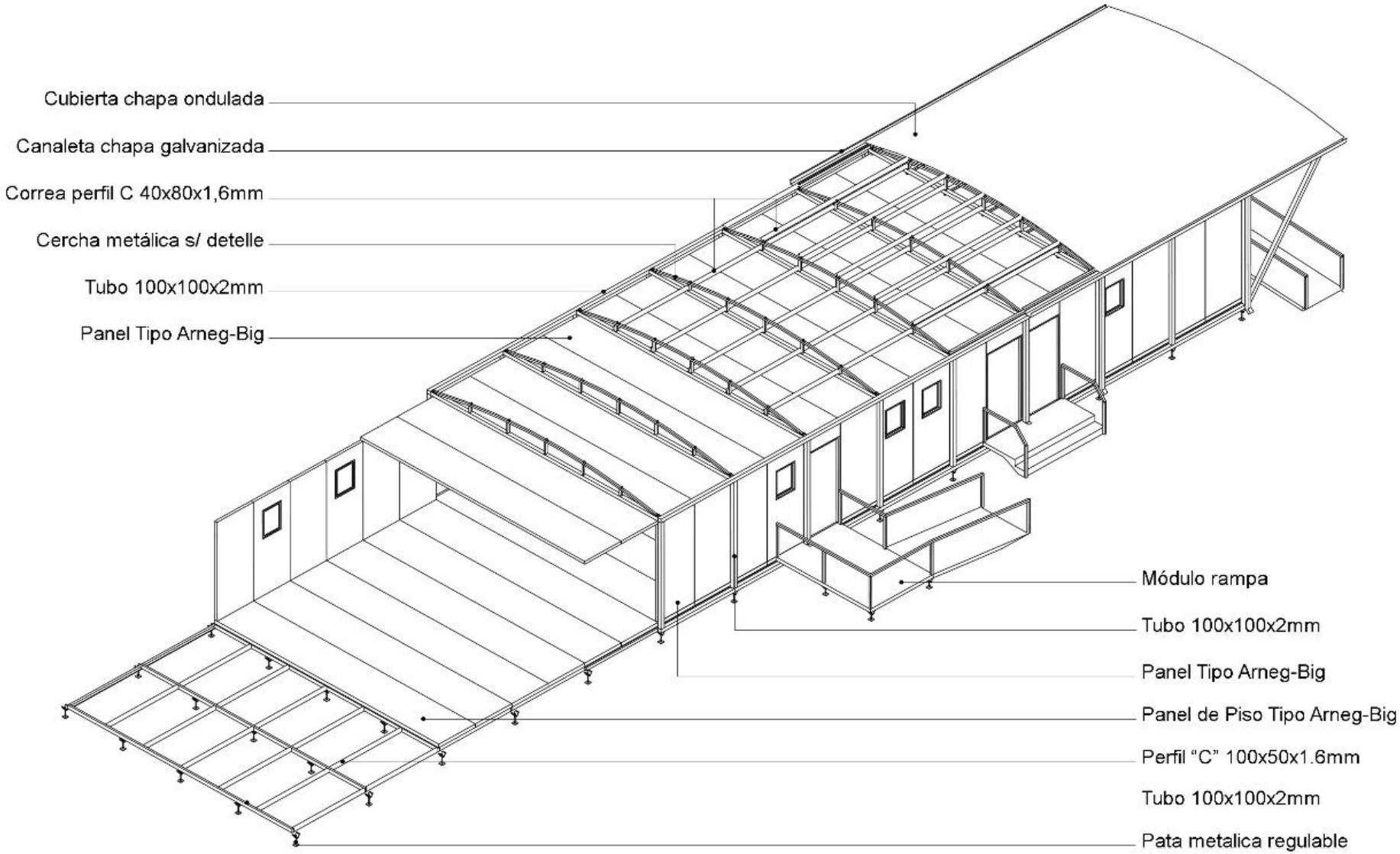

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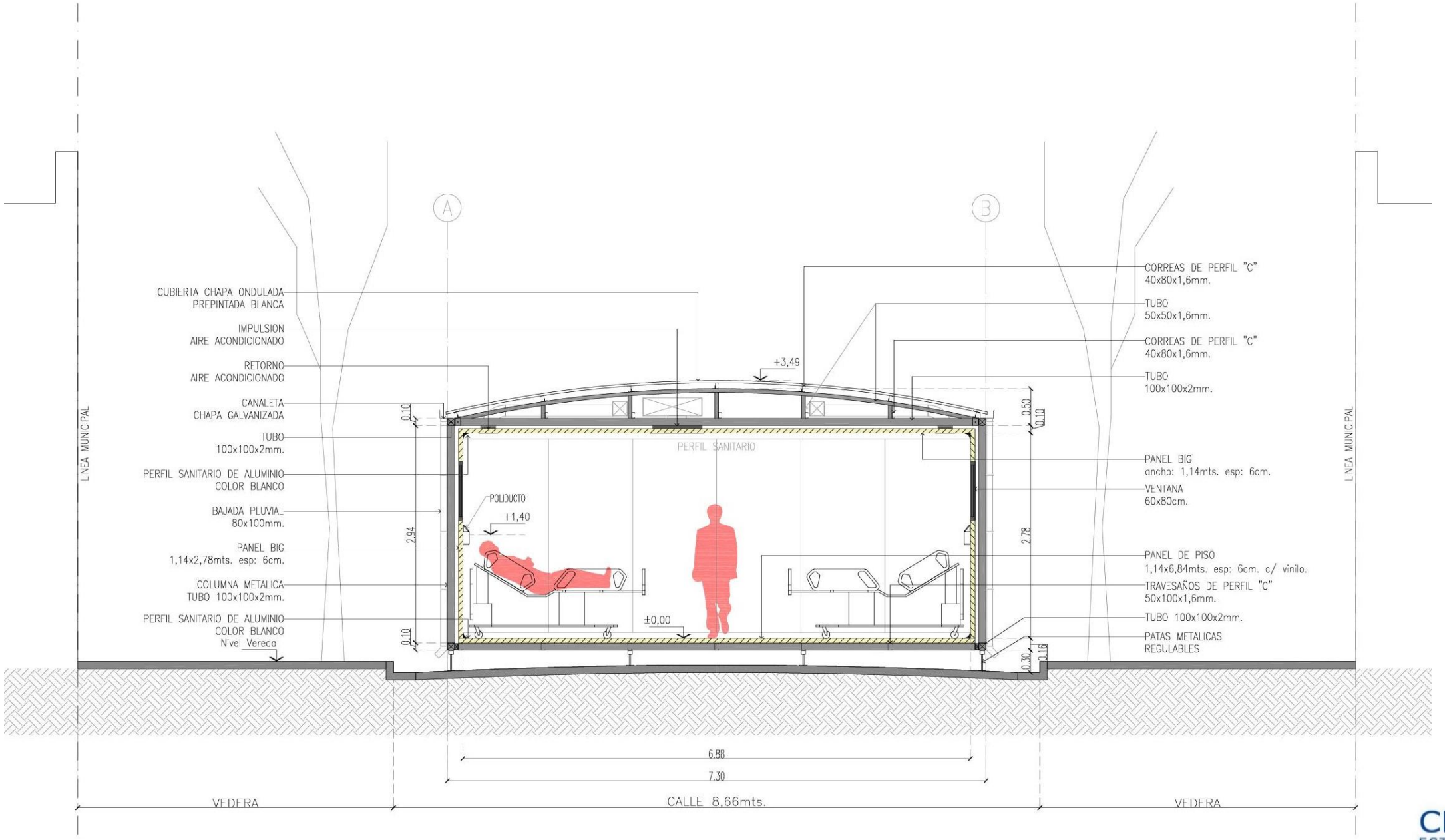

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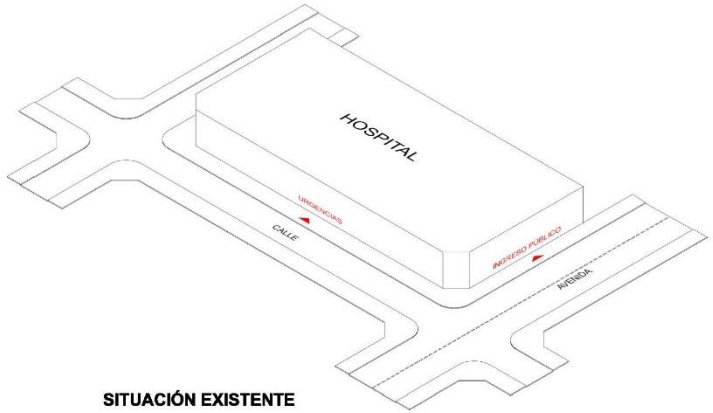
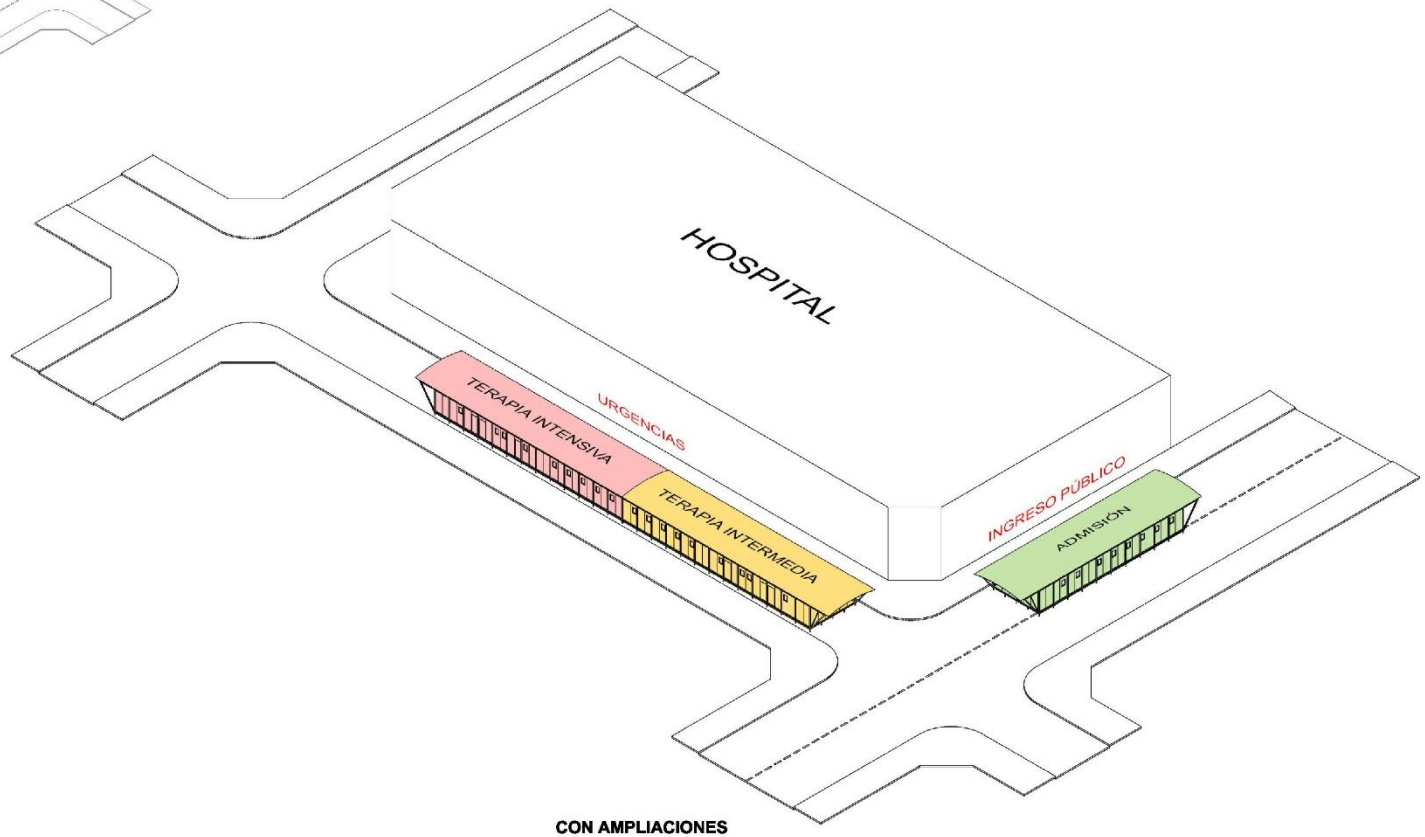


SITUACIÓN EXISTENTE

IMPLANTACIÓN

. Se utiliza la calle para ubicar las USC por ser en muchos casos el único espacio disponible, no obstante, se pueden ubicar en otros espacios considerando siempre la adecuada conectividad con el Centro de Salud.
. El tipo y cantidad de UCS estará en función de los requerimientos de cada Centro de Salud.



CON AMPLIACIONES

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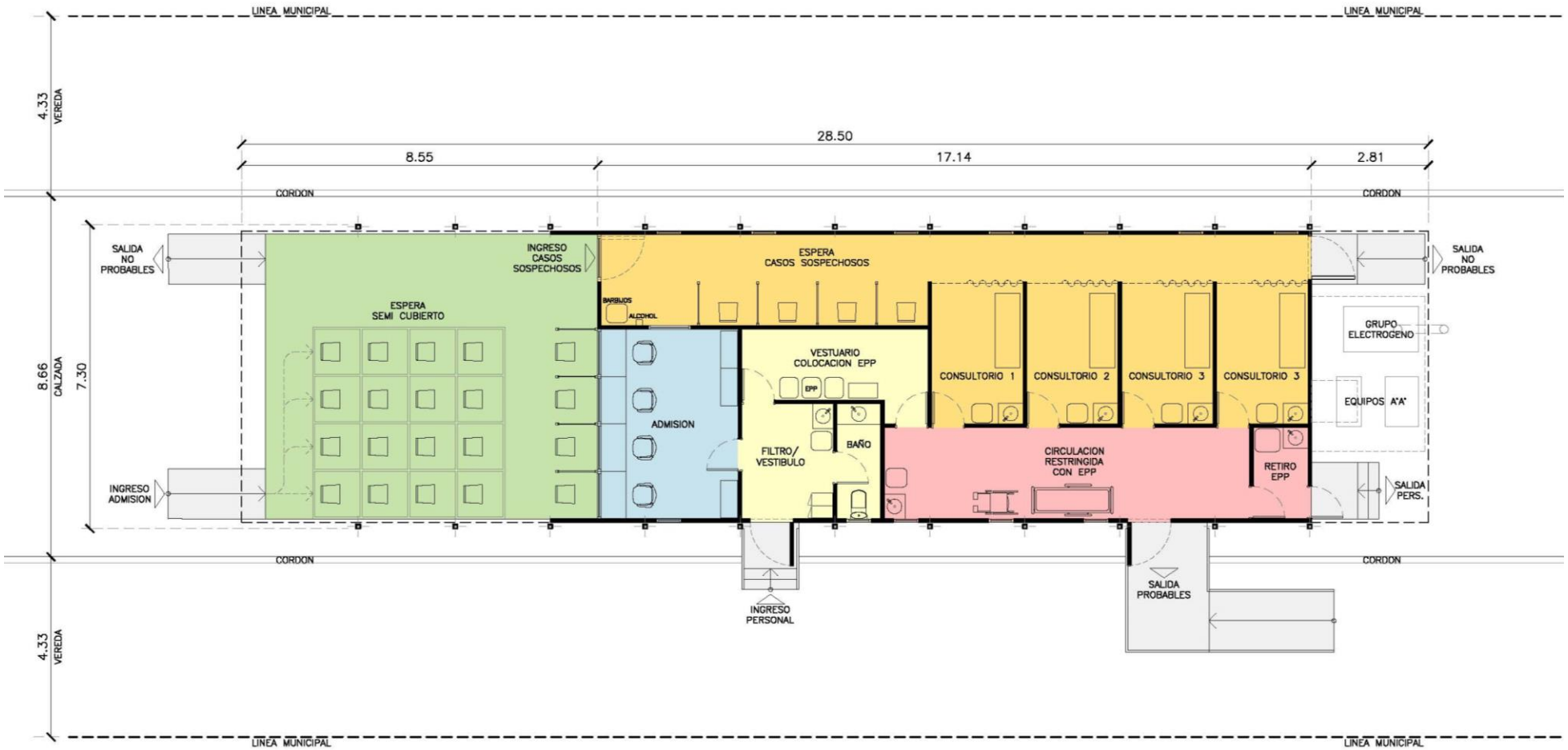
ARQUITECTURA

UNIDAD ADMISION (TRIAGE)



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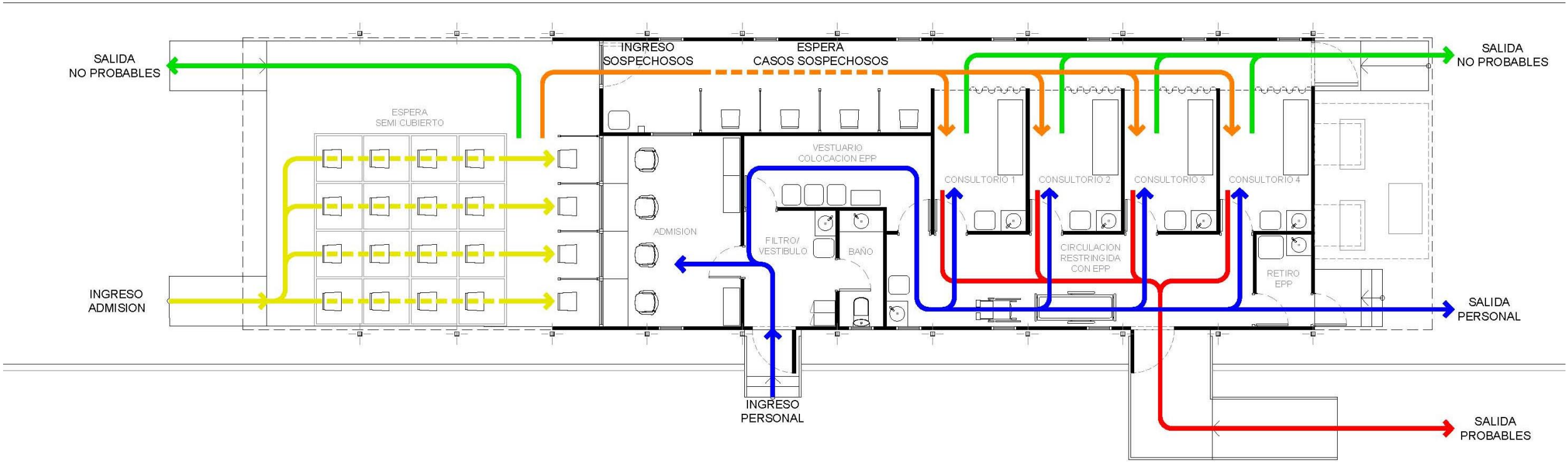
ARQUITECTURA

FLUJOS UNIDAD ADMISION (TRIAGE)



FLUJOS:

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- SOSPECHOSOS
- PROBALES
- NO PROBABLES
- PERSONAL

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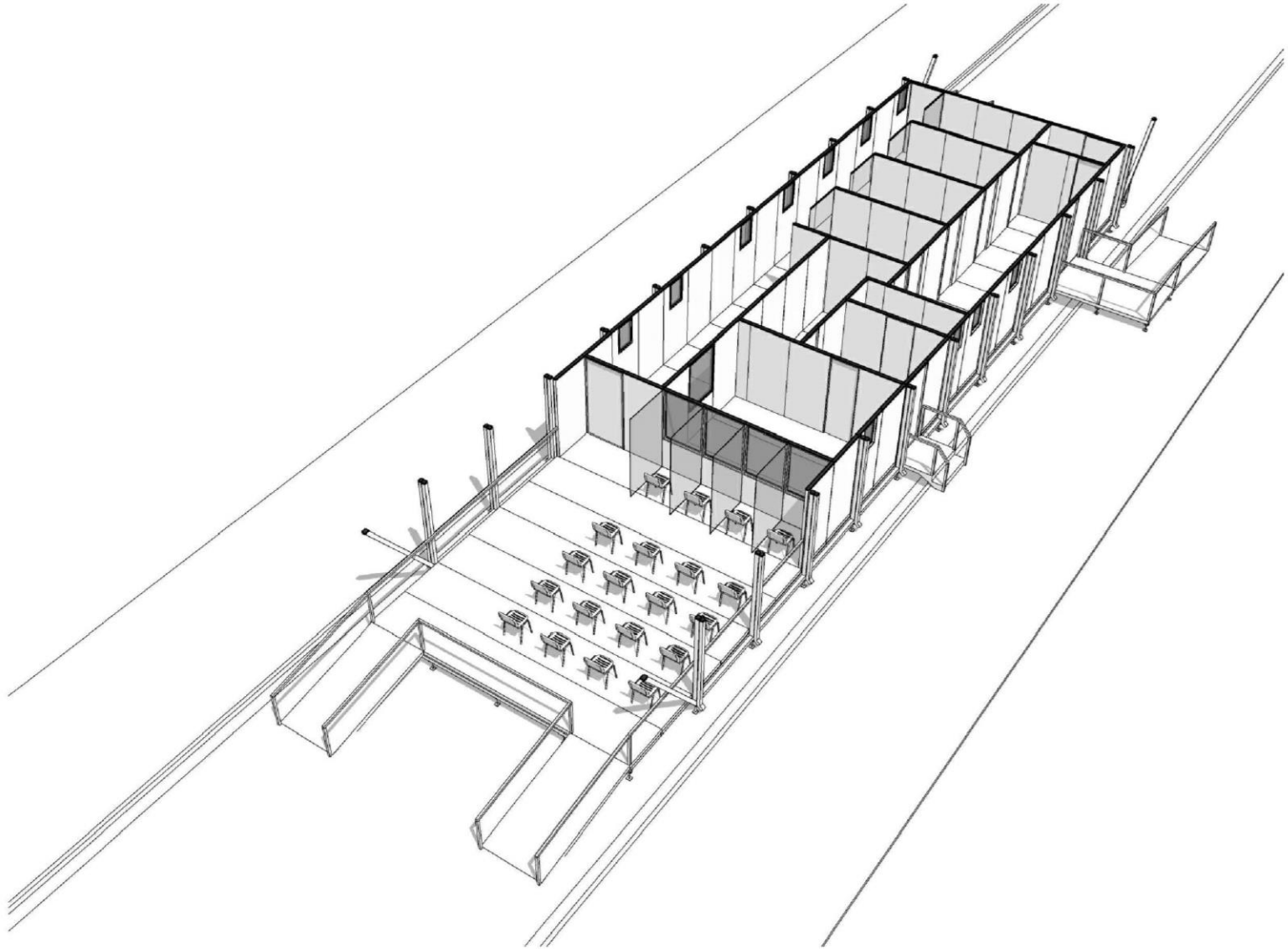
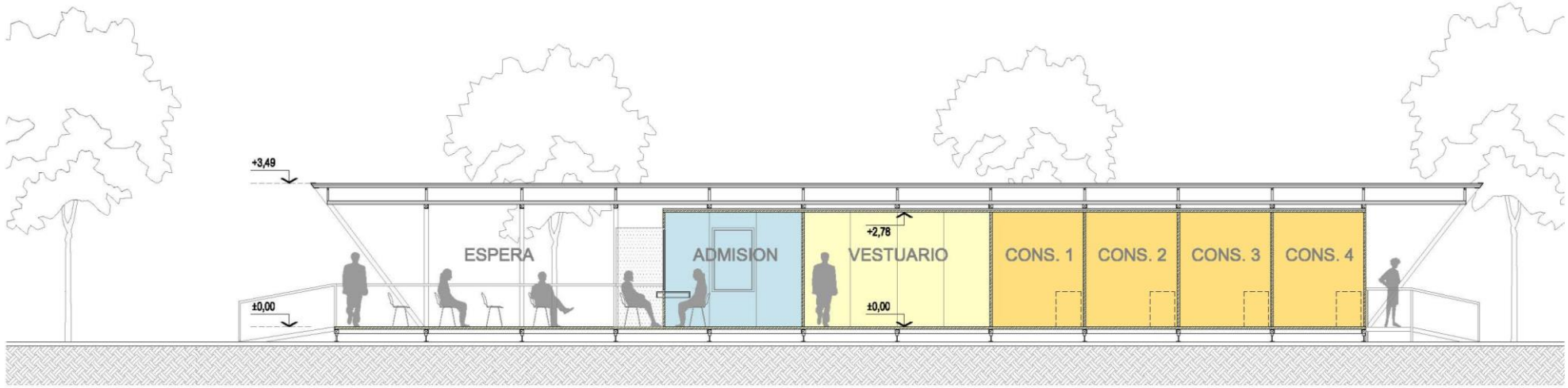
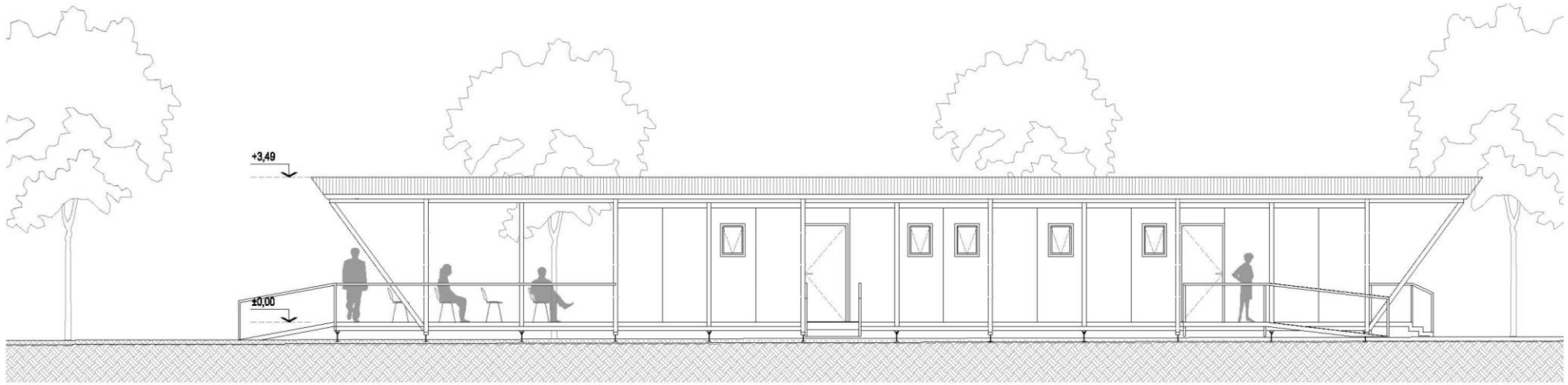




CORTE LONGITUDINAL



VISTA LONGITUDINAL

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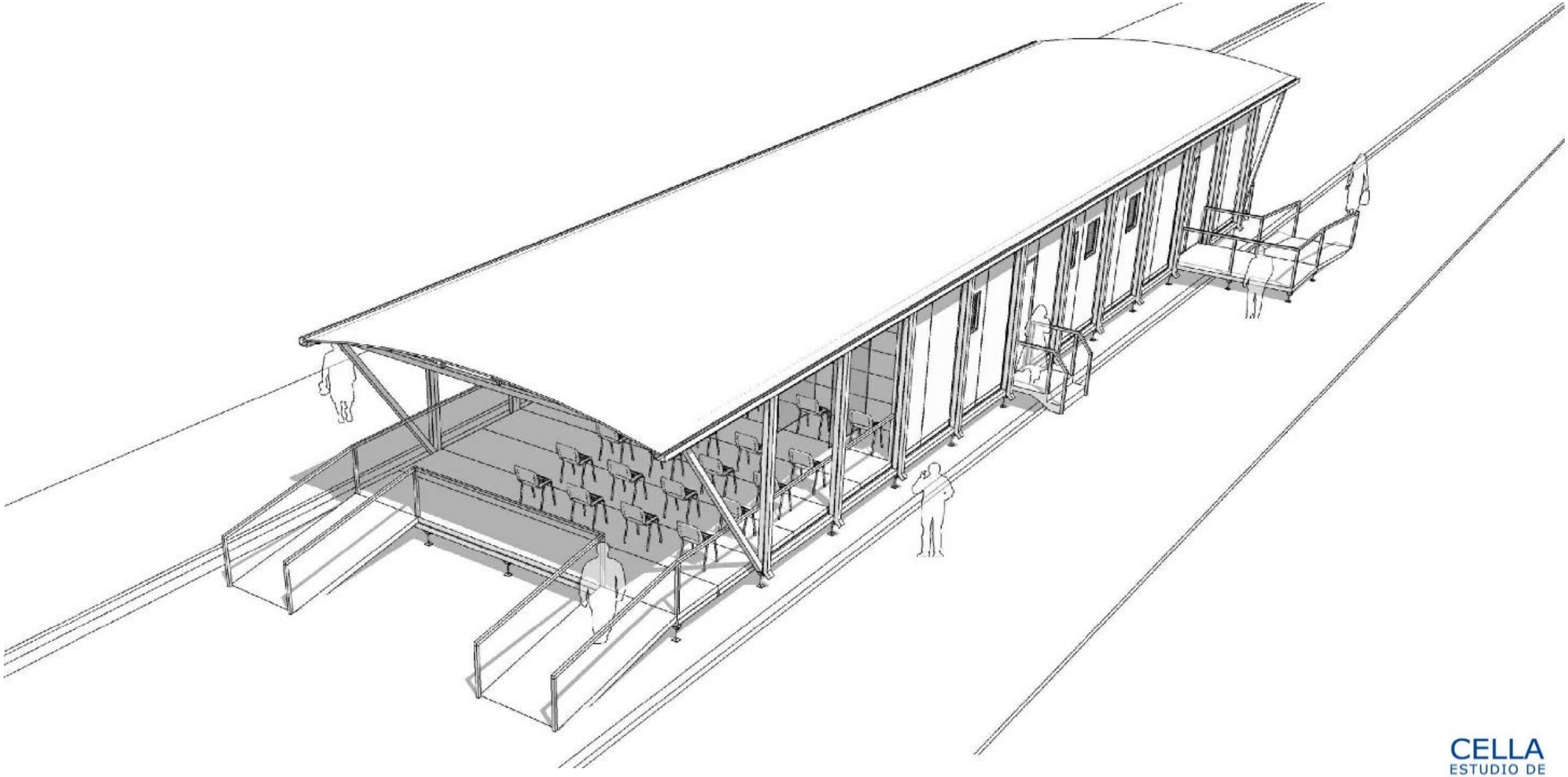

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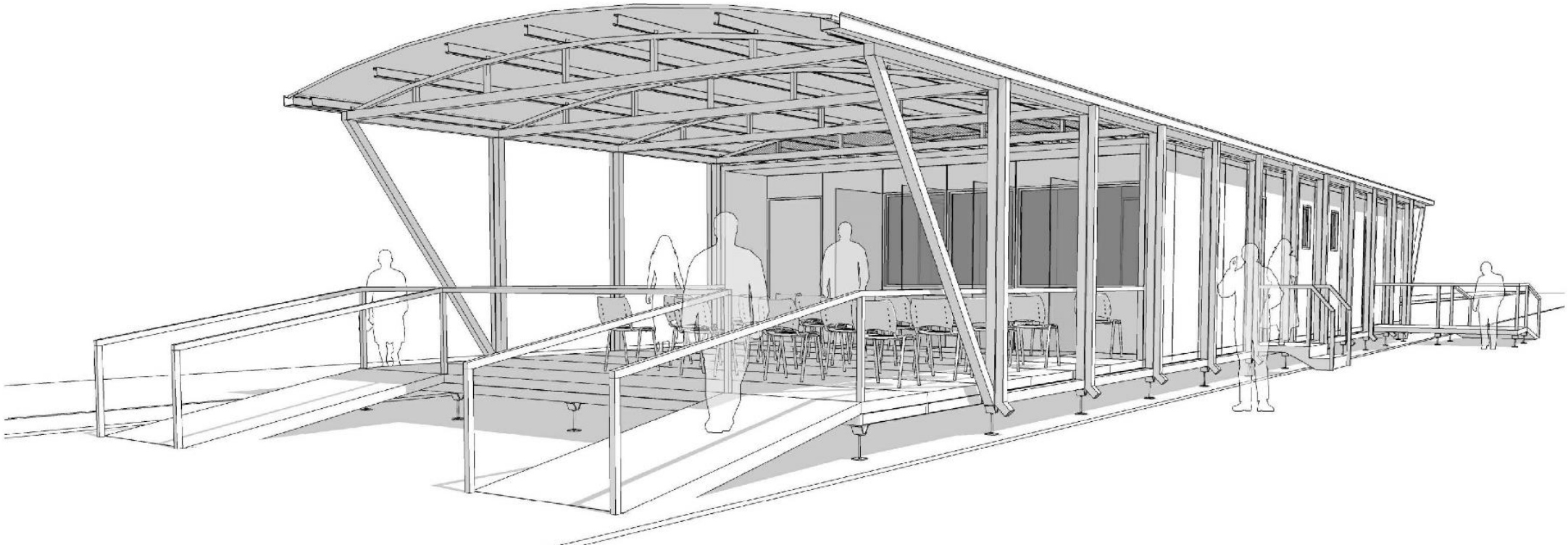
ARQUITECTURA



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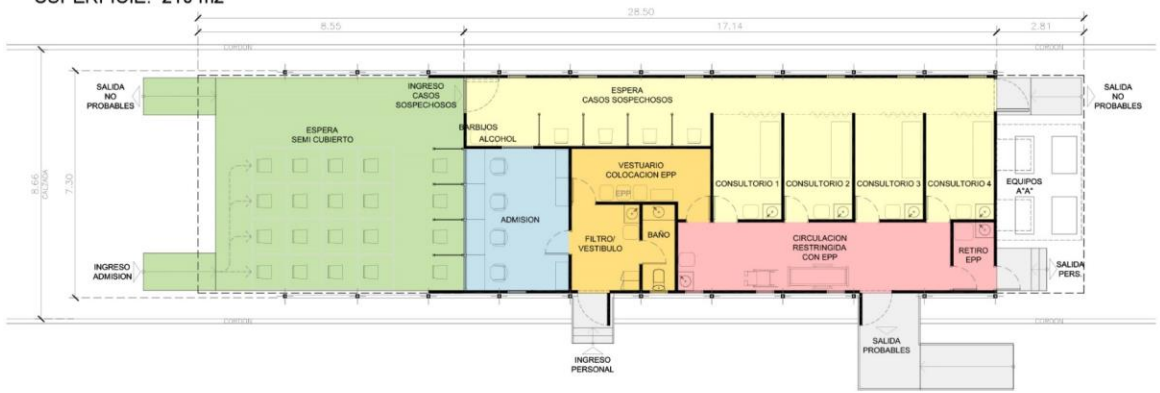
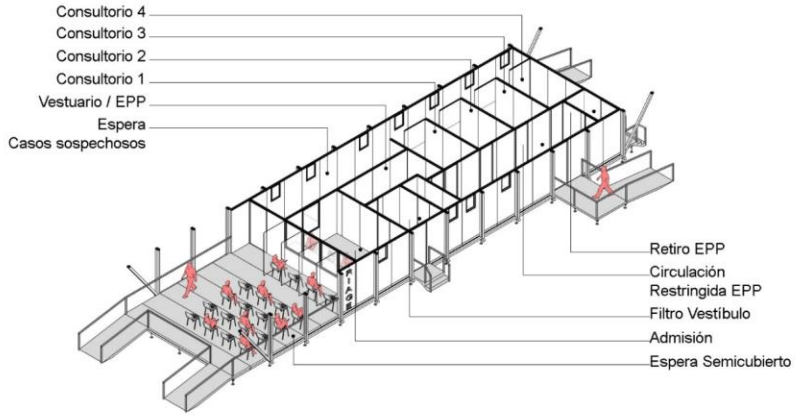
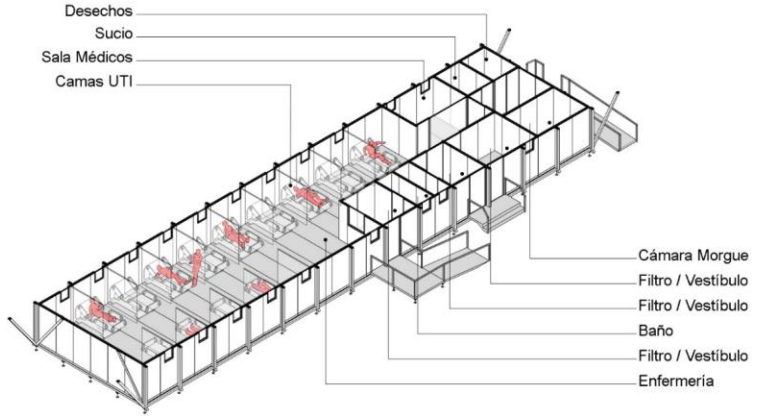
ALTERNATIVAS DE USOS

UNIDAD DE ADMISION - TRIAGE
SUPERFICIE: 210 m2

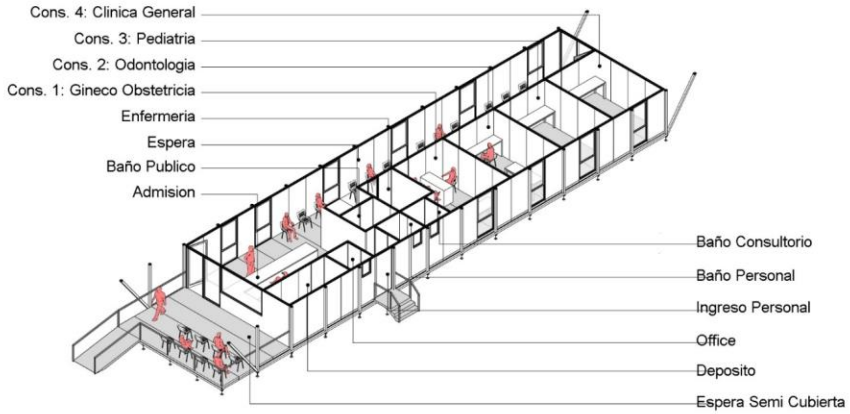




UNIDAD DE TERAPIA INTENSIVA - UTI
SUPERFICIE: 260m2



CENTRO DE ATENCION PRIMARIA - CAP (REUTILIZACION POST PANDEMIA)
SUPERFICIE: 240m2



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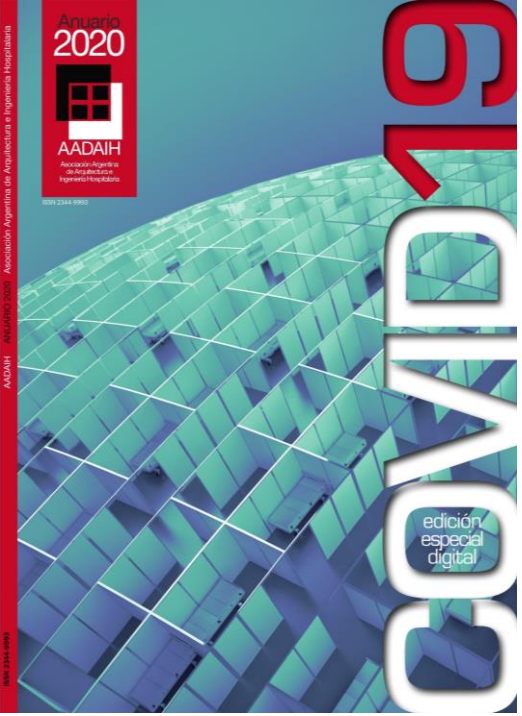
ESTUDIO DE ARQUITECTURA



DANIEL CELLA, PEDRO PERALTA, LUCIA CELLA – ARCHITECTS, ESTUDIO CELLA, ARGENTINA

Meeting COVID-19 with complementary units

Daniel Cella, Pedro Peralta, and Lucia Cella, a trio of architects from Argentina design consultancy Estudio Cella, outline their concept for modular, emergency expansion of hospital facilities.

This article aims to set out a proposal for the timely expansion of the accommodation capacity of an existing, theoretical hospital. The proposal addresses three questions: what areas need to be expanded, what technology is to be implemented and where those new units are to be located.

In line with the recommendations of health authorities, we have focused the growth in improving the most critical areas of the system: the admissions area, and the intermediate and intensive care units.

The admission module reinforces the staff safety, distances COVID-19 infected from non-infected patients, and facilitates one-way circulation within the facility. The module features a semi-covered area to minimise the risk of contagion during wait times.

The design of the units, with a metallic exterior structure and cooling panel enclosures, guarantees smooth and aseptic internal surfaces. The components have been conceived to be manufactured and assembled locally, thus avoiding transportation of empty volumes from within other jurisdictions.

Modules are designed to allow installation adjacent to hospitals, on streets that remain empty during quarantine period.

Lastly, there is an example illustrating the reutilization potential of these modules by becoming primary healthcare centres meeting the standardised architectural-medical requirements of the Argentinian province of Misiones.

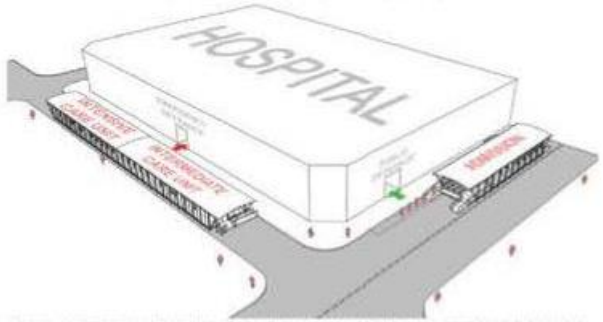


Figure 1. Three complementary hospital units attached to the main hospital building.

Daniel Cella • **Pedro Peralta** • **Lucia Cella**

•**Daniel Cella** founded the Estudio Cella architecture consultancy - based in Posadas in the province of Misiones in north-east Argentina – in 1988. A graduate of Belgrano University in Buenos Aires, Daniel was President of the Ethics Court of Architects College of Misiones between 2014 and 2018. Daniel was also Secretary of the 28th Latin American Congress of Architecture and Hospital Engineering (AADAIH) in 2017.

•**Pedro Peralta** is a professor of architecture at the Catholic University of Santa Fe in Posadas in the province of Misiones. A graduate of the University of Buenos Aires, Pedro joined Estudio Cella in 2004.

•**Lucia Cella** is an associate professor of architecture at the Catholic University of Santa Fe in Posadas. Lucia received a degree in architecture from the University of Buenos Aires in 2009, and a Master's in architectural design from the University of Navarra in Spain in 2013. She worked briefly in Barcelona before returning to her hometown, Posadas, to work at Estudio Cella, led by her father Daniel.

Complementary hospital units

It has been identified that the COVID-19 pandemic has led to an increasing demand of beds availability at intermediate and intensive care units and differentiated admission areas. Therefore, complementary hospital units have been designed for that purpose.

This proposal aims at expanding the existing hospital accommodation capacity by installing fast turn-around units in public spaces, parking lots, or clear spaces adjacent to health centres. The set-up of these units allows enhancing the care of critically ill patients, while improving the infectious safety of healthcare personnel during patient treatment (Fig 1).

Location

Streets offer the available space to temporarily expand the accommodation capacity of hospitals and clinics. Thus, units have been designed portraying a maximum width – 7.3 metres or 24 feet – to allow installation on 8.66-metre/28.4-feet wide street – clearing both kerbs to allow normal stormwater runoff.

Streets, where traffic has been restricted due to the pandemic, offer sewer, water and electricity infrastructure, which reduces the costs and facilitates the connection to the utilities grids that are required to operate (Fig 2).

Technology

Insulating foam and metal sheets, originally allocated to the production of refrigerated chambers for the food industry, are used due to their insulation, availability and prompt assembly features, as well as their antibacterial finishes suitable for hospital use.

As those panels have been conceived to be set up indoors, an independent cover will be mounted on them, ensuring water tightness and improving thermal performance.

We have used individual panels instead of containers to create spaces with dimensions that would allow the usual performance of medical practices – without extending execution timelines – and its subsequent relocation (Fig 3).

Design

The units comply with the regulations of the Argentine Society of Intensive Care Medicine (SATI), the recommendations on admissions (triage) by the National Ministry of Health, and the 'Guidelines for Limiting Contagion in COVID-19 Tent Clinics' drawn up by MASS Design Group of the USA, among other sources of reference.

Even though the proposal focuses on

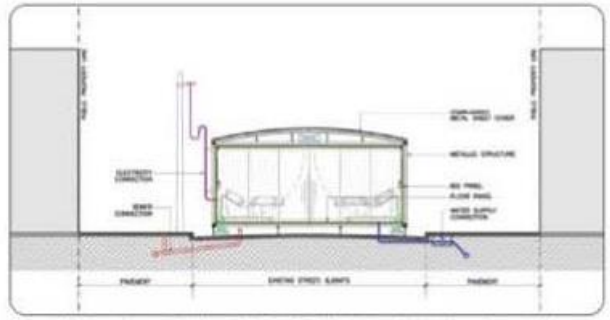


Figure 2. The units are designed to fit within the boundaries of a public street.

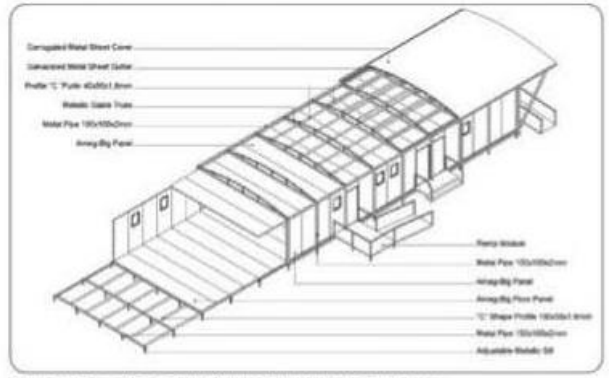


Figure 3. The units use individual panels instead of containers.

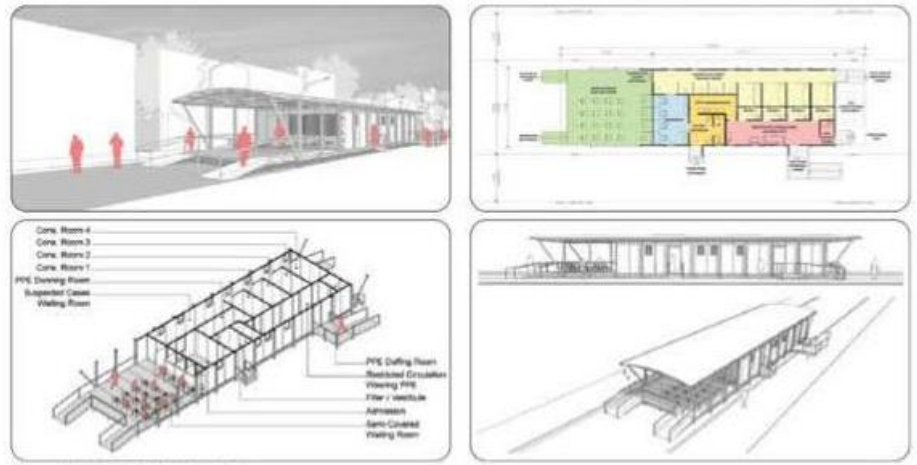
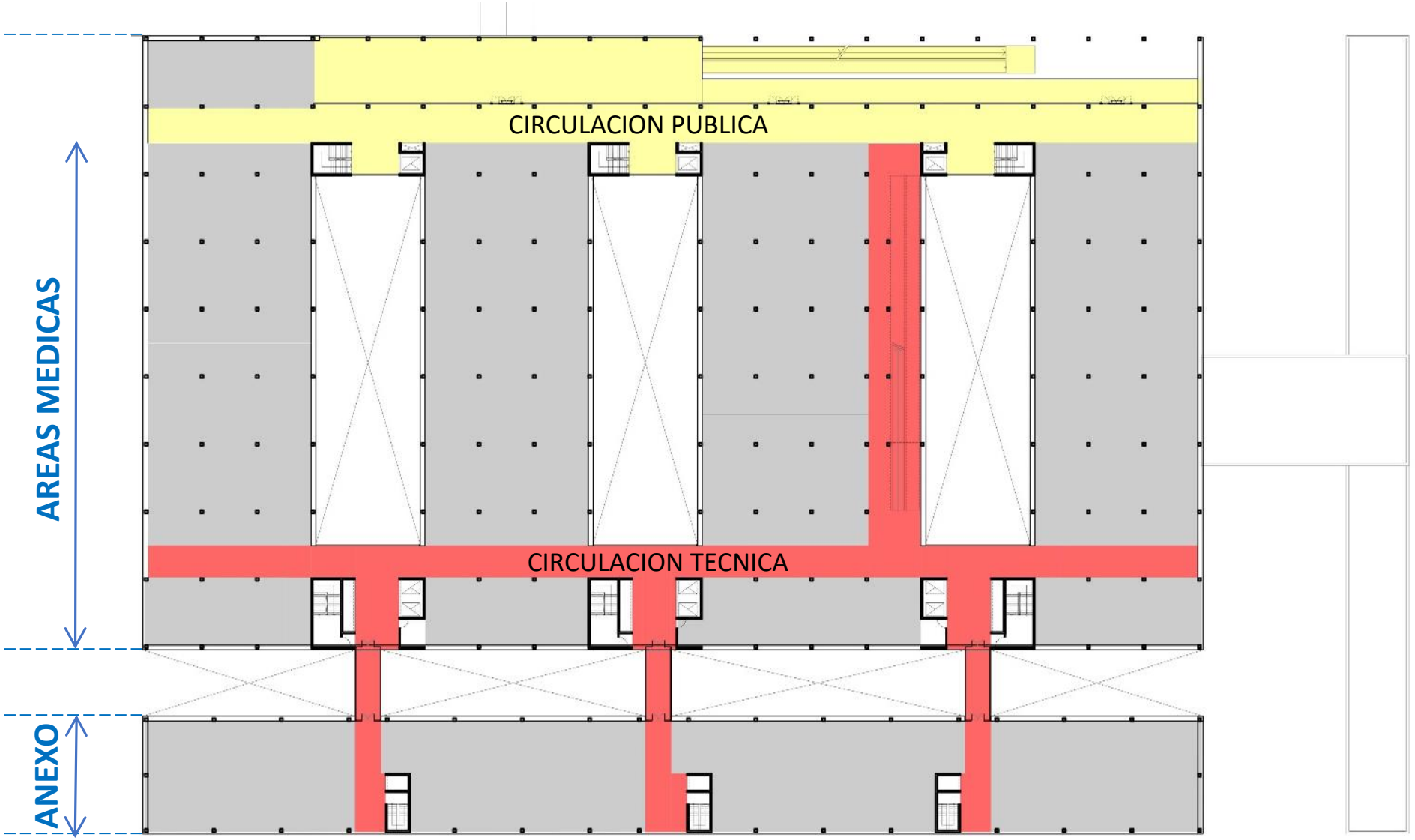


Figure 4. Admission hospital unit.


Iguauzu
Parana
PARAGUAY
Santa catarina
Capioví
Jardín América
Posadas
Hospital Regional Alem
Rio Grande

ESQUEMA PLANTA



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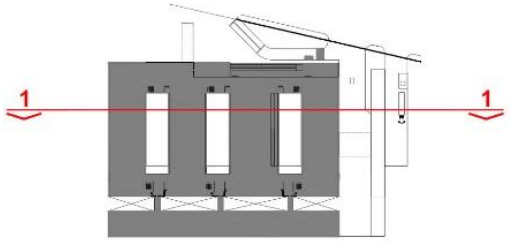
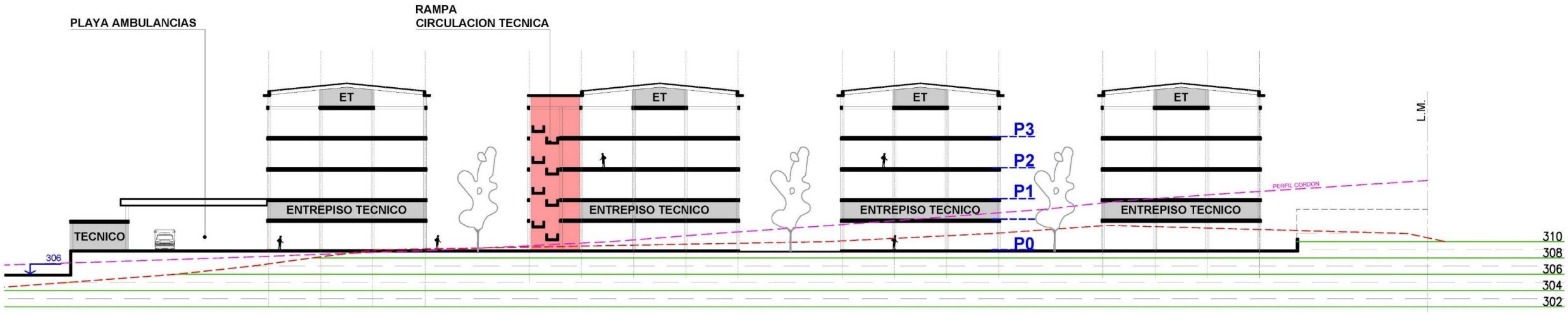
ARQUITECTURA





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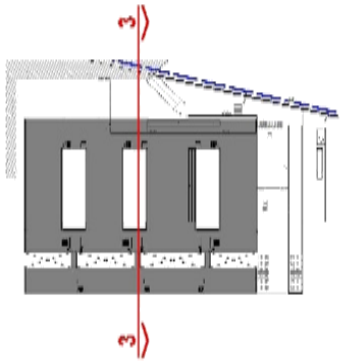

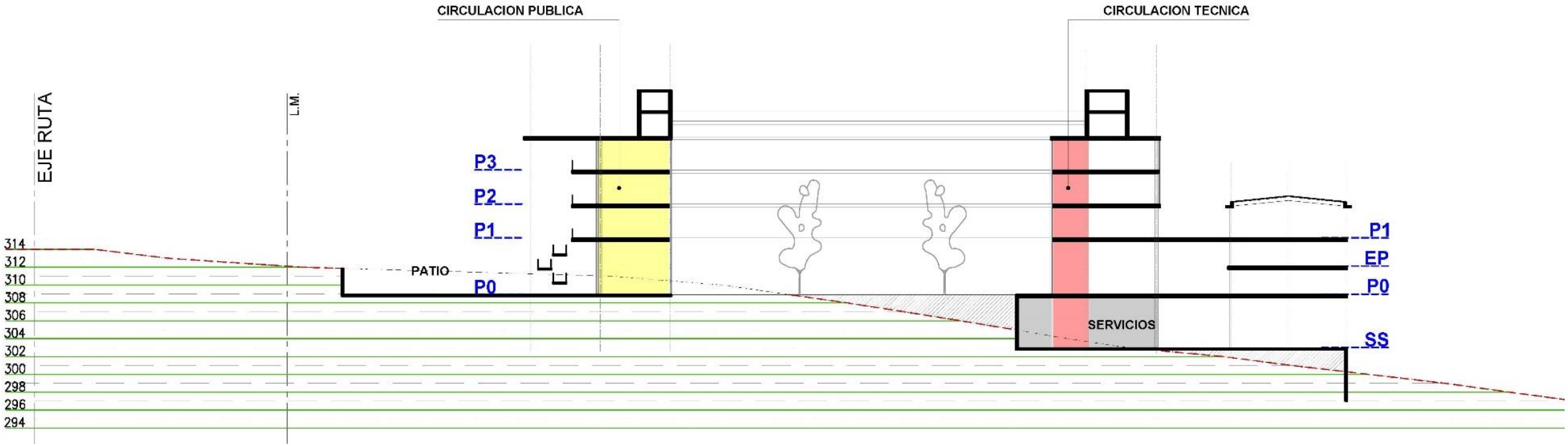

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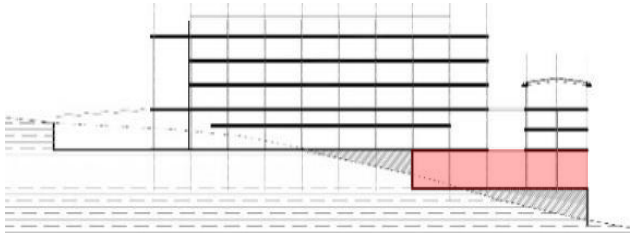

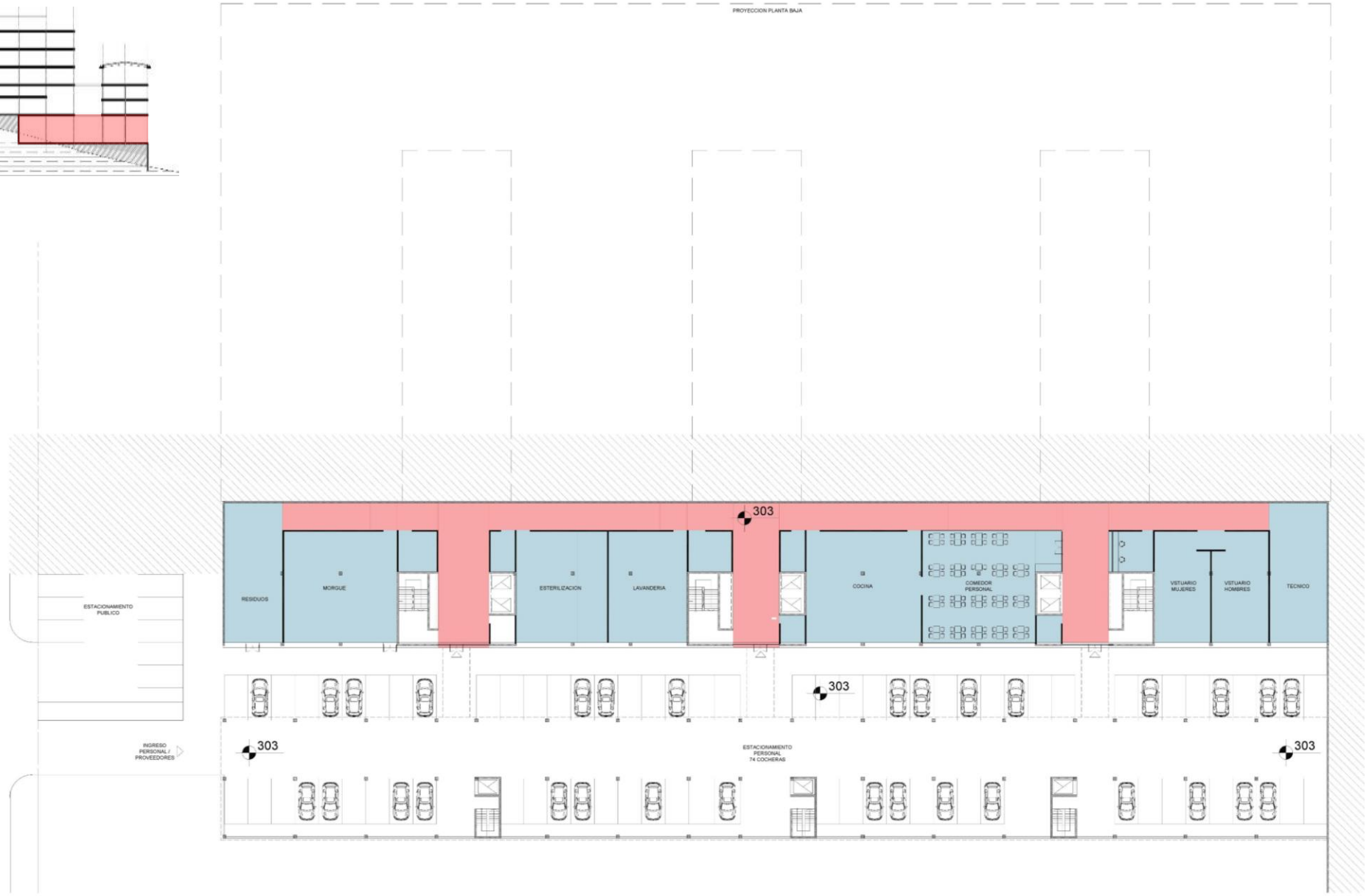

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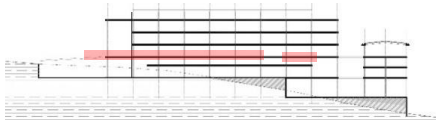
PLANTA BAJA



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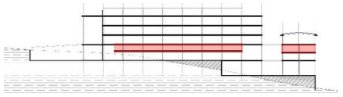

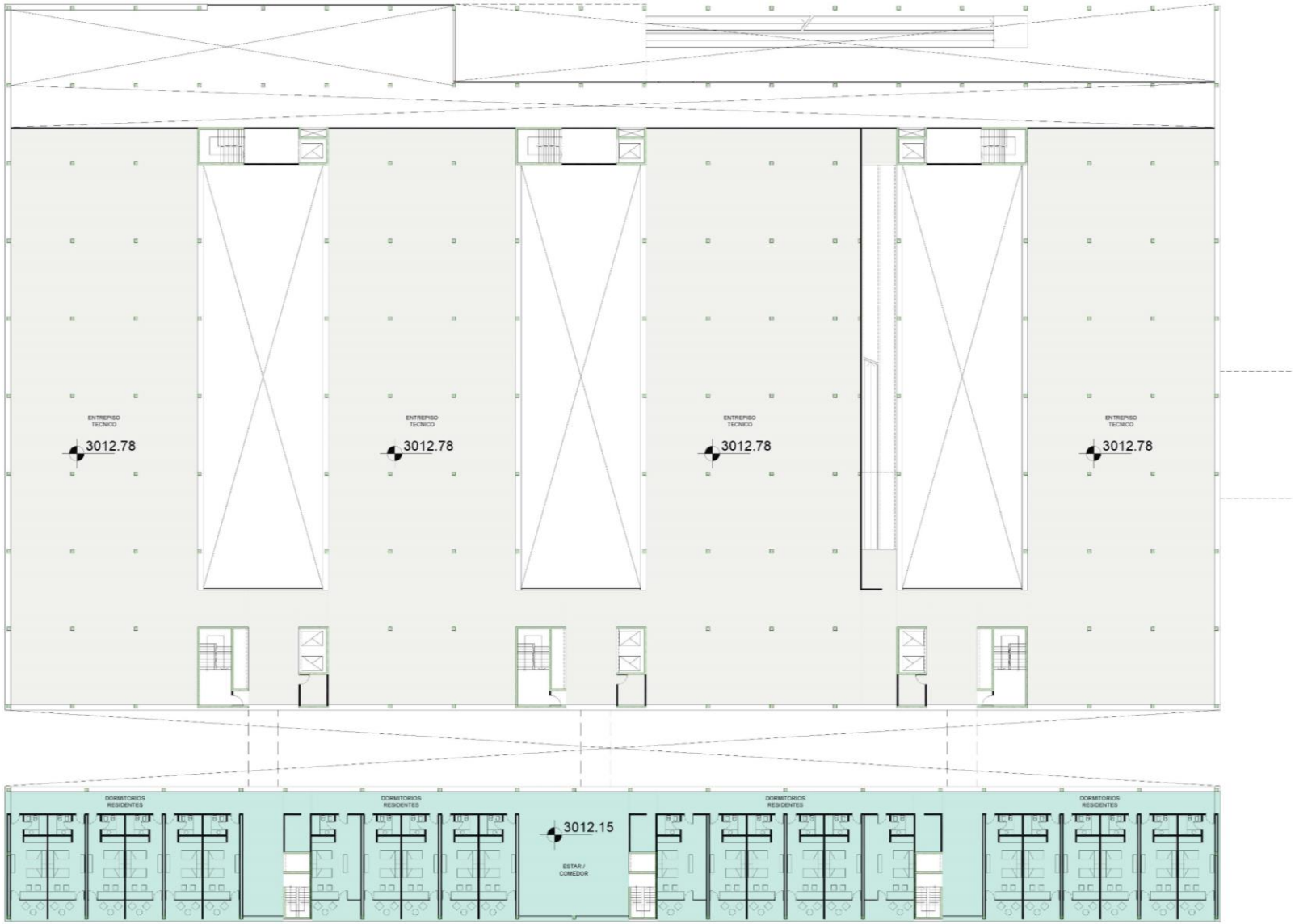

DORMITORIOS RESIDENTES

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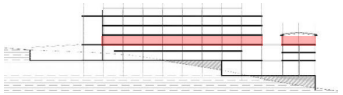
1º PISO



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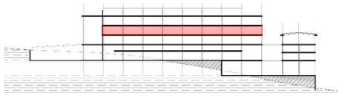
2º PISO



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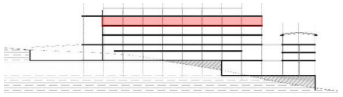

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ARQUITECTURA


PARAGUAY
BRASIL
Capioví
Hospital Jardín América
Posadas
L.N. Alem

IMPLANTACION

CELLA
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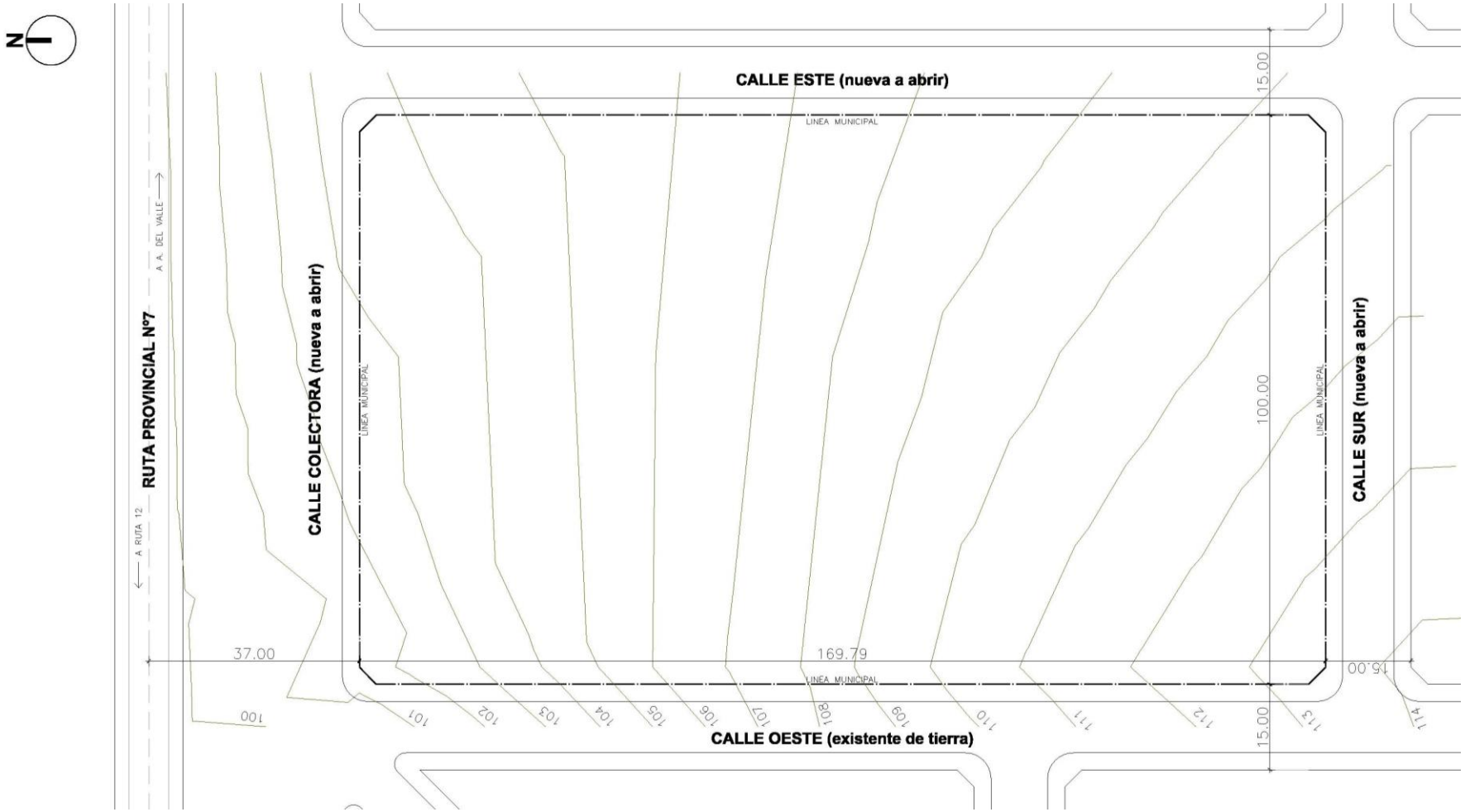
ARQUITECTURA

TERRENO



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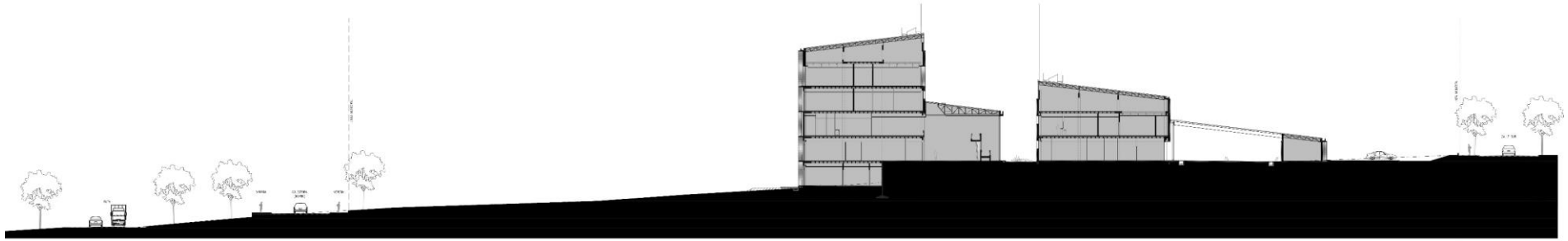
ARQUITECTURA

CORTE GENERAL



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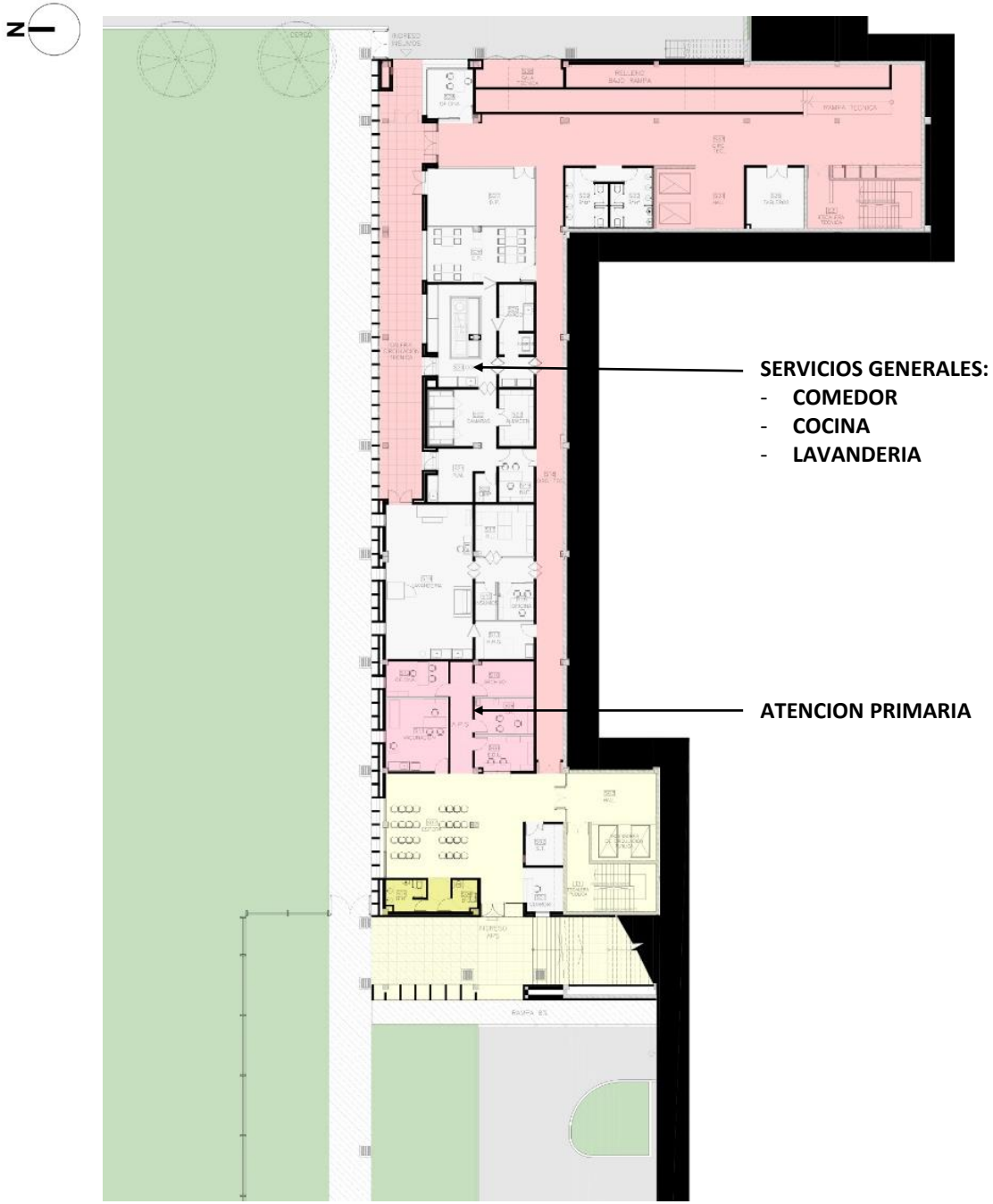
ARQUITECTURA

SUBSUELO



SERVICIOS GENERALES:
- **COMEDOR**
- **COCINA**
- **LAVANDERIA**

ATENCION PRIMARIA

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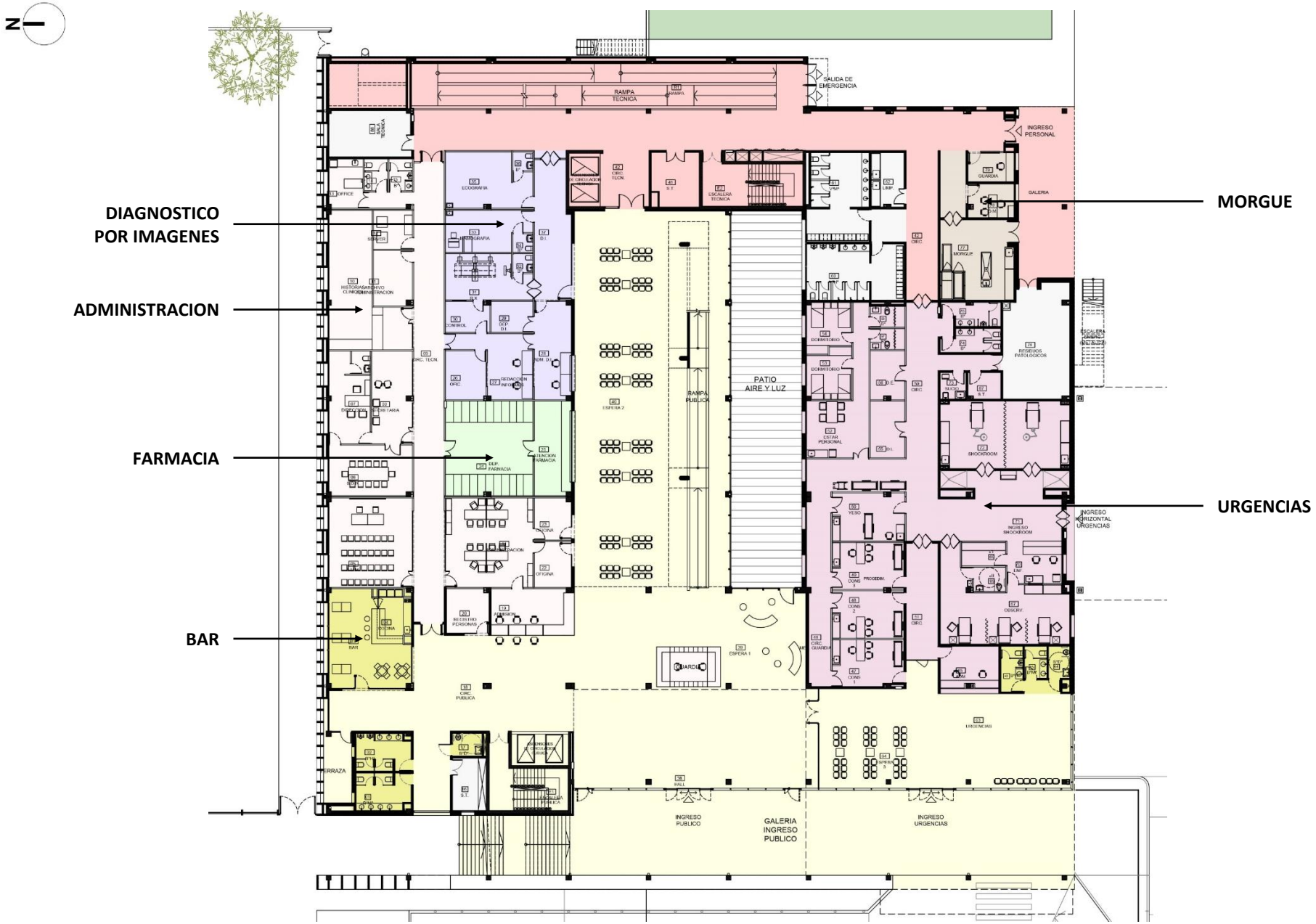
PLANTA BAJA



CELLA
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1°PISO

N

LABORATORIO

CONSULTORIOS EXTERNOS

ESTERILIZACION

GRUPO QUIRURGICO

NEONATOLOGIA

CELLA
ESTUDIO DE ARQUITECTURA

2°PISO

UNIDAD DE TERAPIA INTENSIVA

INTERNACION PEDIATRICA

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3°PISO

INTERNACION
COMUN

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CRECIMIENTOS – PLANTA GENERAL

ETAPA	1	2 (A+B+C)
SUPERFICIE	9.680 m2	8.518 m2

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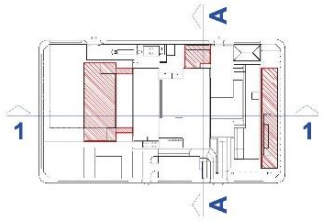
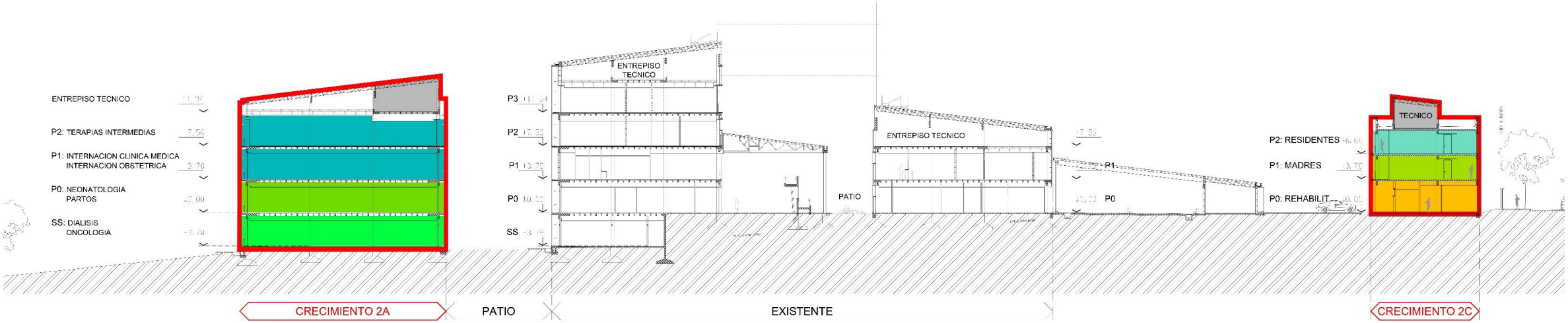
CRECIMIENTOS – CORTE 1-1



INDICATIVO CORTES



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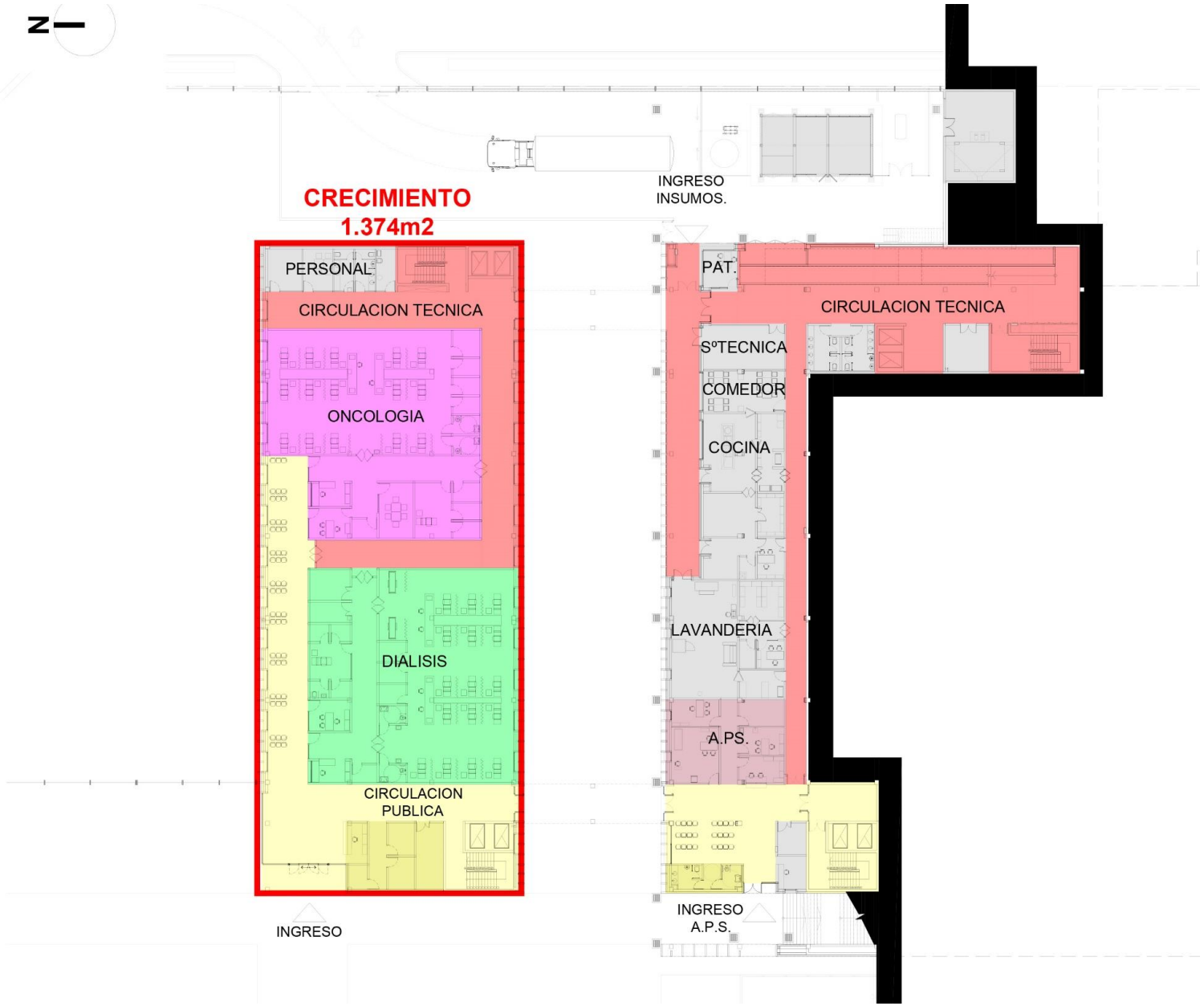
CRECIMIENTOS – SUB SUELO



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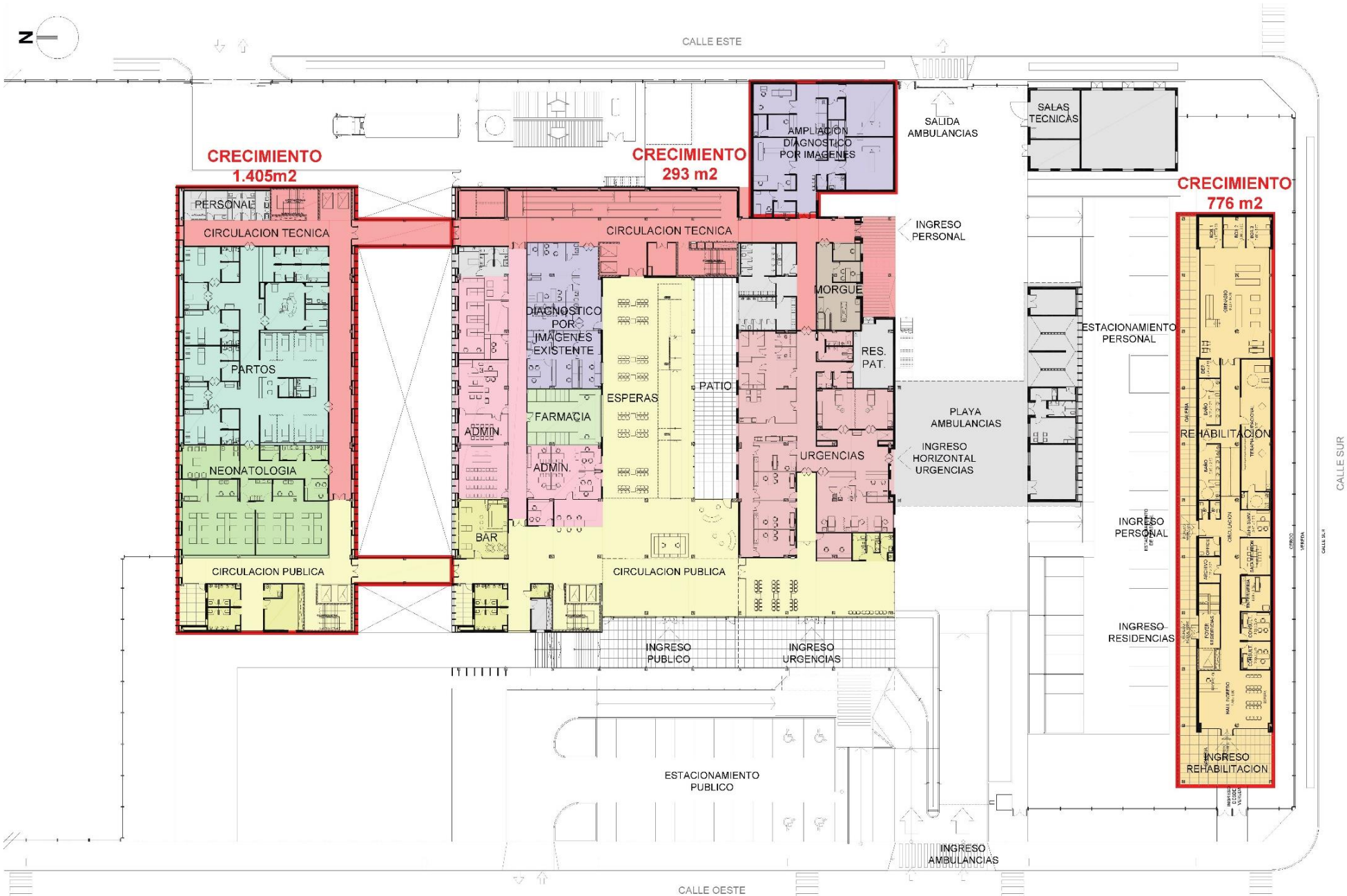
CRECIMIENTOS – PLANTA BAJA



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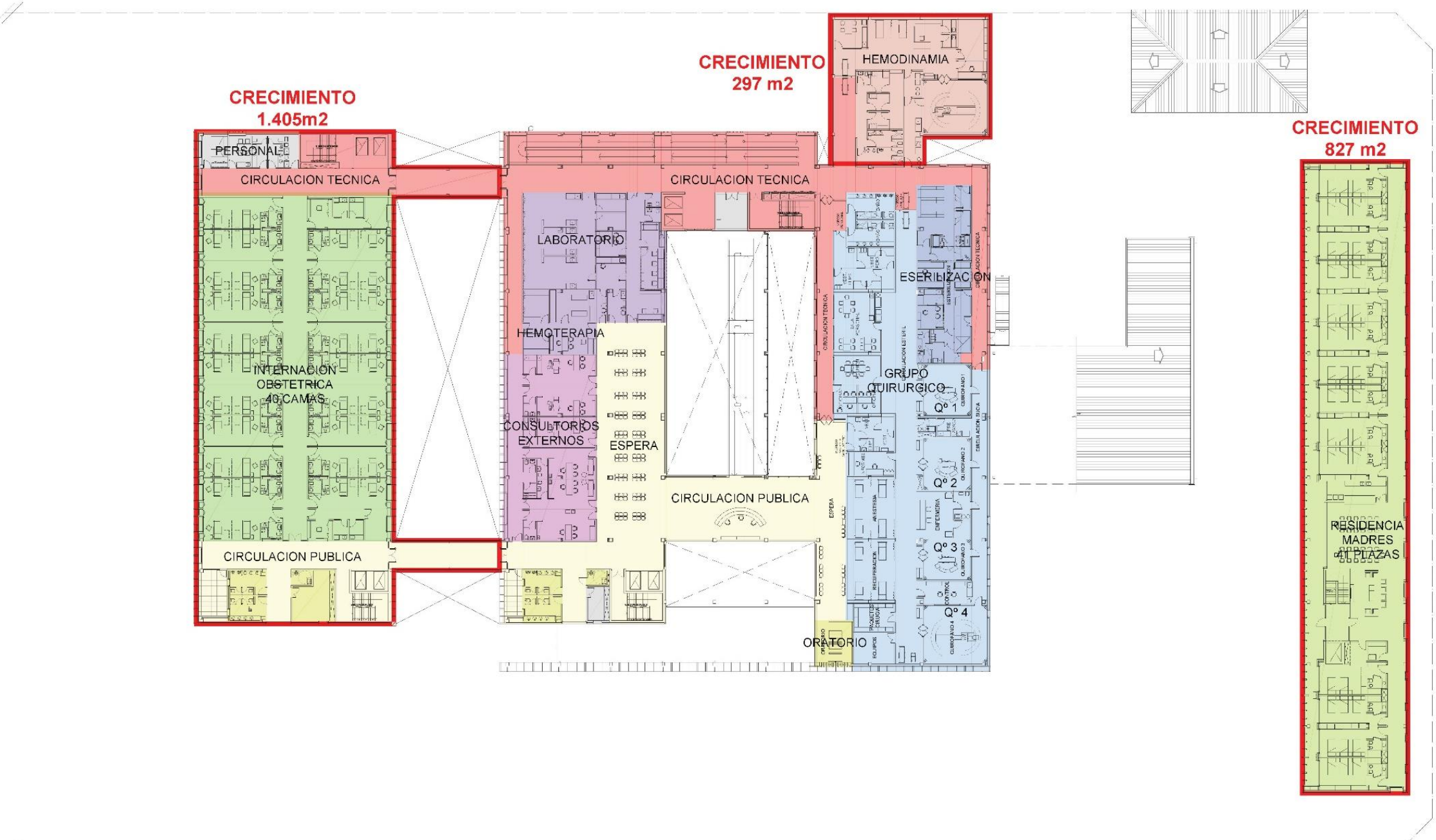

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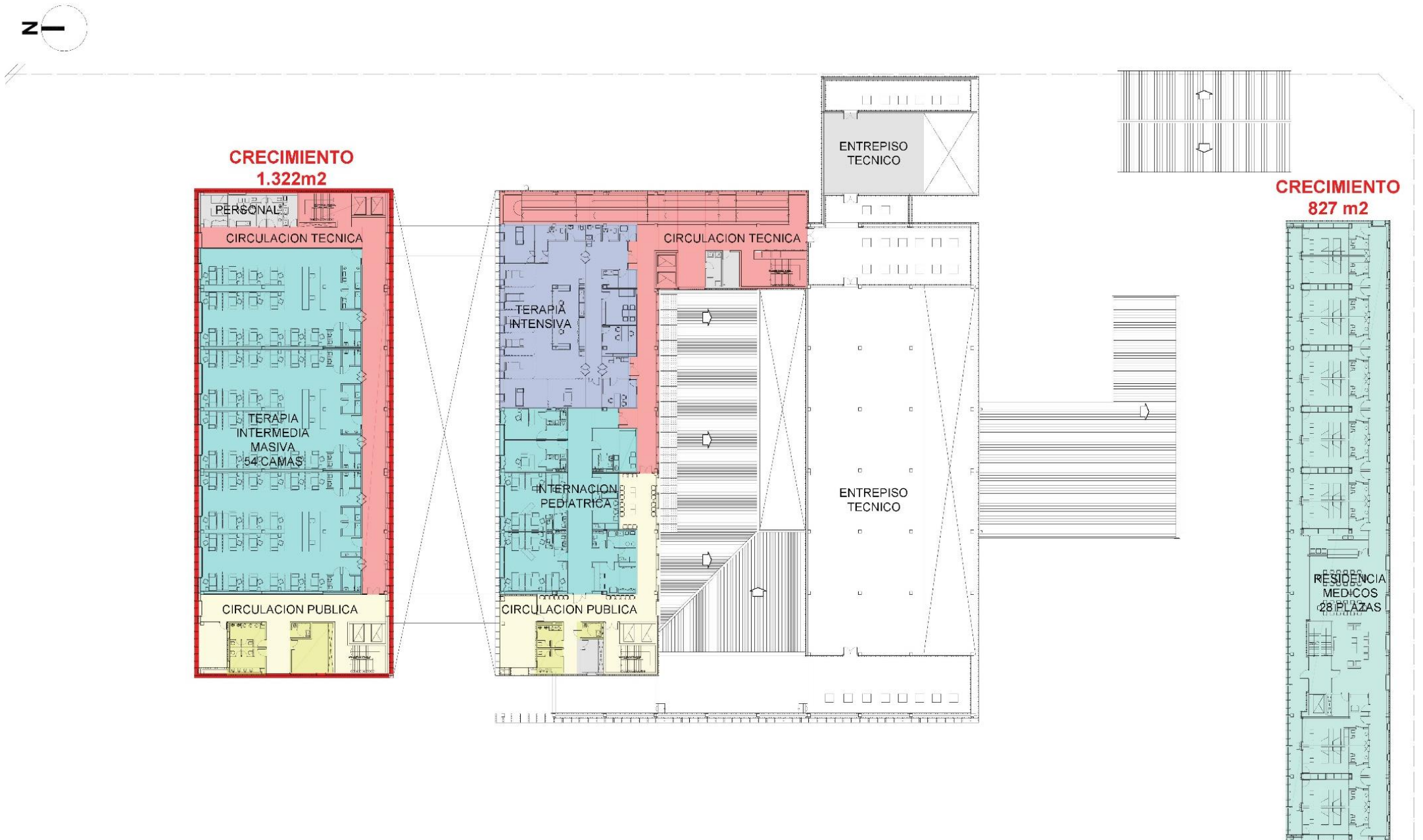
CRECIMIENTOS – 2° PISO



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Tecnología local / Identidad

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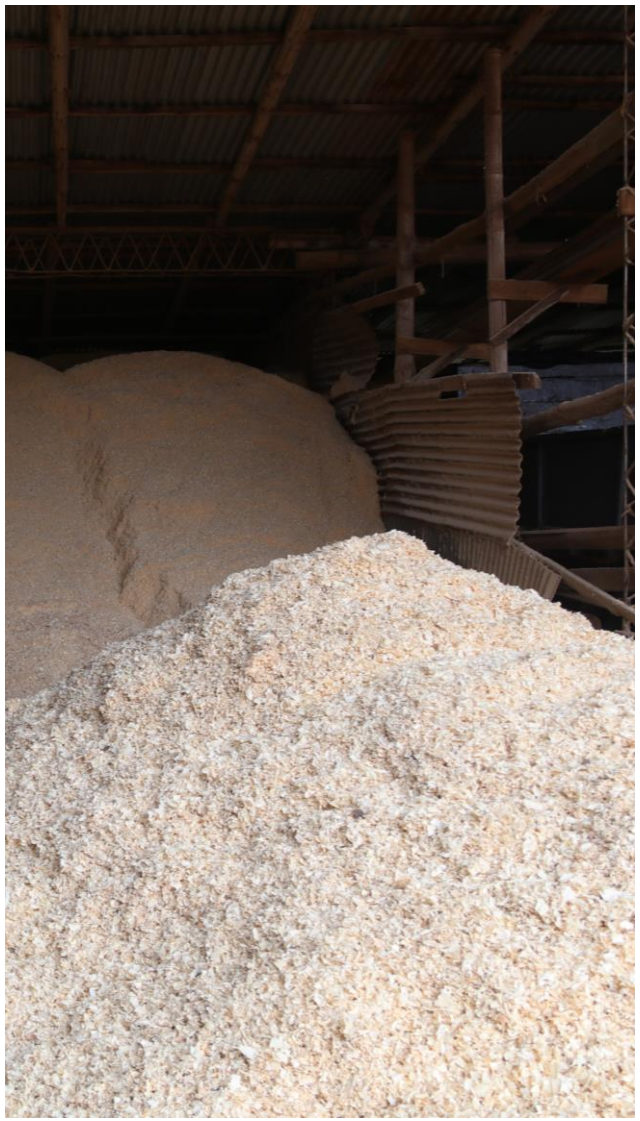

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Los espacios intermedios

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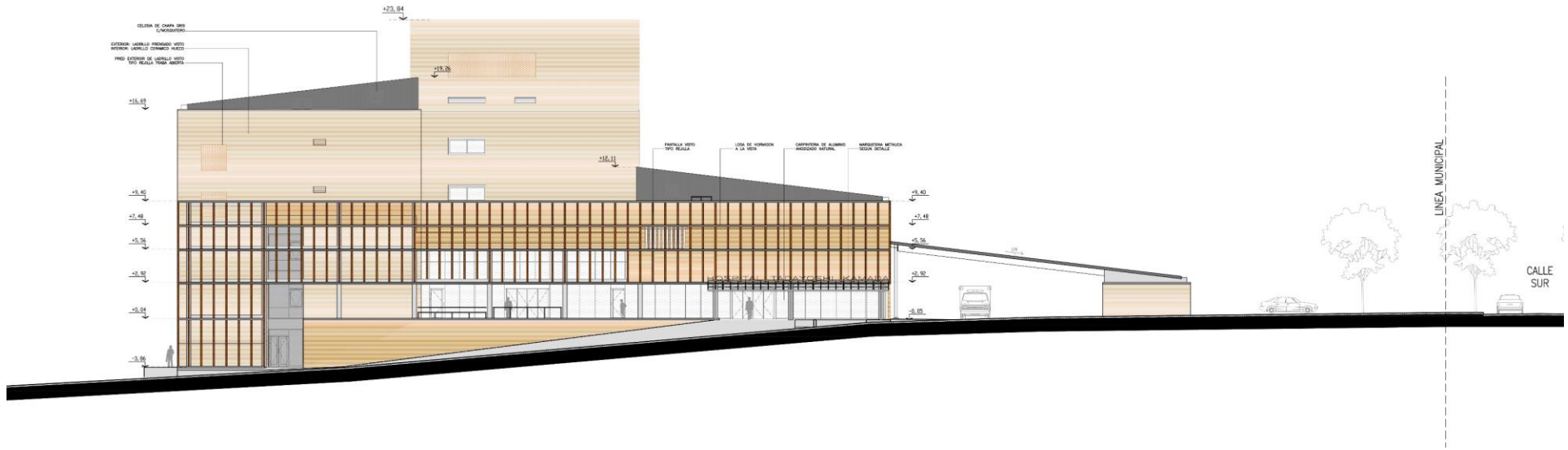
FACHADA OESTE



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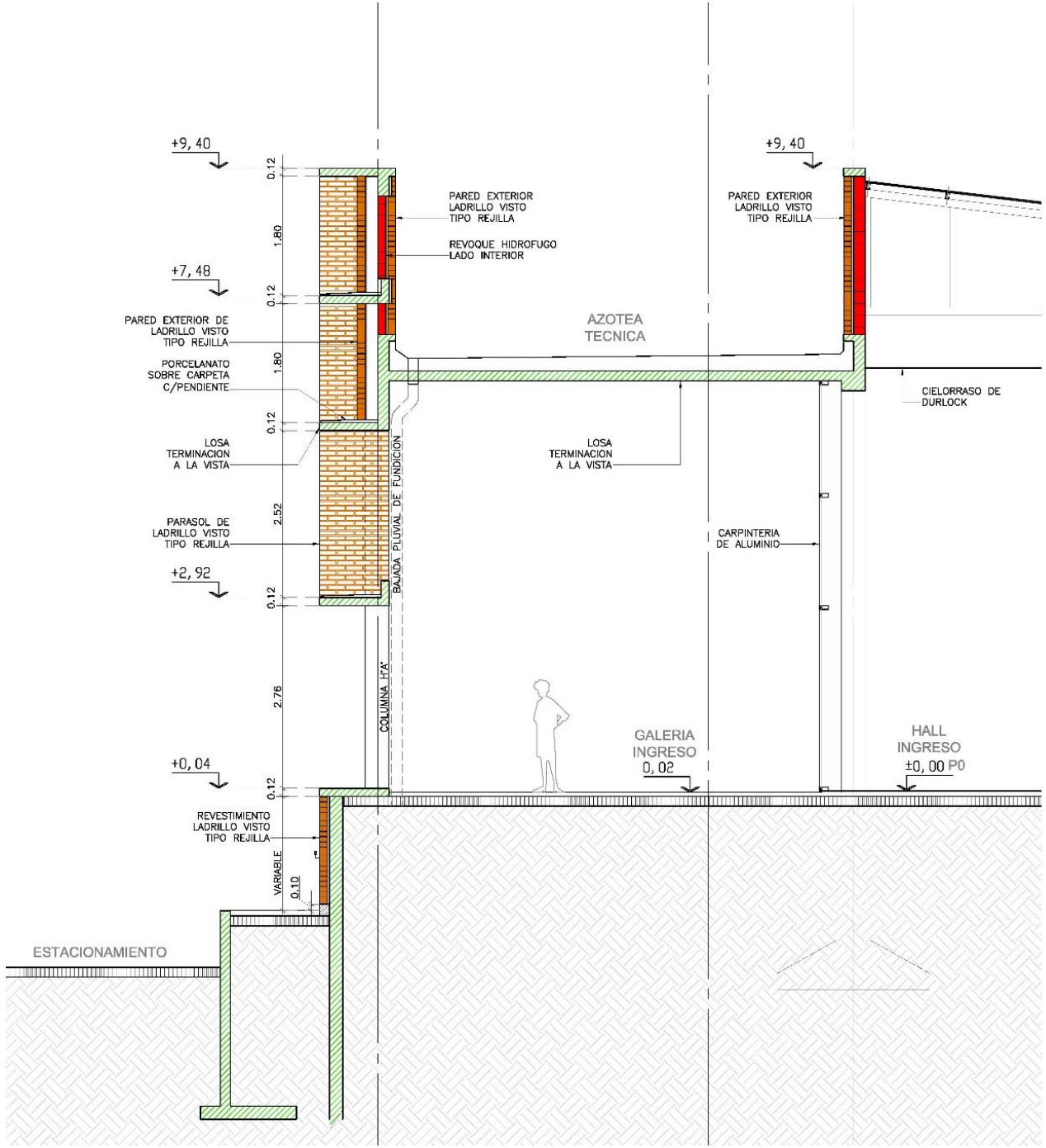
DETALLE FACHADA OESTE



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La profundidad de la fachada

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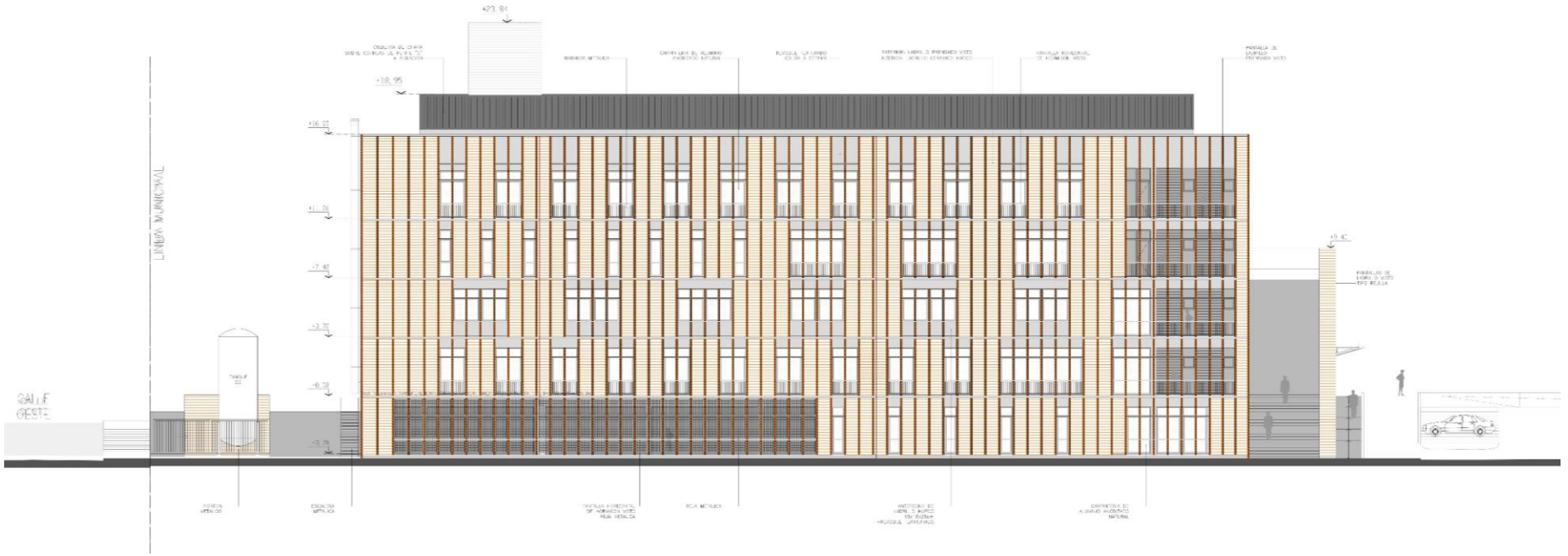
FACHADA NORTE



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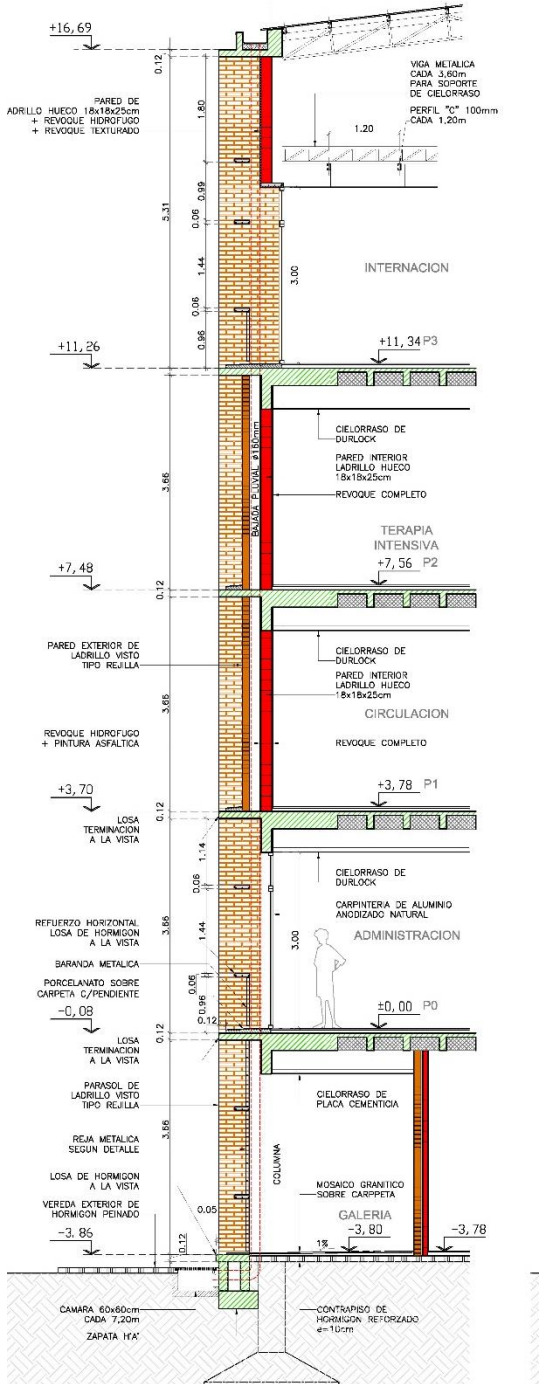
DETALLE FACHADA NORTE



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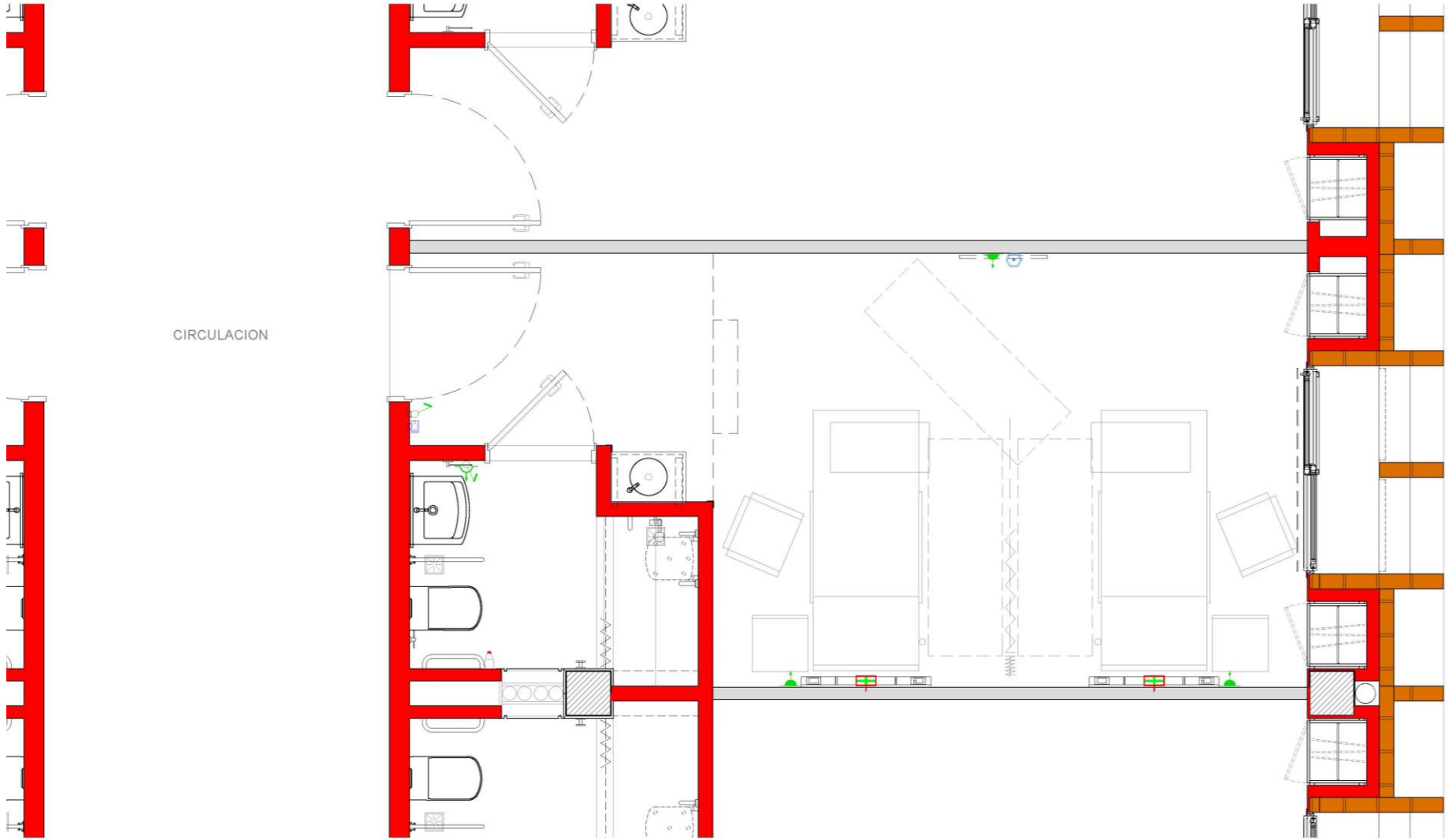
CIRCULACION



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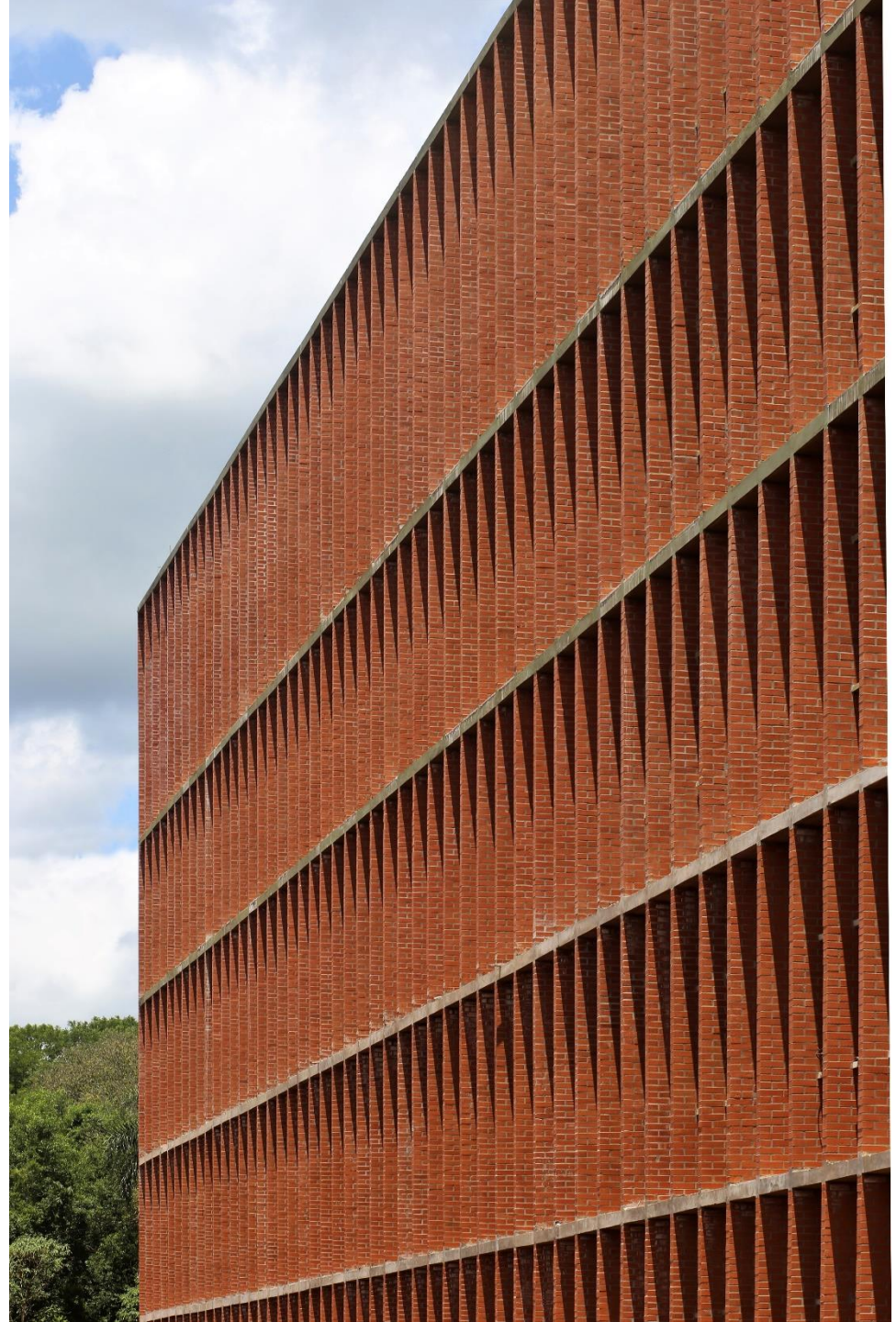

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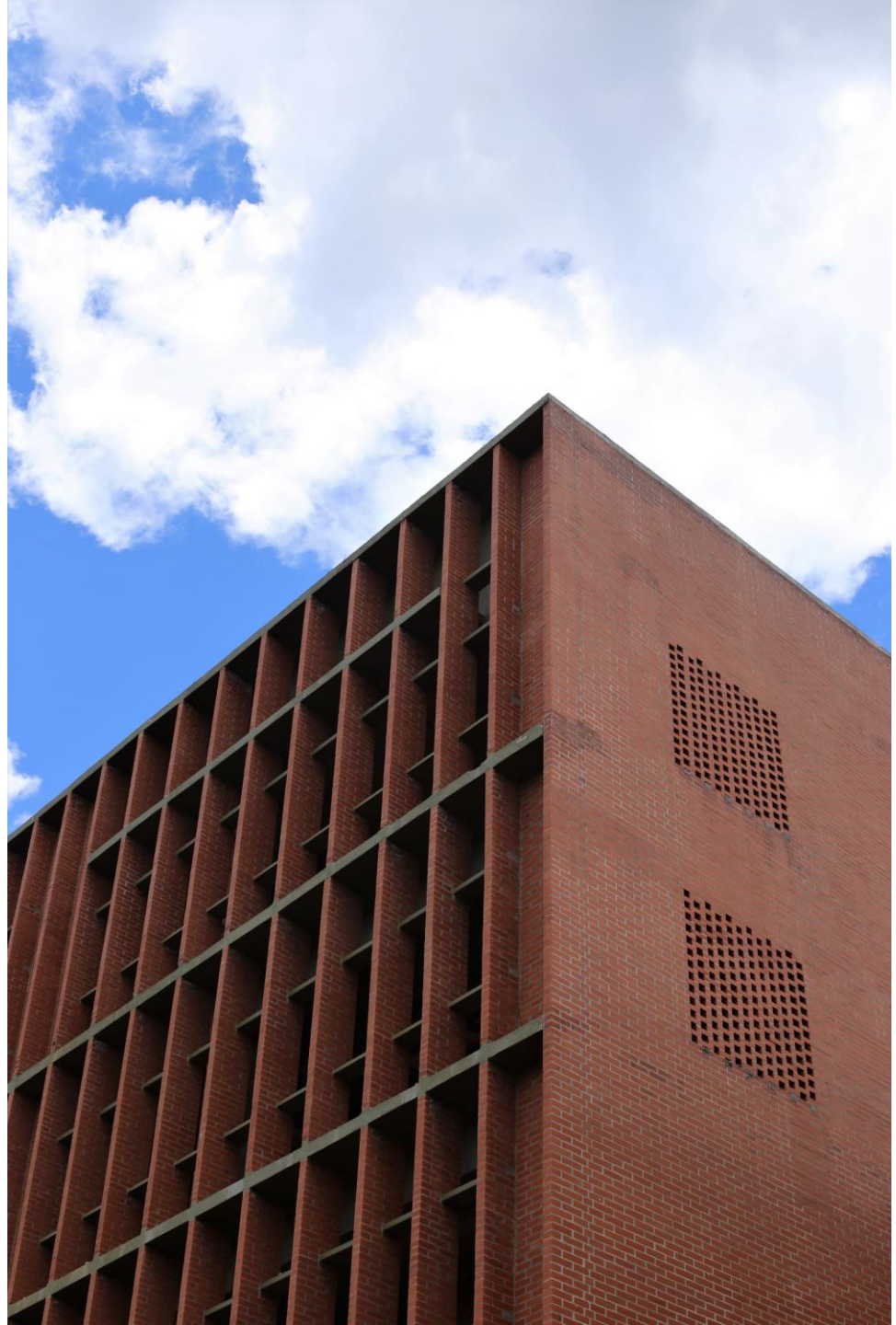

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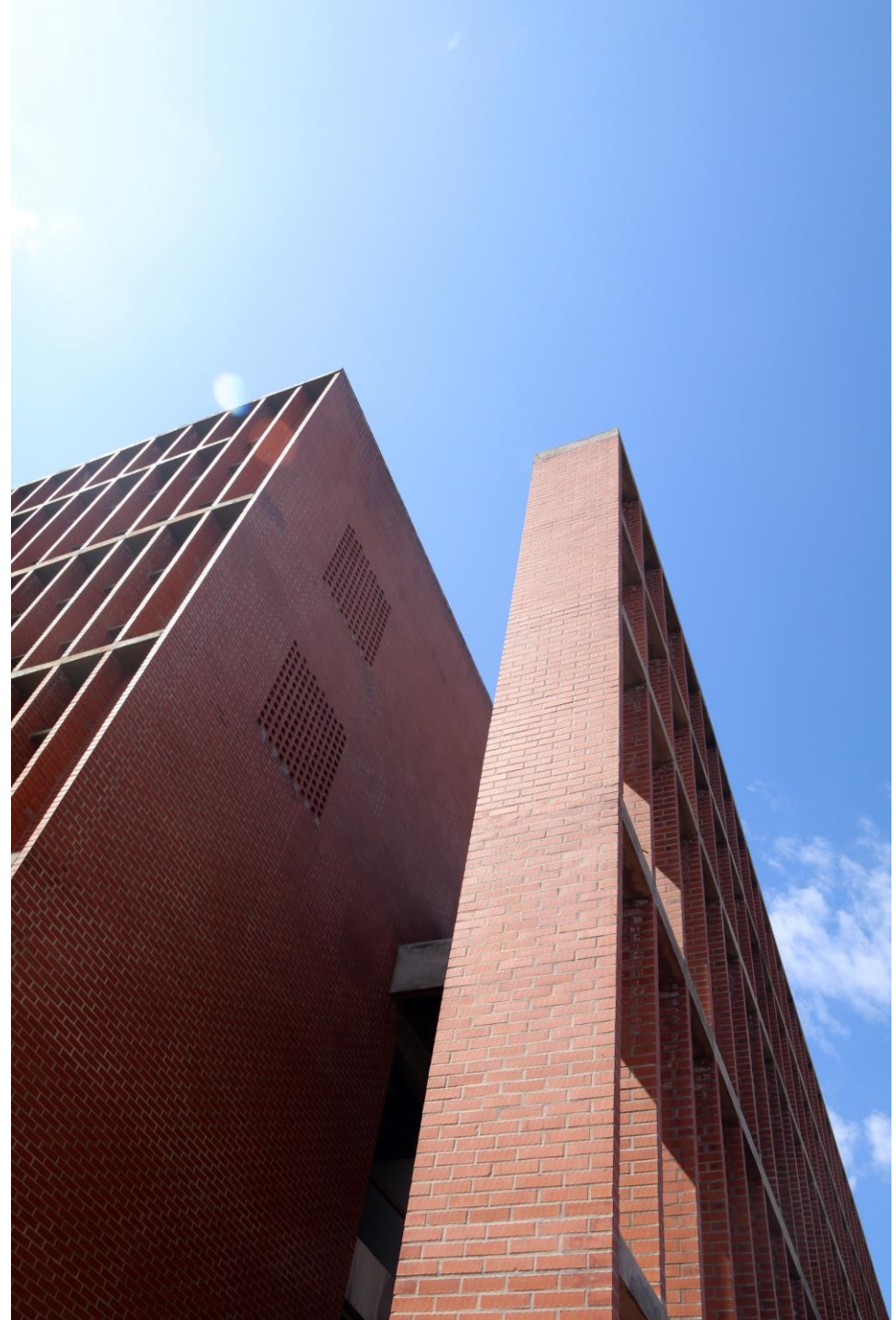

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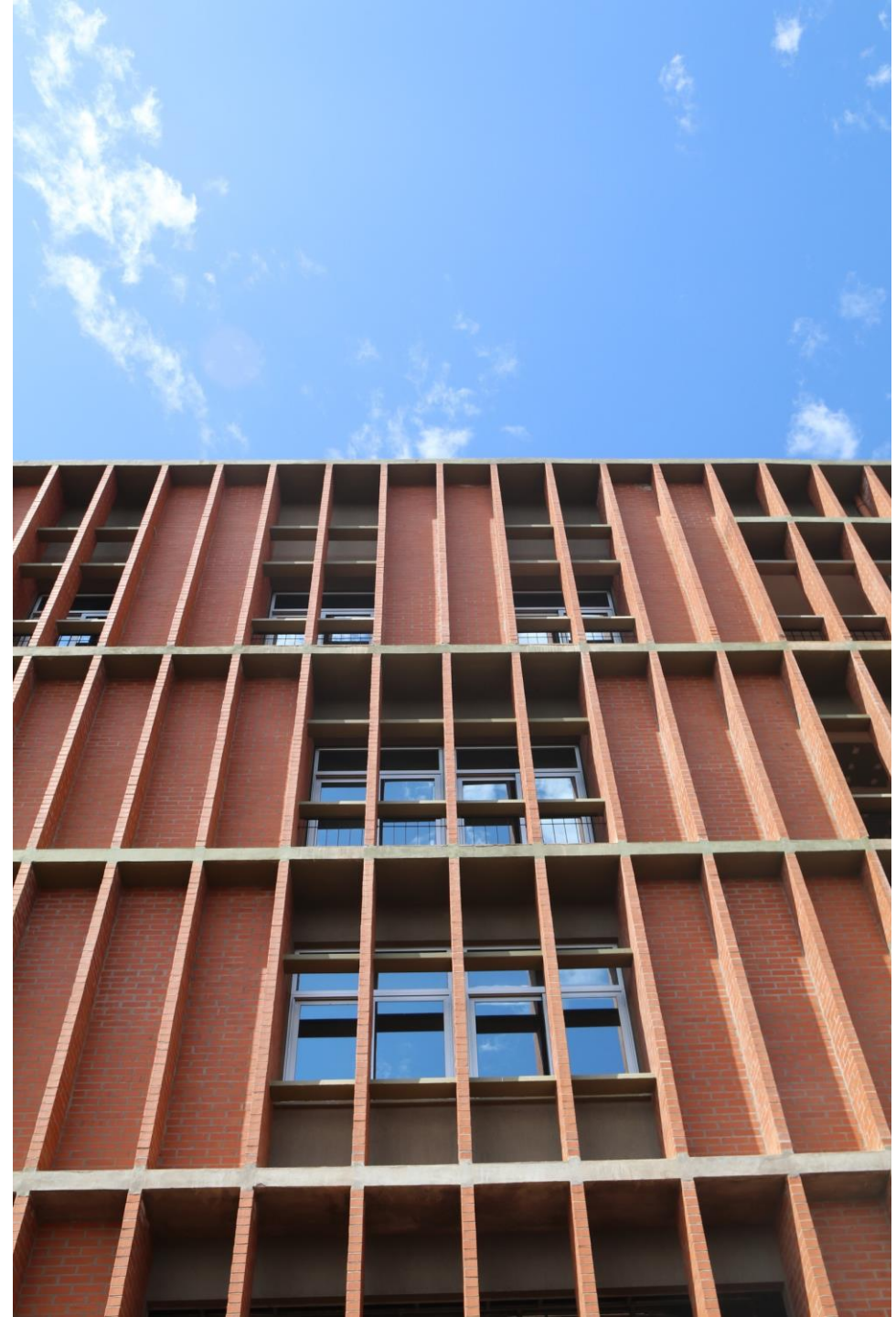

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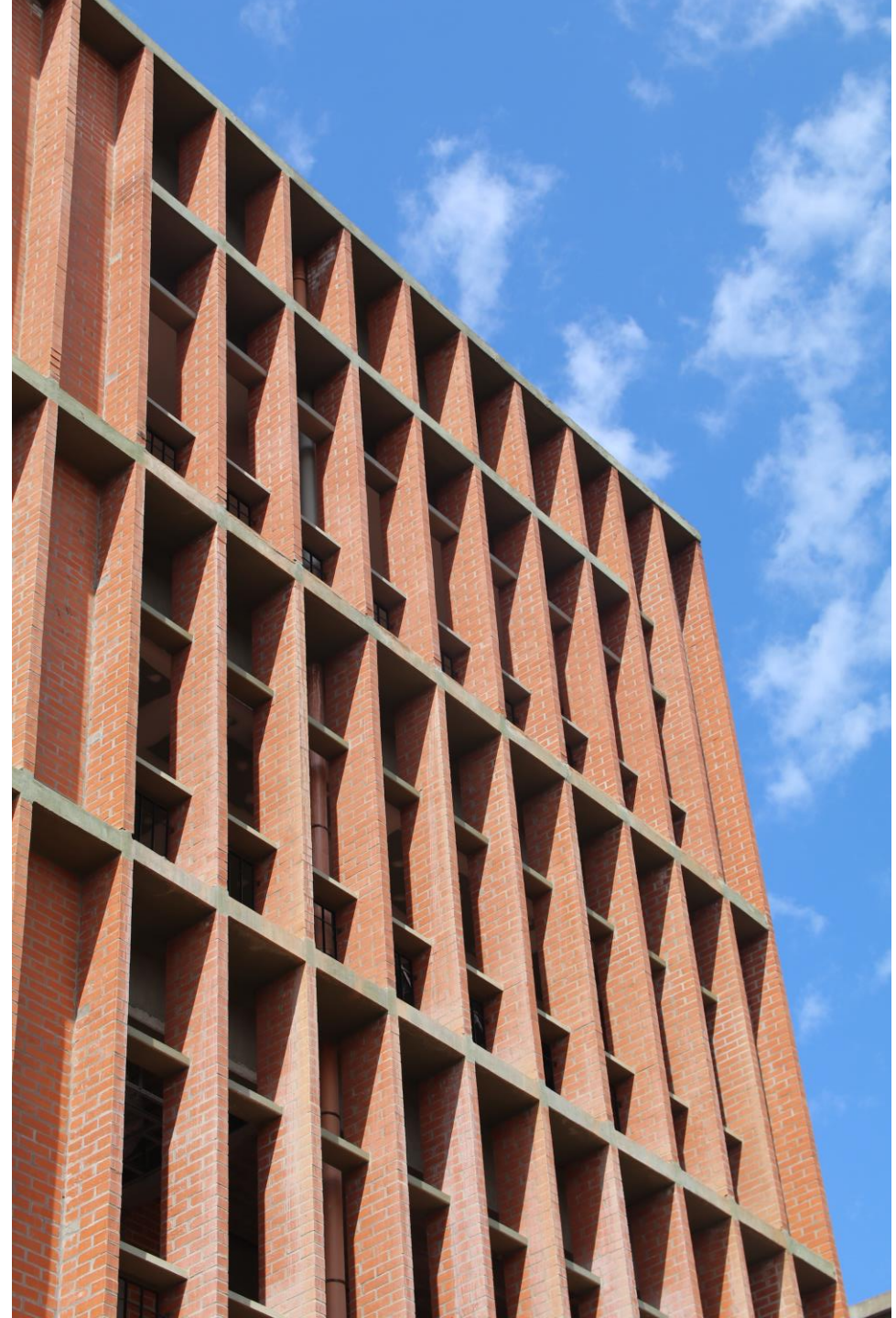

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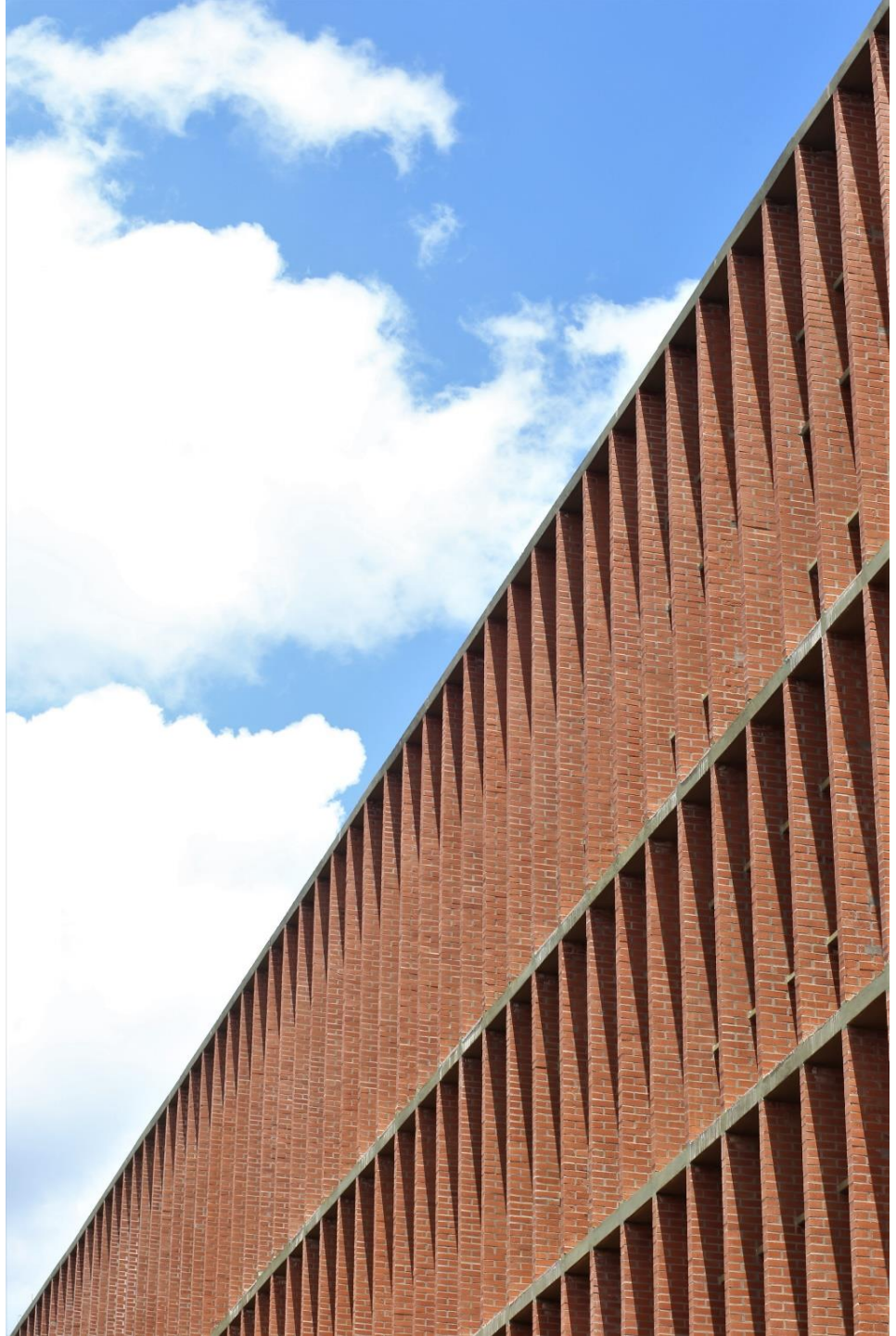
Muchas Gracias

Arq Daniel Cella
dcella@cella.com.ar



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